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Land Reform

World Bank Paper — Rural Development Series

LAND REFORM

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PREFACE

Land reform is concerned with changing the institutional structure governing man's relationship with the land. At present the livelihood of more than half of mankind is directly dependent on agriculture. Nine-tenths of this total agricultural population is in the developing countries, where questions of access and rights to land are of paramount interest to more than two billion people.

Land is, of course, one of the basic factors of production for food and other agricultural products. With food production rising in the developing countries at about the same rate as population growth, there is growing pressure on land resources to increase output. Much of this increase will have to come from a higher output per hectare. Changing the pattern of land ownership and redistributing land can contribute to increases in output in some countries but will make little difference in others.

Conditions governing agriculture vary enormously among the developing countries. One characteristic, however, common to all, is a very rapid growth in rural population. Thus while pressure on the land is increasing, the average man-land ratio is worsening. At the same time non-agricultural employment opportunities are not expanding rapidly enough to provide adequate incomes for all entrants to the labor market. Some countries have prospects for expanding the frontier of cultivation to absorb more labor. In other countries more labor could be employed in the rural sector through a redistribution of land, while in yet others changing the rights to land will make little direct contribution toward absorbing more labor.

Distribution of land in terms of size of holdings varies from country to country. The greatest disparities are found in Latin America. Where the pattern of land control is skewed, the distribution of income is generally uneven, although to some extent it is the poorer land that makes up the larger holdings. In Asia and the Middle East, maldistribution is reflected in the landlord-tenant problem. Here the population is more evenly spread, but rights of access to land are restricted. Much of Africa presents a different problem as the traditional pattern of group ownership and communal rights is eroded in favor of individual ownership with varying degrees of equality.

In terms of land reform policy, therefore, one is confronted with a range of cultural and political situations -- based on different patterns of social organization and customs -- and with different levels of development. As shown in Chapter I, at least six land tenure situations can be delineated. The differences among these types point to the varying reforms necessary to achieve more equitable land access and improved productivity in specific country situations. Accordingly, while

it is possible to identify the need for land reform, it is difficult to make general prescriptions with regard to the form of land holding or pattern of distribution necessary to achieve the multipurpose objectives of development.

Further, one is dealing with a dynamic situation, where rural population growth and changing technology interact with the existing institutional structures of rural society. The manifestations of this interaction are seldom benign for the majority of the land-based population. A situation that has seemed relatively stable and equitable for decades can become untenable. This dynamism means that a solution which was appropriate ten years ago may be inappropriate today. Not surprisingly, therefore, many developing countries (LDC's) are experimenting with a variety of possible solutions -- with different forms of rural organization ranging from communes to private ownership.

While recognizing the broad context of the land reform issue, this paper focuses on a much narrower aspect -- the appropriate role of the World Bank. In pursuing this question Chapter I looks at the characteristics of land reform in terms of both its rural context and its component elements. Chapter II examines the economic implications of land reform in relation to the goals of development. Chapter III reviews the Bank's policy in relation to land reform. The quantitative background to land reform in terms of population patterns and land distribution is outlined in Annex I, while some experiences with land reform programs are summarized in Annex II. The policy guidelines are presented at the end of the Summary.

SUMMARY

Definition and Setting

Land reform involves intervention in the prevailing pattern of land ownership, control, and usage in order to change the structure of holdings, improve land productivity, and broaden the distribution of benefits. In practice, land reform is pursued in response to political pressures for socio-economic change arising from factors such as increased population, pressure on a limited land base, or an ideology of egalitarianism based on more even distribution of land or income. Land reform, by its very context, has interlinked political, economic, and social dimensions which in turn have significant implications for development.

The systems of land control in developing countries can be classified into six types, as presented in Chapter I, though in many countries examples can be found of more than one type. Three of the six types are found in a traditional context: the feudalistic landlord and tenant system of some Asian countries; the feudal Latin American system of large farms; and the communal land ownership patterns of many tribal groups (especially in Africa). The other three major types have a modern context: the private ownership of land common in most market economies; the state or collective ownership of socialist countries; and the plantation or ranch type, which is often interspersed with other forms of tenure.

Land reform necessarily implies many different kinds of adjustments in an array of situations where there are great variations in individual equity and agricultural productivity. In most instances social or equity considerations are the main concerns. Thus when there are exploitive landlord-tenant systems of the Asian or Latin American feudal type, reform incorporates changes in the rights of tenants, redistribution of ownership to existing tenants, or the replacement of the landlord by the tribe or the community. When individual ownership of the market economy type is the norm but the distribution of land is skewed, reform may require subdivision of large holdings or transfer to the state. In contrast, reform in states with high government control may involve the transfer of some land from the state to individuals.

There are other variations of land reform that focus more on the economic use of resources than on equity. Where there is fragmentation of holdings, an appropriate reform might involve consolidation of holdings without change in the patterns of ownership of land. Where there is erosion or depletion of communal lands, the appropriate reform might involve a program of supervised cooperative land management without changing the distribution of land. Elsewhere land reforms might involve changing tenancy arrangements with emphasis on providing security of tenure so as to encourage on-farm investment. Again, these do not require redistribution but eventually lead to more economic use of resources.

The typology outlined in Chapter I makes it clear that there are situations where land reform is a necessary precondition for modifying the structure of a society and raising agricultural output. However, while land reform in itself may be necessary, it alone is not sufficient for improving land productivity and distribution of income. Changes in patterns of land ownership will not automatically lead to an increase in output or technological change in agriculture. These will come about only if adequate provision is made for the supply of necessary inputs and mandatory services to the users of the land. Indeed, as stressed in Chapter II, the organization of the supply of inputs to accompany any land reform program is essential, especially where the process of reform leads to a breakdown of the institutional structure of agriculture and leaves nothing in its place.

Finally, it must be recognized that a policy for land reform for a given situation cannot be simply stated. Any policy involves fundamental judgments about the adequacy of an existing system and the most appropriate alternative. The judgments of policy makers differ. The case studies in Annex II show that reform-minded governments, such as Kenya and Peru, have pursued different approaches. Some governments favor individual ownership of land; others favor communal or collective control over land. Clearly the policies followed are not a matter of economics alone. They also reflect politics and ideology and reach far beyond any purely economic calculus.

Distribution of Land and Income

Although few data are available, the distribution of land ownership is known to be skewed; the degree of concentration varying with the tenure situation types. The Asian and Latin American feudal and the plantation-ranch types have high degrees of property concentration, while the socialist and traditional communal types have low concentrations, with the market economy type somewhere in between. Individual countries are classified on the basis of land ownership concentration in Annex I, Table 9.

The distribution of land by size of holding is also highly skewed throughout the world. As shown in Annex I, Table 6, an estimated 80 percent of all holdings are less than five hectares in size with about 40 percent less than one hectare. These holdings account for approximately 20 percent of all cultivated land, and only seven percent of all land in holdings. Considered separately, Latin America has a particularly skewed pattern. Less than 20 percent of holdings (those over 50 hectares) accounting for over 90 percent of the total area in holdings, and more than one-third of all holdings (those less than five hectares) accounting for only one percent of area held. (Annex I, Table 8.) For Asia, in contrast, 40 percent of the land (accounting for almost 60 percent of holdings) is in holdings of less than five hectares.

The distribution of holdings by size is frequently used as a first approximation in estimating the distribution of wealth and income in the agricultural sector. The skewness of the distribution of holdings, though, does not reflect precisely the patterns of distribution of wealth or income. First, all land is not homogenous; a concentration of large holdings in a semi-arid region may reflect a smaller concentration of wealth than a concentration of small holdings in an irrigated area. Second, the distribution of holdings by size is not the same as the distribution of ownership of land; in general there is a greater concentration of land ownership than of holdings, as evidenced by widespread tenancy especially in parts of Asia. (See Annex I.) The distribution of income in these regions will depend largely on the contractual arrangements between owners and tenants or sharecroppers. But, in most cases, the distribution of income will be more skewed than the pattern of holdings. Frequently the income of sharecroppers and renters may be little different from that of landless labor.

Social and Economic Issues

Rural population in the LDC's continues to increase at over two percent a year, adding to the already heavy population pressure on the land. With few exceptions, the frontier of virgin cultivatable land has already disappeared, so that **absorption of more people** into agricultural activity will require more intensive cultivation of land already in use. The need to absorb more people in the rural areas differs among LDC's. In many countries, massive rural underemployment is accompanied by high rates of open unemployment in the cities and growing inequality in the overall distribution of income. Where the problems are most acute -- as in parts of Asia -- the emergence of substantial numbers of landless labor in rural areas suggests that the family farm system as a means of spreading work among family members may be breaking down.

The extreme poverty of many who live on the land, and the increasing pressure on the land through population growth, highlight the double challenge of rural development: to raise productivity and income in agriculture **and** at the same time to **absorb** more people into employment in the sector. Access to land, and the conditions that govern access, are questions of major importance in these circumstances. Where land is marketable, increasing population pressure must inevitably drive up the price of land, thus benefiting those who own land. Where land ownership is skewed, this will tend to exacerbate inequality in income distribution.

These same circumstances (relating to employment and income distribution) give rise to questions about the efficiency of land use under existing arrangements. Landowners often prefer for various reasons to underutilize land, either by working it themselves on an extensive basis instead of through tenants on an intensive basis, or by leaving it unused. In other cases tenancy arrangements are such that landlords are discouraged from making investments, and tenants are discouraged from applying variable inputs, because half the benefits will go to the other party. In some situations, too, the fragmentation of holdings causes great inefficiencies in land use associated with

transportation, irrigation, and mechanized operations (even on a small scale). In general terms, increases in the population of working age create additional demands for work and income. At the same time, however, the additional labor available, if used productively, could serve to augment output. There is a strong case for land reform (including tenancy reform and consolidation) in situations where land would otherwise be underutilized in terms of its production potential.

Evidence on the effects of changing farm size (examined in Chapter II) indicates that the productivity of land -- defined as yield per hectare -- is generally higher on smaller holdings than on larger holdings. The main reason for this is that smaller holdings are worked with bigger inputs of labor than are large holdings. Often the economic benefits will depend, however, on the effectiveness of new technology when used on small as compared with large farms; mere redistribution of land may not suffice to raise farmer output substantially without accompanying agrarian reforms and new services.

These effects on output may be reinforced by some of the possible side effects following land reform. Smallholders tend to consume more of their own produce and therefore market less, per unit of output, than do large farmers; this may necessitate food imports to meet the needs of urban consumers. On the other hand, the additional food consumed by small farm families might have otherwise been purchased if members of the family had moved to the city. The consumption of food by poor growers may also be less costly than the consumption of imported or capital-intensive consumer goods by the better-off farmers. Small farmers may also save less per unit of income. Evidence suggests, however, that small farmers save proportionately more than urban dwellers and that in the aggregate they may also have larger savings than large farmers, though these may be directly invested in the small holding.

On the other hand, while "the benefits should go to those who till the soil" is often a reasonable program in an agrarian society, in a partly urbanized one those who do not work on the land still require and have some rights of access to the products of these land resources. The food and fibre needs (and the spatial requirements) of the non-farm population are not infrequently overlooked by the proponents of land reform. In this respect, there is a case for considering both a minimum and maximum farm size. These might be designed first, to ensure that smallholdings are large enough to provide food sufficient to meet with a high degree of certainty the minimum physiological limit of the farm family; and second, to ensure a scale large enough to provide a saleable surplus to meet the needs of urban consumers, especially for fresh produce. Few land reform programs provide for such a minimum limit despite evidence, from many areas, that allowing farms to become too small (relative to the best available technology) may be just as unsatisfactory in terms of equity and efficiency as an uncontrolled tenancy situation.

State Experience with Land Reform

Conclusion from examination of past experience
by overriding influence of the political factors

securing meaningful change. The concentration of control over land provides a power base for many groups in the LDC's. Land is a symbol of authority and a source of political power, especially where the land owner controls the access of peasants to their only source of security -- the land. A meaningful land reform program will inevitably destroy or limit the power base of many persons. It is not surprising, therefore, that land reform is often a central issue in political debates and that these debates are often couched in terms of redistributing political power as well as wealth. Ambitious programs of land reform will seldom be implemented unless there are shifts in political sentiment and power. Many countries have legislated land reform but only a few can be said to have achieved real land reform -- and these reforms were only implemented when there was a change in government in circumstances that favored drastic change, as in Mexico, Japan, the Republic of China (Taiwan) and Kenya.

A second factor of importance in making reform effective is the creation of institutions to implement the reforms once legislated, and to press for continuing development. This has usually involved organizing the beneficiaries to create follow-up pressure. For example, in Japan, Taiwan, and Venezuela suitable institutions were established to ensure that land was indeed transferred. In other countries, a community of interest between landowners and officials, combined with an absence of organized pressure from the beneficiaries, largely nullified positive reform efforts. The land reform experience in much of Asia and Latin America suggests that some form of rural organization especially involving local representation, may be a critical condition for successful land reform.

A third conclusion is that land reform is rarely undertaken without considerable upheaval and loss of production, although there is evidence to suggest that these costs can be kept small and temporary. The restructuring of land holdings is often accompanied by the destruction of traditional delivery systems for input needs and marketing, since these systems are almost always tied to the operations of the larger farmers who are dispossessed. Because of this, rather than because of any deficiency inherent in the small relative to the larger farmers, land reform has often proved costly in terms of lost output. Minimizing such costs necessitates the provision of services concurrently with reform implementation, incorporating as much forward planning as feasible.

A fourth consideration relates to the problem of perspective, over time, in assessing the effects of land reform. As the country experiences summarized in Annex II reveal, the effectiveness of land reform may be relatively limited in the short run, and many socio-economic benefits, such as are associated with greater social mobility and improved political stability, emerge only in the longer run and accrue for many years subsequently. The cases of Japan and Mexico are particularly significant in this respect. While the direct short run effects of the land reforms in these countries have not been considered wholly beneficial, there is little doubt that the long run

effects for their total societies have been overwhelmingly favorable, contributing substantially to the ultimate economic development of both countries.

The Bank and Land Reform

The Bank Group has taken an active interest in land reform on a number of occasions. Concern has usually been focused on new or improved possibilities for production following changes in the tenure situation, with emphasis on security of tenure being a particularly important theme. More recently, the extent and gravity of the employment problems and income disparities in the LDC's have caused a new concern over land reform, from an equity as well as a productivity standpoint.

Bank Group experience through project financing of land reform has been very limited. In part this may be because there have been relatively few land reforms, particularly in areas where the political situation was reasonably stable and otherwise conducive to Bank Group involvement. But also relevant is the fact that the financial requirements of land reform tend to be relatively limited. Even where the land transferred is purchased from the previous owners, the amounts involved are usually small, especially where payments are in the form of bonds. In addition, such payments usually constitute an internal transfer (unless foreign owners are involved) and thus are not attractive for external financing. Some examples of Bank Group involvement in land reform programs, notably in Tunisia and Malawi, are discussed in the main report.

In general, this report concludes that land reform is consistent with the development objectives of increasing output, improving income distribution, and expanding employment, and that the Bank Group should support reforms that are consistent with these goals. However, it is recognized that the Bank cannot force structural change but can only support appropriate efforts within existing structures. Although the Bank's direct action must be limited, its preferences regarding national policy choices and those which are considered consistent with the Bank's development goals are set out below as country guidelines. These same conclusions are reflected in the subsequent Bank policy guidelines.

Country Guidelines

1. Governments which accept a basic commitment to land reform should consider three components: (i) redistribution of land ownership to reduce the present mal-distribution; (ii) tenancy reform; and (iii) consolidation, where necessary.
2. A commitment to land reform implies simultaneous action to create or develop an input supply system to meet the special needs of the beneficiaries of land reform. This may require either the creation of new institutions or special branches or fund allocations within existing

organizations to supply credit, inputs, and technical services, including research and extension.

3. In sparsely populated regions (countries), specially structured settlement schemes can serve as second-best substitutes for, or supplements to the redistribution of land currently in use.

4. It should be recognized that a small farm structure can generate employment to absorb underemployed labor in crowded regions where there is no short term prospect of absorbing it in non-farm or large farm employment. With the scale-neutral seed-water-fertilizer technology now available, such a structure can produce at least as much per unit of land as a large farm structure.

5. Equity-oriented land reform should be so programmed that (i) the effective ceiling on holding size is low; (ii) the beneficiaries belong to the poorest group; (iii) the extension and (non-land) input distribution system favors the beneficiaries; and (iv) owned and self-operated land, as well as leased land, is redistributed.

6. Where efficient large scale plantations or ranches exist, they need not be broken up, but it should be accepted that in such cases the objectives of reform can only be realized if the enterprises are covered by a progressive tax system and the workers participate adequately in the benefits of the enterprise.

7. Research should be organized to evolve a low-cost settlement policy. Wherever settlement policy is used to supplement land reform, settlement schemes should be planned to have approximately the same effects as the redistribution of existing holdings. These effects can accrue if (i) the settlers are the really poor small farmers or landless workers and an input supply system is available to support their operations; (ii) the size distribution of the new holdings is equitable; and (iii) tenancy is discouraged, and allowed only under specified types of contracts.

8. Where the shortage of land is so acute that even with a low ceiling both smallholders and landless workers cannot be given minimum holdings, preference should be given to the smallholders in the allotment of land, and a rural works program should be organized for the landless.

9. Experience in Far Eastern and some Latin American countries clearly shows that the organization of beneficiaries both before and after the enactment of reform is an indispensable condition for its success.

10. It should be recognized that landless recipients of land who take up independent farming for the first time may need to be provided with their entire short-term and long-term credit requirements and perhaps some consumption credit for three or four initial crop seasons.

There may also be a need for special training facilities, research activities, and field demonstrations in such circumstances.

11. The abolition of tenancy may not be a feasible policy in many countries (regions) where the demand for land by the landless and small farmers far exceeds the available supply. In such cases regulation of tenancy might be a more efficient policy. Generally, fixed cash-rent contracts are superior to crop-sharing contracts because they encourage the use of inputs to the optimal level. But where crop sharing cannot be eliminated because it provides risk insurance to crop sharers, it can be made more efficient and equitable if it is combined with cost sharing. Such contracts should be promoted with a system of incentives and deterrents. The incentives can include the accrual of legal rights in land and the availability of credit and other inputs only if preferred types of tenancy contracts are implemented.

12. When the land-labor ratio becomes favorable, the conversion of tenants into owners of the land they cultivate, preferably against very low compensation payments, should be undertaken because, in general, owner-operated farming is likely to be more efficient and equitable than tenant farming.

Bank Policy Guidelines

1. The Bank will give priority in agricultural lending to those member countries that pursue broad-based agricultural strategies directed toward the promotion of adequate new employment opportunities, with special attention to the needs of the poorest groups. The Bank will support policies of land reform designed to further these objectives.

2. The Bank will make it known that it stands ready to finance special projects and programs that may be a necessary concomitant of land reform, so long as the reforms and related programs are consistent with the objectives stated above. These programs would include credit, technical services, and infrastructure projects designed to meet the special needs of land reform beneficiaries.

3. The Bank will cooperate with the Food and Agriculture Organization of the United Nations (FAO), the United Nations Development Programme (UNDP), and other organizations to provide support and assistance to member governments seeking help with the specification and design of land reform programs where these are in keeping with Bank objectives. This support will include financial and technical aid with cadastral surveys, registration of land titles, and similar services.

4. The Bank will continue to explore, through its agricultural and rural development projects, ways of providing for a distribution of benefits consistent with the goals outlined under (1) above, including appropriate tenurial arrangements and projects designed to serve the needs of small farmers and settlers.

5. The Bank will intensify its efforts through sector and country economic work to identify and draw attention to the need and opportunities for land reform with respect to existing tenurial situations and their economic effects.

6. The Bank will support and encourage research related to the economics of land reform in its broadest aspects, including its social dimensions. It will continue its support for programs of economic and technical research directed toward the special needs of the type of small farmer likely to emerge from land reforms.

7. The Bank will undertake studies of the costs and benefits of settlement projects, with particular attention to developing approaches which will lower the cost per family settled.

8. The Bank will not support projects where land rights are such that a major share of the benefits will accrue to high income groups unless increases in output and improvements in the balance of payments are overriding considerations; in such cases it will carefully consider whether the fiscal arrangements are appropriate to ensure that a reasonable share of the benefits accrues to the government.

9. In circumstances where increased productivity can effectively be achieved only subsequent to land reform, the Bank will not support projects which do not include land reform.

10. Where land is held under some form of tenancy, the Bank will foster the adoption of tenancy conditions and share-cropping arrangements that are equitable and conducive to the optimal use of resources.

11. Where land is communally held without regulation of access, the Bank will encourage sub-division, if sedentary forms of agriculture are possible, or pursue land usage and access arrangements that are compatible with long run productivity of the land and the welfare of the resident population.

12. The Bank will pay particular attention to the consequences of the interaction of new technology and the prevailing institutional structures, as reflected in the pattern of land ownership, in order to avoid adjustments which will increase the maldistribution of income and cause economic hardship.

I. CHARACTERISTICS OF LAND REFORM

Man and the Land

Man's relationship to the land, and patterns of land-holding and land use, are shaped by the interaction of a complex of forces--climatic, economic, cultural, religious, and political. In East Africa, for instance, the physical conditions in the temperate areas are suited to a sedentary agriculture, whereas the more tropical and arid areas are better suited to shifting cultivation or livestock herding. As a result, different systems of land management and patterns of holdings have emerged in adjacent zones in this part of Africa. Similarly, laws and customs governing inheritance have an effect on the distribution of land. Where land is inherited by the oldest heir and not sub-divided, the pattern of holdings is less fragmented than in societies where the custom is to divide holdings equally among all heirs. In addition, many socio-economic factors affect customs of usufruct, traditions of crop sharing, and other arrangements surrounding land use in varying situations.

The political ideologies of governments also have a bearing on the relationship between people and the land. The right of the individual to own, sell, and accumulate private property--including land--is one of the cornerstones of the market economy. While this right might be constrained in the public interest, land can in general be exploited, accumulated, and traded by individuals for private gain. Under some other ideologies there is no opportunity for individuals to acquire and accumulate land; the right to own land may be vested solely in the state or in semi-public institutions, and it is the state which organizes and controls the land according to its own criteria. To the extent that the state controls the land, the allocative process may serve any number of ideological ends. Some governments have used control over land to implement policies of geographical separation of racial groups. The People's Republic of China, on the other hand, has changed rights to land and the organization of work several times over the past twenty-five years as part of a drive to eliminate rural inequality.

The level of economic development of a country has a strong influence on attitudes toward the land. The more industrialized a country, the smaller the proportion of the population in agriculture and the less significant the role of land in the economy. Where there is a mobile population with ample alternative opportunities, land is often seen merely as one factor of production in a highly developed commercial agriculture. However, in less developed countries where there is a large rural population, limited alternative opportunities, and increasing pressure on the land, access to land may provide at least a subsistence income. In these circumstances producers see the land as more than a factor of production; it may well provide the margin between destitution and subsistence.

The established pattern of land ownership is basic to both the social organization and institutional structures of rural areas. The social hierarchy in most agrarian societies reflects the kind of access that different groups

have to land, while individual status within these groups depends on the amount and quality of land commanded. The institutional structures which formalize the various means of control and the relationship between categories of land users, also determine the accessibility of external institutions and services to the various groups.

Context of Land Reform

The many complex factors that influence the patterns of land ownership and land use in different regions of the world may be summarized as: (i) the political system and situation; (ii) the structure of the economy; (iii) the social system; (iv) the legal system; (v) the demographic situation; (vi) the agricultural system; and (vii) the national resource base. When these interacting elements are taken into account, it is possible to delineate six main land tenure-land use categories. These are characterized as follows:

(a) Feudal Asian Type

high property concentration
great social inequality
great economic inequality
low land productivity
low labor productivity
low level of technology
mainly operated by sharecroppers
high labor intensity
low capital intensity
production mainly for subsistence
land very scarce
institutional structure centralized

(b) Feudal Latin-American Type

high property concentration
great social inequality
great economic inequality
low land productivity
low labor productivity
low level of technology
labor provided by squatters, neighboring smallholders,
and migrant workers
capital-extensive
labor-extensive
operated by owner or manager plus hired labor, serfs,
or sharecroppers
production for subsistence and export
institutional structure highly centralized

(c) Traditional Communal Type

low property concentration - sovereign rights vested in community
decentralized cultivation - usufruct rights for members of group
moderate or high socio-economic equality
low labor productivity
low land productivity
low level of technology
medium labor intensity
low capital intensity
production for subsistence
supporting service structure underdeveloped

(d) Market Economy Type

medium property concentration
decentralized cultivation
medium socio-economic inequality
high land productivity
high labor productivity
high level of technology
capital-intensive
labor-extensive
market production oriented
institutions and services dispersed

(e) Socialist Type

property right vested in the state or a group
centralized or decentralized cultivation
low, medium or high socio-economic equality
low, medium or high land productivity
low, medium or high labor productivity
medium level of technology
production for market or subsistence
supporting systems centralized

(f) Plantation-Ranch Type

high property concentration; owned by state or foreigners
great social inequality
great income inequality
high land productivity
low or medium labor productivity
medium or high level of technology
operated by manager plus wage labor
production mainly for export

In a traditional context, extremes in the pattern of land control are exemplified, on the one hand, by the feudalistic landlord and tenant system found in some Asian and Latin American countries and, on the other, by the communal land ownership pattern of certain tribal groups in Africa. In the landlord-tenant system, land ownership is vested in an elite minority with the majority having access through tenancy arrangements of various kinds. The ownership of property is generally highly concentrated, more so than the pattern of land holdings. However, since holdings (the only category for which the Bank has data) involve leasehold units for which rent is paid on a share basis, the distribution of income is also highly skewed. (See Annex I, Tables 6 and 8.) In the communal system, by contrast, land is common property and access to it relatively unrestricted. Whereas in the feudalistic system the distribution of land ownership and benefits are highly skewed and class differentiation is marked, the communal system has relatively egalitarian land access and class differentiation is less marked.

Both systems are relatively stable under favorable conditions, but have difficulties as the man-land ratio declines through population growth, unless there are off-setting changes in technology. In the landlord-tenant system land pressures are reflected in a growing army of landless people and widening income differentials. (See Annex I, Table 11.) The communal system manifests the same pressures by compressed fallow periods and declining soil fertility, overgrazing and increased erosion, accompanied by extensive poverty and vulnerability to seasonal effects.

The two systems differ in ability to respond to changing external conditions and especially to new technology. The landlord elite, by virtue of its privileged position and power, can, and often does, become educated and innovate both through experimentation and the adoption of external ideas. (In doing so, however, its primary concern may be to promote its own narrow interests in terms of wealth and power, for instance, by displacing tenants through mechanization.) The communal system generally lacks such an institutional mechanism and tends to be both static in its technology and relatively insular, but such communities seldom manage to remain completely isolated from external influences.

In a modern context, the extremes in patterns of land control are seen respectively in the private ownership of land, which is a fundamental aspect of the market economy and common in most Western countries, and the state or collective ownership characteristic of socialist countries. Under private ownership, land is held by individuals and, while usually subject to special restrictions, can be bought or sold like any other commodity. Such holdings are typically operated as family units with little hired labor. However, a range of sub-types exists within this category which reflects a gradation in size from the predominantly subsistence smallholdings of many of the LDC's to the broad acres of North America and Australia. Although similar in legal and institutional respects these differ significantly in technology and input mix as well as degree of market orientation. In the socialist system, on the other hand, there is little or no provision made for individuals to acquire or accumulate land, this right being vested in the state, with control determined in accordance with the objectives of the state.

However, some variations remain within many socialist systems, often providing for the existence of private smallholdings in parallel with larger social units. A special type found in a modern context is one which includes the plantations and large ranches which often operate in the LDC's as well as in some developed countries. These form in some respects a special category of the market economy type, but the tendency toward a corporate legal structure and dependence on hired labor differentiate them from privately owned family farms.

While private ownership has generally been compatible with technological progress and the economic adjustment of agriculture, it has often created inequities as people have been compelled to move from rural pursuits or have been squeezed into land scarce rural enclaves. Generally, private control has been most satisfactory where population pressure could be offset by colonizing virgin land or moving people out of the rural sector. It has been most unsatisfactory where ownership patterns have become skewed because of the growth of large farms, combined with limited opportunities for people to move out of agriculture, and the subsequent emergence of economic dualism. State or communal control has led to fewer interpersonal inequities though in most cases not without some broader economic inefficiencies.

Land reform becomes an equity issue in the context of both the traditional landlord-tenant relationship and the modern skewed ownership pattern. In both of these contexts it is often a highly political concern especially in the traditional feudalistic and communal systems. There are many situations where the prevailing tenure conditions are the major impediment to development. For example, a high level of fragmentation can make canal irrigation virtually impossible and seriously impede mechanized operations even when on a very small scale. In other cases the contractual share arrangement is such that neither landlord nor tenant are able to introduce new technology because, on the one hand, the landlord cannot capture a profitable share of the return on his investment, and on the other, the tenant cannot find the capital for investment or lacks the security of tenure that would guarantee a return from it. Further, there are some situations where the social environment is characterized by inequity and oppression to the extent that there exists no human motivation toward improved productivity or the resolution of any problem within the existing structures. In such circumstances land reform may become a prerequisite of development. But, whether primarily an equity or a production concern, it is clear that land reform will involve different changes in different type situations.

Dimensions of Land Reform

Land reform is thus concerned with interrelated productivity and equity aspects of land use. It is frequently pursued as a goal in itself, but in a development context is usually seen as a concomitant of agrarian reform or of rural development programs. Land reform differs from political, administrative, fiscal, or monetary reforms in that it normally relates to one sector and involves changes in control of a tangible asset which is both fixed in supply and provides the basic factor on which most of the people in the LDC's are dependent for their livelihood.

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Land reform can involve varying degrees of change including some or all of the following:

- (a) Redistribution of public or private land so as to change the patterns of land distribution and size of holdings. Usually this involves an increase in the number of small or medium-sized farms and a reduction in the number of large holdings. Alternatively all land can be nationalized and regrouped into state-owned holdings, all of which might be large.
- (b) Consolidation of individual holdings, thereby reorganizing the physical pattern of control. Fragmented holdings can be regrouped into contiguous blocks of land. This can be done with or without changing the distribution of land ownership in terms of acreage or value belonging to each individual.
- (c) Changes in land ownership and tenurial rights, with or without physical redistribution of land. Redistributed land can be allocated to new owners or to farmers working on the land. Alternatively, there need be no redistribution of land but tenants or workers can be made owners of the land they work. In this case, there is generally a redistribution of income away from the former owners of the land to the new owners. The new owners may farm cooperatively or as individuals.
- (d) Changes in conditions of tenure without changing ownership or redistributing land. The rights of those working on the land can be safeguarded by law without a change in ownership. Changes in conditions of tenure would include providing security of tenure, introducing equitable crop sharing arrangements, cooperative land management, and so forth. These changes would also include the conversion from customary to legal rights to land.

Structural Change. In the main, land reform is seen as a means of bringing about structural changes in the agricultural sector thereby altering the size distribution of holdings or the distribution of income. By definition, therefore, pilot projects cannot be considered to be land reform for they operate within an existing structural framework, even though they might be useful in identifying problems of management or the economics of various "models", or arrangements that might be part of a subsequent reform. Similarly, land settlement on the frontier does not usually constitute land reform, although land settlement might be a means of bringing unused land into production. Land settlement, by itself, may or may not have an impact on the structure of land holdings in a country, depending on the manner in which the settlers are selected and the size distribution of the new holdings. The kind of structural change involved depends on the prevailing tenure type and the proposed alternative. As reflected in the country experiences summarized in Annex II, most changes involve a shift from traditional to modern types. Thus Japan, Taiwan, and the Republic of Korea (South Korea) moved from a "feudal Asian" to a "market modern-smallholding" type; India and Iran moved from a "feudal

Asian" toward a "market modern", with some traditional farms retained and some "plantation-ranch" type variations in certain areas. Morocco and Kenya redistributed the large-scale alien owned "market economy" type holdings of their colonial eras, some going to smallholdings of the "market economy" type and some to "plantation-ranch" type units. Mexico and Peru moved from a "feudal Latin American" type to a "market modern-mixed large and small holding" type, and a mixed "market modern" and "socialist" type structure, respectively. These tenure system changes were in all cases accompanied by changes in related organizations and services.

Fiscal Measures. Land taxes and pre-emptive taxes on income earned from land are often cited as instruments that will obtain the same ends as land reform. An effective land tax may have an impact on land use but its main purpose is usually to encourage more intensive production by making it costly to either leave productive land idle or use it below its productive capacity. On the other hand, such taxes may provide a disincentive to investment with the potential of increasing productivity or bringing new land into production. In any event, the use of a fiscal instrument such as a land tax will not lead to structural changes in agriculture-- at least not in the short run. A more likely fiscal instrument to encourage structural change is a graduated estate tax which would force estates to dispose of land to meet their financial obligations. But this is likely to bring about structural change only over a long period of time. While land taxes and estate taxes are often considered significant elements in fiscal policy intended to redistribute income, they cannot ensure the same degree of structural reform as can land reform and have, in general, been quite ineffective. In situations where fiscal measures--whether of a redistributive kind or a type which provides a return to the state on its investment--are found to be ineffective, land reform may be the only alternative option if economic development is to be pursued.

Agrarian Reform. Agrarian reform is a much more comprehensive concept than land reform, since it involves modification of a wide range of conditions that affect the agricultural sector. These modifications might include changing price policies so as to turn the terms of trade in favor of the agricultural sector; increasing allocations to the agricultural sector in order to expand research, extension, training, and storage facilities; making physical supplies such as fertilizers available and increasing credit for their purchase; or providing infrastructure to facilitate agricultural production. Agrarian reform may or may not include land reform; in some instances there may be no need for land reform since land is already evenly distributed. In other cases, it may not be politically feasible to have land reform--though it might be both politically and economically feasible to raise output through the measures involved in agrarian reform. The point is that land reform may be a necessary condition for agrarian reform, but it is seldom a sufficient condition for increasing agricultural output, given that land is only one factor of production.

Rural Development. Broader still is the concept of rural development, since it embraces all dimensions of the rural sector (agricultural and non-agricultural) and is more concerned with the welfare of rural people than with

agricultural output or productivity as an end in itself. Since it has significant equity implications, land reform may be a necessary concomitant of successful rural development, depending on the prevailing pattern of land control. Where the ownership of land directly affects the nature of local institutions and the participation in them of the majority of rural people, land reform may be essential. However, in terms of implementation it may be that in some situations the preparation of local institutions and smallholder services may be a prerequisite of land reform rather than vice versa. Where the existing service systems and administrative structure is geared to working with large scale farmers, land reform without concurrent rural development activity might cause hardship and economic losses which would outstrip the equity gains associated with the land redistribution. Tenancy reform, on the other hand, insofar as it stabilizes the existing relationship between landowners and renters, may be a useful precursor of rural development programs.

Political Dimensions. Substantial reform of the structure of holdings and the distribution of income from the land cannot be achieved without political action. For instance, where semi-feudal conditions prevail, patterns of land rights and tenurial conditions have been established by tradition, and these cannot be changed through market operations as there is virtually no organized market for land. Elsewhere large land holders have accumulated capital and expanded land holdings acquired through the market; in most market-oriented economies with a skewed distribution of land, the tendency is for the skewed distribution to worsen. Whatever the prevailing situation, it can seldom be changed without actions that emanate from outside the market. Since these actions are based on policies deliberately intended to alter the distribution of land and change tenure, the implementation of these policies depends on the political will of the policy makers and the ability of the administrators to execute this will.

The concentration of control over land provides the base for powerful elements in many non-industrialized societies. Where groups derive authority from their land, a meaningful land reform program will inevitably destroy or limit the power base of these groups. Land reform can change the political balance and the power structure in a country. Reforms have stripped large landholders, whether they were military, religious or private, of their power. It is not surprising, then, that land reform is often a central issue in political debates and that these debates are often coached in terms of redistributing political power as well as wealth. The political implications of land reform must be taken into account; ambitious programs of land reform will seldom be implemented unless shifts are made in political sentiment and power. Many countries have legislated for land reform but relatively few have achieved them--and these only with a change in government.

Frequently the implementation of massive reform legislation has depended on the effective organization of the beneficiaries. In Japan, Taiwan, and Venezuela--to name three countries--suitable organizations were established to ensure that land was indeed transferred. In other countries, such as India and Pakistan, the official bureaucracy was the only implementation agency

contemplated by the reformers. Because of the community of interest between the bureaucrats and the landowners, and the absence of organized pressure from the beneficiaries, the massive legislation has produced no significant reform. Experience in much of Asia and Latin America suggests that effective popular participation of rural people may be a critical condition of successful land reform.

Implications for Social Justice. The imbalance between the distribution of control over the land and the numbers dependent on it has historically led to increasing pressures for change. While the focus on land reform is related to economic development, the concept of an overriding social function of land justifying the imposition of limitations on private rights, appears to be gaining the support of many groups, including the Catholic Church. Formerly one of the largest landholders in the world, the Church in Europe as well as in Latin America has increasingly put its weight behind this new concept, both in precept and practice. The Church's new philosophy regarding the relationship between man and the land declared that "private property does not constitute for anyone an absolute and unconditional right". And the immediate extension of this postulate to the world's agrarian problem is that, "if certain landed estates impede the general prosperity because they are extensive, unused, or poorly used, or because they bring hardship to peoples or are detrimental to the interests of the country, the common good sometimes demands their expropriation".

A further facet of land reform that warrants consideration in this respect is the potential of a new societal structure following a reform. Mexico, and more recently Egypt and Bolivia, had semi-feudal societies similar to many which still prevail in other parts of the world. In these societies, large numbers of tenants and laborers were tied to the land and were held in forms of human bondage; this arose from custom, tradition, or sheer indebtedness to landlords. The reforms that have taken place in these countries have changed this. The reform in Mexico broke a system that denied many people any range of choice in the pursuit of a livelihood. If the experience of Mexico--which has had the longest period of reform--is any indication of the long run outlook, the reforms have led to an increase in social mobility.

In summary, from this brief overview of its characteristics, it is apparent that land reform is a complex subject. The issues involved are diffuse and the reform measures appropriate vary according to the situation. It is also evident that land reform is in practice predominantly an equity concern and therefore one that is often highly political. Nevertheless, it has, too, significant implications for economic development, and these in turn are relevant concerns in the formulation of Bank policy.

II. LAND REFORM AND ECONOMIC DEVELOPMENT

Economic development has three basic objectives: rapid economic growth, full employment and distributive justice. Some policies and related investments, such as those affecting power plants or large-scale industry, are primarily growth oriented; others, for example, those for rural works, are employment oriented; still others, such as those related to land reform, are essentially equity oriented. Each set of policies and investments aimed toward one objective has important repercussions with regard to the other two objectives, and these must be taken into account when weighing the potential impact of particular policies on economic development. For this reason, it is important to determine to what extent land reform might be costly in terms of growth and employment.

There are manifold problems in assaying the costs and benefits of land reform. These include the definition of an acceptable time frame for measuring the effects of the related structural change in the agricultural sector. The available evidence suggests that a well-designed land reform program need not entail unacceptable costs in terms of other objectives; its contribution to output and employment -- as well as to equity -- depends on the speed and effectiveness of the reform and complementary investments. However, the effects of land reform can best be examined by focusing on particular measures, such as the effects of farm size on productivity, equity and employment as well as on savings and market surplus. These measures are interrelated but, for analytical convenience, are here treated separately.

Implications for Productivity

The effects of land reform on productivity might best be isolated by comparing productivity in a given area before and after reform. Unfortunately, that is not possible as there is no situation where change has occurred in only one variable -- size of farm -- over time. The nearest alternative is the comparison over a defined period of the productivity of groups of different sized farms in a given area. The ideal measure for comparison would take into account the contributions of all factors of production and so measure total factor productivity. Since data are not available to derive this measure, changes in yields per hectare are considered to be the most appropriate proxy.

There have been several multi-country, comparative analyses of the effect of differences in distribution of size of holdings on yields. One 13-country study undertaken by the FAO analyzed the relationship among size of holding, concentration of land, and productivity. A similar study of 41 countries was undertaken by the Bank. (See Table 2.1.) Both studies indicated that smaller average size of holding and a lower concentration of land ownership were associated with an increase in output per hectare.

Similar findings can be cited from cross section studies in a number of individual countries. In Sri Lanka, for example, in 1966-67, the yield of paddy averaged 36 to 37 bushels per acre on farms of up to one acre and 33 to 34 bushels on larger holdings. In Central Thailand, yields were reported to decline from 306 kilograms per rai, on holdings of two to six acres, to 194 kilograms per rai, on holdings of 140 acres or more. Small farms in the Philippines -- that is, less than two hectares -- produced 2.9 tons of paddy per hectare, while farms of more than four hectares produced 2.2 tons per hectare. In a systematic analysis of the differences between large "multi-family" farms and small "sub-family" farms in Argentina, Brazil, Chile, Colombia, Ecuador and Guatemala, output per hectare was found to be three to 14 times greater, on the average, on the small farms than on the large. (See Table 2.2.)

There is other evidence to support these findings, including the results of Bank-sponsored analysis in Mexico, as well as studies on Japan and Taiwan. However, there is no claim that all conditions were identical; the studies simply indicate that yields were higher on small farms than on large farms.

The important implication is that reductions in neither the size of holdings nor land concentration need be associated with a reduction in output per hectare. On the contrary, it appears that under controlled circumstances output per hectare is likely to be higher. There are two associated reasons for this assumption. First, there are limited economies of scale in most agricultural production. Second, small-scale producers tend to maximize output by applying labor intensively, while large-scale operators tend to maximize profits by using hired labor only until incremental production covers incremental costs. This is usually short of the output per hectare that would be produced if the goal were maximization of output.

In broad terms, land reform can be consonant with development from a point of view concerned purely with productivity, with output per hectare as the relevant criterion. Output per worker, however, is likely to decrease for the simple reason that, as pointed out below, smaller farms would employ more labor per hectare. In other words, the larger income would be shared by an even larger number of families. This decline in labor productivity only reflects the employment and equity benefits of land reform: the same land would supply more people and the income generated would be more widely shared.

Land Reform and Employment

There is also evidence that there is greater labor absorption per hectare on smaller holdings than on larger holdings. The cross sectional analysis of the 13 countries previously mentioned showed that manpower per hectare of agricultural land was significantly correlated with the size of the holding -- the smaller the holding, the greater the input of manpower. This cross section evidence of the higher productivity of small farms indicates their long-run equilibrium potential.

But the realization of this potential is contingent on non-land inputs being increased as soon as farm size is decreased.

There have also been a limited number of studies in Asia and Latin America that confirm these findings. In the Ferozepur District in Punjab (India), for example, in 1968, labor absorption varied between 33 and 39 man-days per acre on holdings of less than 30 acres. On larger holdings it ranged between 20 and 23 per acre. In Colombia, man-years per hectare declined continuously from 2.7 on small holdings (less than 0.5 hectare) to 0.17 on large farms (500 to 1000 hectares) in 1960. In other Latin American countries also (Argentina, Brazil, Chile and Guatemala), the number of workers per hectare of agricultural land on the smallest farms (sub-family units) has been estimated to be 30 to 60 times greater than on the largest (multi-family) farms.

More intensive labor use is, of course, the main reason why small farms are able to produce more per unit of land than the larger farms. But inputs other than labor are also likely to be applied more intensively on small farms, unless access to these inputs is blocked by institutional arrangements. Unfortunately, the relationship between these other inputs and farm size cannot be studied in many developing countries for want of data. It is interesting to note, however, that in the cross section of developed countries, in 1961, fertilizer consumption and gross fixed capital formation per unit of land were relatively higher in countries with a smaller average holding.

In developing countries, too, small farms undoubtedly need much more non-labor input in order to raise productivity. The mere redistribution of land and augmentation of employment may not suffice to raise output substantially. Therefore, the organization of an effective extension-cum-input supply system for small farmers must accompany land reform. Where there is such a system --as in Japan, Taiwan and South Korea--the absorptive capacity of agriculture tends to be high even though holdings are small; at the same time output per hectare is high. Small holdings can yield high returns to labor provided output per hectare is high; a condition that can only be fulfilled by the application of high-yielding, labor intensive technologies.

Land Reform and Equity

The more radical the land reform and the more important the share of agricultural land in total tangible wealth, the larger will be the equity effect of the reform program. In the rural areas, agricultural land accounts for such a large proportion of total wealth that it is usually the single most significant determinant of the distribution of both income and power. Evidence of this can be seen in many Latin American and Middle Eastern countries where the large landowners often dominate both commerce and government. Here land reform could have a major equity impact. However, where much of the wealth exists in the form of financial assets, real estate and other investments apart from farm land, and commodity stocks in the hands of traders, the redistribution of farm land alone may not improve the distribution of total wealth substantially. Landowners may easily change the composition of their assets on the eve of land reform if agricultural land alone is the target of redistributive zeal.

If the rural and urban areas are considered together, the limitations of redistributing farm land alone appear even more serious. The distribution of real estate, financial assets, and commodity stocks in the urban areas is even more skewed than the distribution of farm land in the rural areas. If, therefore, urban property reform or a highly progressive taxation program on urban wealth does not accompany land reform in countries with a substantial and prosperous industrial-commercial urban sector, land reform alone is not sufficient. Alone, it may not only not decrease but may even increase the inequity of the distribution of total wealth in the country as a whole -- in particular, the inequity between the town and the village -- since it will freeze the maximum permissible ownership of the main rural asset, without freezing the maximum permissible ownership of urban assets.

Even with this broader focus, the equity effect of land reform will be significant only if: (i) the effective ceiling is low; (ii) the beneficiaries belong to the poorer groups; (iii) the extension and (non-land) input distribution system favors the beneficiaries; and (iv) owned and self-operated land as well as leased land is redistributed.

Opportunities for the redistribution of land depend to a great extent on the existing pattern of distribution of holdings and population density. As will be shown further on, there are some countries, notably in the Americas, where land distribution is skewed and population is not dense. Here are ample opportunities for redistributing land so that inequalities can be diminished and the recipients of the land can generate an acceptable minimum income. In other areas, however, the pressure of population is such that there is not enough land to meet the minimum requirements of all claimants. The density of the farm sector is so high in some countries in Asia that, even if holdings above a certain size were completely eliminated, there would not be enough land to either raise the acreage of the mini-farms to a tolerable minimum or provide for the landless.

In India, even if the maximum holding was 20 acres, the available land (43 million acres) would be barely sufficient to bring up the size of mini-holdings to a minimum of five acres, and no land would be available for the landless (20-25 million households). In Bangladesh, a low 10-acre ceiling would not suffice even to bring up all mini-holdings to a minimum two-acre size. The millions of landless families could not be provided for at the same time. In Sri Lanka, too, even with a low ratio between the ceiling and the floor holding (5 to 1), there would be enough land only to give two acres to each mini-farmer. In Haiti, only 1.5 hectares is available for the average rural family of five. The solution to rural poverty clearly cannot be found exclusively in the agriculture sector. In these situations it might be wise to give land only to the mini-farmers and to attack the poverty problem of the landless by means of a massive rural works program. (Settlement of the landless on new land, where available, and their migration to urban areas, when possible, are the other obvious alternatives.)

Effects on Marketed Surplus and Savings

The redistribution of land can have a pronounced impact on both availability of a marketable surplus and aggregate savings in the agricultural sector. Although the total effect of the redistribution process will depend to a large extent on the costs of increased output after the redistribution, the change in the size distribution of holdings will shift the distribution of the source of marketable surplus and savings. As the marketed surplus generates agricultural incomes and so potential cash savings, it determines the size of the rural market for domestically produced industrial products. The marketed surplus also represents the supply of agricultural products, mostly food, for the urban population. A fall in surplus could thus necessitate imports and put an added strain on the balance of payments. But increasing the marketed surplus need not necessarily increase savings, and where it does these need not be monetized but rather may take the form of increased on-farm investment in items such as improved housing, wells, and access roads.

Marketed Surplus

A reduction in land concentration through land reform could lead to a fall in the marketed surplus -- at least in the short run. Small farm households tend to consume a larger proportion of their small output than do households which have a large enough acreage to produce in excess of domestic requirements. Thus, the ratio of marketed surplus to production falls as farm size decreases. Data from India show, for example, that small farms (2.5 acres or less) sell only 24.5 percent of their output whereas large farms (50 acres or more) sell 65.4 percent. But these farm groups produce only 9.5 percent each of the national output. If output remained the same but, hypothetically, farms above a certain size were eliminated and their land transferred to the small class, the surplus-output ratio would probably decline. The rate of decline, however, might not be very great given that the largest and the smallest farm size groups account for only small proportions of total output.

But the surplus-output ratios of different farm-size groups, and their shares of total output and sales, can differ widely across countries and regions. Sixty-one percent of the maize farmers in Puebla, Mexico, for example, sells no maize at all; and another 16 percent sells 25 percent or less of its output. In Chile, on the other hand, a typical crop sharer sells as much as 43 percent of his output. In Mexico, 6.6 percent of the marketed surplus comes from 70.7 percent of the farmers; and 55.4 percent comes from only 1.7 percent. In India, 48 percent of the farms (less than 2½ acres) contribute only 6 percent of sales, 1 percent (more than 50 acres) contribute 16 percent and 51 percent (with 2.5 - 50 acres) contribute the bulk (78 percent) of the total surplus.

These differences would determine how much the surplus ratio would fall after land reform; but there can be no doubt that it would fall, with subsequent deleterious effects on the economy. However, this decline in the market surplus ratio need not result in a decline in total

surplus, provided that there is a compensatory increase in total output. Since per acre yields on small farms can be higher than on large farms, a sufficient increase in output can materialize if, after reform, the necessary conditions are fulfilled whereby small farms can realize their full production potential. In addition, from the welfare point of view, a decline in the market surplus ratio has a direct distributive dimension which should be offset against the decline. As the surplus-output ratio falls, the subsistence consumption of small farmers increases -- the extra consumption in kind representing a direct increase in their incomes (nutrition). Insofar as the productivity of small farmers was previously constrained by inadequate nutrition, there should also be a positive productivity effect.

Savings

In considering the productivity effect of land reform, it is necessary to examine the implications of a change in farm size structure on the aggregate savings rate of the farm sector as a whole, since the savings rate represents the contribution of the sector to the long run growth of both its own productive capacity and that of the rest of the economy. Although there is scant evidence on savings rates of different classes of farm households in developing countries, it can be expected that the behavior of the savings rate will be similar to that of the marketed surplus. At the lowest end of the farm size scale, the subsistence farmers can be expected to be net "dissavers" (for instance, by running down the existing soil fertility). As farm size increases, the savings rate can be anticipated to become positive and increase along with farm size (though large farmers can be "dissavers" too, by using capital for consumption). A recent study in the State of Haryana, India, tended to confirm this: the savings ratio was found to be -0.24 percent for small farmers, 8.5 percent for medium farmers, and 16.3 percent for large farmers. In a further study in Orissa, India, there was no direct measure of the savings made, but the ratio of net capital formation as a proportion of income was found to be 5.5 percent in the smallest farm size group (0-2 acres) and 19.3 percent on larger farms (8 acres and above). For unirrigated villages, the corresponding figures were lower -- 2.6 percent on the smallest farms, and 11.2 percent on the larger farms.

It follows that a reduction in concentration of land will reduce the average savings rate of the farm sector. But, again, if a compensatory increase in total income can be secured by intensifying inputs per unit of land soon after land reform, the aggregate savings can be prevented from falling. This adds to the urgency of introducing effective agrarian reform (including improved technology and services) along with land reform.

A policy implication, from the above, is that the farm size structure created by any land reform program should fix a minimum as well as a maximum farm size. The minimum farm size clearly should be determined on the basis of the current national norm of minimum family income. But one of the criteria for determining the minimum income itself should be that it at least enable the smallholder to cease to be

a "dissaver." An analogous criterion can also be derived from the known behavior of marketed surplus: the smallholder should have at least enough land for positive sales.

Tenancy Reform

The most successful land reforms include those whereby tenants become owners of the land they operate, as in Japan, Taiwan, and some parts of Europe. Ownership control and income from the land is thus redistributed. However, if landlords are allowed to retain land that might be self-operated, and tenants become owners of the land that they operate, then the size distribution of operational holdings may not change. With the conversion of tenants into owners, there is greater security of tenure and larger incomes for the farmers. This, in turn, encourages increased savings and so on-farm investment and higher output.

The conversion of tenants into owner-operators generally leads to a more efficient and more equitable form of production organization than tenancy. This is evidenced not only from the reforms in Japan and Taiwan, but also from experience in parts of Africa where "customary" tradition is converted into freehold. In Kenya, the provision of security of tenure, especially in the temperate production areas, has increased on-farm investment and helped raise output.

There may be situations where tenancy reform aims at stabilizing the position of tenants with respect to rent paid, security of tenure, and labor objectives, without transferring ownership rights to them. Here the problem is to promote more efficient types of tenancy, with contracts having well-defined incentives and deterrents. Expert consensus is that fixed cash-rent contracts are superior to the more common crop-share contract, for the whole income in excess of the fixed rent accrues to the actual cultivator. Crop sharers, though, often have a preference for crop sharing because it provides risk insurance. Crop sharing, however, can be made more efficient and equitable if it is considered with cost sharing. There is growing evidence from the Philippines, for example, that since the onset of the spread of the seed-fertilizer technology, landlords and crop sharers spontaneously have begun trying to combine cost sharing with crop sharing because the combination is profitable to both.

Tenurial reforms, whether through the distribution of the land to those working it or the provision of greater security of tenure and improved rental contracts, have an effect on development. They improve income distribution by shifting income away from the landlords to small-scale producers, often those among the lowest income groups. The more secure producers tend to invest part of their higher earnings in their holdings -- thus raising the level of investment in agricultural production -- whereas absentee landlords frequently invest in off-farm activities. Finally, greater security enables tenants to benefit from appropriate technological changes instead of being displaced when landlords find it to their advantage to adopt a different technology. The financial returns to the landlord may be high from using machines and hired labor, but the returns to the economy are usually higher from labor-intensive operations undertaken by smallholders.

Implementation Issues

If reforms are to generate the anticipated benefits, several important considerations must be taken into account. First, since agriculture is a private sector activity in most countries of the world, production and investment decisions are made by millions of individuals operating in their own interests. Very often the greater part of national output comes from medium-sized farmers. These farmers, as with all investors, weigh the risks as they perceive them before making on-farm investments -- the major component of total investment in agriculture. Sustained uncertainty about a government's intentions with regard to the distribution of land adds to the risk of investment and can have a negative impact on capital formation and production. In some instances, continued uncertainty has led to disinvestment in agriculture by owner-operators and capital flight from the country. It follows that the more specific the plans and the more clearly defined the policies regarding land reform, the less likely the acceleration of disinvestment by land owners and, so, the lower the "cost" of the reform.

Second, the introduction of a major land reform program usually disrupts the system of logistical support from the commercial sector to the farmers. In most countries in the world, there is a well-established link between commercial bankers and suppliers in the private sector and the larger agricultural producers. This linkage is based on mutual interests and, often, on long-standing business association. The redistribution of land frequently leads to a breakdown of this system. There is often a long hiatus before the public sector can undertake the role previously filled by the private sector or the private sector adjusts to its new situation. Without an appropriate organization for the provision of inputs there will be a decline in productivity and a fall in output. Thus, the reduction of the costs of a land reform program -- in terms of production foregone -- depends on the rapid reorganization of the input supply system.

Third, the nature of the organizations providing for both the supply of necessary inputs and the marketing of production surpluses is crucial in a post-reform period. There are many different forms of organization: cooperatives, agricultural development banks, special credit institutions, marketing authorities, and the like. Whatever the organizations that prevail, it is essential that they be designed specifically to assist the beneficiaries of a reform. In many instances, the institutions that have provided services in a post-reform period have continued with a bias in favor of larger size operations. Part of the reason for this is that these institutions have not been able to adapt their methods of operation to the needs of large numbers of small farmers. Unless this is done, the beneficiaries of the reform may not be in a position to increase their outputs. Indeed the appropriate organization of supplies and the evolution of a low-cost delivery system to reach small-scale producers is a sine qua non for sustained increased productivity.

Fourth, there are situations where land reform programs might need adaptation if they are to fulfill the objectives of development.

When land is fully utilized and yields are already high, there may be some question as to the impact of redistribution of land on productivity and employment. In this context, it is important to determine the reasons for high yields. In much of agriculture, most of the inputs are "divisible," thus reducing the importance of scale of operations as a factor in raising productivity. There are some situations where high yields and efficient operations may be directly associated with a system organized to function on a large scale (as in certain types of sugar plantations). The breaking up of such holdings may well reduce yields and lower output. A more realistic approach to obtaining widespread benefits would be to leave such operations intact and redistribute the profits from the enterprise. This can be done through taxation, by raising the wages of the workers, or -- as in Peru -- converting the operation into a worker-owned corporation and distributing dividends, out of profits, to the participating stockholders.

Finally, land reform leads to structural changes within the agricultural sector. The post-reform structure will depend on the ideology of the government. In some instances, there will be an increase in the number of small-scale owner operations; in others, producers cooperatives, or communes, or large-scale state farms will emerge. The pattern that evolves may also be tailored to fit the economic environment: the organization might be based on a system which can use surplus labor for direct capital formulation; other organizations (such as large-scale state farms) might be intended to save labor. Experience has indicated, however, that:

- (a) Government reorganization can generate enthusiasm and provide opportunities for mobilizing laborers, but raising output depends on more than land and labor. There must be an appropriate supply of other inputs.
- (b) No matter what the structure, an appropriate system of management is necessary which enables the managers of land to make decisions in a timely fashion -- a most important condition in agriculture and one that is dependent on weather. This is a condition, however, that is often unfulfilled in rigidly controlled societies.
- (c) There must be an adequate system of incentives and rewards if there is to be an increase in productivity in agriculture. This applies both to the agricultural sector as a whole and to the units in which beneficiaries of reforms are organized. Many communes, producer cooperatives, and other units of production have floundered over the developing of a system that contains both equity and incentives. The creation of adequate incentives is particularly important in a situation where labor is the major input.

Land reforms, although equity oriented, can be consistent with all the goals of economic development: raising productivity, increasing employment, and providing wider equity. In the long run, land reform need not lead to a reduction in marketed output or savings. Tenancy reforms can redistribute incomes and, through providing security of tenure, can encourage increased on-farm investment. However, sustained increases in output depend on complementary investments and policies. The most important of these concern the organization and provision of an adequate supply of inputs for the beneficiaries and the creation of appropriate incentives to use these inputs to raise output.

A more realistic approach to obtaining wider spread benefits would be to leave such operations intact and redistribute the profits from the enterprise. This can be done through taxation by raising the wages of the workers, or -- as in Peru -- converting the operation into a worker-owned corporation and distributing dividends, out of profits, to the participating stockholders.

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- (a) Government reorganization and general subsidies will provide opportunities for capitalizing surplus labor raising output depends on some form of labor. There must be an appropriate supply of other inputs.
- (b) No matter what the structure, an appropriate system of management is necessary which enables the manager of land to make decisions in a timely fashion -- a most important condition in agriculture and one that is dependent on weather. This is a condition, however, that is often unfulfilled in tightly controlled economies.
- (c) There must be an adequate system of incentives and controls if there is to be an increase in productivity in agriculture. This applies both to the agricultural sector as a whole and to the units in which beneficiaries of reform are organized. Many communes, producer cooperatives, and other units of production have functioned over the long run on a system that contains both equity and incentives. The creation of adequate incentives is particularly important in a situation where labor is the major input.

Table 2.1 PRODUCTIVITY, EMPLOYMENT AND THE DISTRIBUTION OF LAND IN DIFFERENT COUNTRIES

Country	Data Year	Farm GDP per Hectare (US\$)	Farm GDP per Worker (US\$)	Employment per Hectare	Average Holding Size (Hectare)	Gini's Index of Land Concentration
<u>Europe</u>						
Greece	1961	424	848	0.50	3.18	.597
Spain	1962	90	980	0.09	14.85	.832
<u>Central America</u>						
Costa Rica	1963	83	951	0.09	40.74	
Dominican Rep.	1971	129	463	0.28	8.64	
El Salvador	1961	186	489	0.38	6.95	
Guatemala	1964	144	492	0.29	8.17	
Mexico	1960	22	569	0.04	123.90	
Nicaragua	1963	55	580	0.09	37.34	
<u>South America</u>						
Argentina	1970	18	1,903	0.01	270.10	.873
Brazil	1960	14	285	0.05	79.25	.845
Chile	1965	18	692	0.03	118.50	
Colombia	1960	67	663	0.10	22.60	.865
Paraguay	1961	11	479	0.02	108.70	
Peru	1961	50	477	0.10	20.37	.947
Uruguay	1966	14	1,333	0.01	208.80	.833
Venezuela	1961	31	925	0.03	81.24	.936
<u>Asia</u>						
China, Rep. of	1960/61	841	410	2.05	1.27	.474
India	1960	172	141	1.22	6.52	.607
Indonesia	1963	323	149	2.17	1.05	
Iran	1960	187	581	0.32	6.05	.624
Korea, Rep. of	1970	1,085	377	2.88	0.85	
Japan	1960	1,720	1,188	1.45	1.18	.473
Nepal	1961/62	352	138	2.54	1.23	
Pakistan	1960	240	249	0.96	2.35	.607
Philippines	1960	250	200	1.25	3.59	.580
Sri Lanka	1962	376	337	1.12	1.61	
Thailand	1963	166	137	1.21	3.47	
Turkey	1963	155	243	0.64	5.03	.611
Vietnam, Rep. of	1960	355	127	2.79	1.33	
<u>Africa</u>						
Botswana	1969/70	168	142	1.18	4.75	
Egypt	1960/61	681	360	1.89	1.59	
Kenya	1969	183	140	1.31	4.20	
Malagasy Rep.	1961/62	293	88	3.32	1.04	
Mali	1960	98	48	2.06	4.35	
Morocco	1961	144	295	0.49	4.62	
Senegal	1960	209	174	1.20	3.62	
Togo	1961/62	189	180	1.05	2.62	
Tunisia	1961/62	42	341	0.12	15.41	
Uganda	1963/64	167	198	0.84	3.29	
Zambia	1960	68	101	0.67		

Sources: Unless otherwise footnoted below, cols. 1 and 3 are based on FAO, Production Yearbook, 1971, pp. 10-11, 21-23, and col. 4 on UN, Monthly Bulletin of Statistics, XXVI, No. 4, Apr. 1972 and XXVII, No. 11, Nov. 1973. For currency exchange rates, see ibid, and IMF, International Financial Statistics, XXVI, No. 8, Aug. 1973. GDP in agriculture shown here includes, unless otherwise indicated, agriculture, hunting, forestry, and fishing.

Table 2.2: AGRICULTURAL OUTPUT PER HECTARE & PER WORKER
BY FARM SIZE, LATIN AMERICA

Country	Year	(National Monetary Unit per Agricultural Hectare)		
		1 Smallest Sub-family Farms	2 Largest Multi-family Farms	3 Ratio Col. 1 to Col. 2
Argentina	1960	2492	304	8.2
Brazil	1950	1498	170	8.8
Chile	1955	334	41	8.2
Colombia	1960	1198	84	14.3
Ecuador	1954	1862	660	2.8
Guatemala	1950	63	16	3.9
(National Monetary Unit per Worker)				
Argentina	1960	40	192	.21
Brazil	1950	1197	8237	.14
Chile	1955	268	1171	.23
Colombia	1960	972	9673	.10
Guatemala	1950	74	523	.14

Source: Barraclough and Collarte (1973), Table B-2.

III. THE BANK AND LAND REFORM

Changing Concerns

The position of the Bank in regard to land reform has changed over the past decade, reflecting a reconsideration of the objectives of development and the most appropriate strategies for attaining these objectives. The objectives of development are now generally accepted to be the attainment of increased productivity and employment, and social justice. As has been pointed out, land reform can be consistent with these objectives and, in some situations, may well be a necessary condition for attaining them.

In the early years of Bank operations, the focus was on providing adequate infrastructure for increasing agricultural production. In the early 1960s, the approach to agricultural development was widened to include the provision of rural credit and on-farm inputs. Problems of tenure were seen to have an indirect bearing on production, mainly because they influenced on-farm investment decisions and determined the efficiency of resource use, especially irrigation water. By the end of the 1960s, though, there was growing concern about distribution of income in the rural areas and the relationship between land distribution and income distribution. This was reflected in the Agriculture Sector Paper of 1972, which recognized a relationship between land distribution and equity. The paper stated:

"In developing countries, land presents a much higher proportion of total wealth than in developed countries, and inequalitarian patterns of landownership are a major source of income inequality. Furthermore, the owners of land usually possess political and economic power which can be exercised in ways that harm the interests of the bulk of the rural people." (p. 30)

The paper goes on to affirm that:

"It is clear that agricultural development cannot do all it might to improve rural life if the distribution of land ownership is highly skewed." (p.35)

This concern has been reflected both in the technical assistance offered to governments (especially in sector survey and economic reports) and in the types and components of projects in the lending program.

Technical Assistance

The Bank has been concerned with problems associated with land distribution and land reform since the beginning of its operations. One of the first major economic surveys undertaken was of Colombia in 1955. The mission identified the patterns of land use and land distribution by size of holding to be major obstacles to accelerating agricultural development. Large stretches of fertile land were held by large scale producers for livestock raising, while intensive agriculture was practiced by "minifundios" on land that was less suited for crop production. The mission recommended to the

government that they introduce a graduated land tax as a means of intensifying land use. A subsequent agricultural sector mission in 1956 confirmed that the systems of land tenure and land use were barriers to increasing output. This mission recommended that the government adopt a presumptive income tax to encourage a more productive use of land.

The two missions to Colombia were concerned with increasing productivity and intensifying land use. The missions were not concerned with the redistribution of land as a means of encouraging greater equity, nor did they consider redistribution as a means of intensifying production. Rather, they took the view that the distribution of land was a matter of national policy and internal politics and that the Bank -- as an external lending agency -- should adhere to the existing policy and not advocate a rapid redistribution of land. It did, however, recommend a vigorous policy of settlement on reclaimed and cleared land.

Since that time there have been missions and sector surveys in almost all the countries served by the Bank. Many of these have pointed to patterns of land control and insecurity of tenure as obstacles to raising agricultural productivity. More recently, there is a growing emphasis on the problems of distribution of land and the rights to land as factors that influence equity as well as productivity. Thus, missions to Ethiopia and Morocco have drawn attention to the relationship between the land tenure situation and the distribution of benefits from growth. In Morocco, the mission emphasized the possibility of redistributing land as a means of increasing both output and equity. In Ethiopia, the problem was seen as one of uneven land distribution and insecurity of tenure; security of tenure was considered to be especially significant in the light of the distribution of potential gains from new technology being introduced into the country. Landlords were finding it increasingly profitable to displace their tenants as machine technology provided higher returns.

Despite this trend, many reports do not give appropriate emphasis to issues related to land reform and development. The Bank needs to be better informed about conditions governing rights to land and related institutions in member countries. More needs to be known about the distribution of land, conditions governing tenancy, and the policies and programs instituted to influence the distribution of land and rural incomes. It is only through a thorough analysis of conditions within member countries that the Bank will be in a position to discuss policy options with member governments. At present, many reports still do not address these problems; however, new guidelines are being developed which can form a basis for discussing these issues in a systematic way in sector and economic reports.

Lending Operations

The Bank's lending for agricultural development has increased very rapidly in recent years. Loans and credits have been made to countries with widely differing social and political structures. These have included socialist countries, such as Yugoslavia and Tanzania, as well as countries that follow

capitalism, such as Argentina and Thailand. Loans and credits have been made for agriculture operating under different forms of tenure--for kombinats in Yugoslavia, kibbutzes in Israel, individual holdings in India, cooperative production units in Tunisia, and group farmers in Kenya. Funds have also been provided for large scale livestock producers, large scale plantations and small scale producers; these have benefited absentee landlords, large landowners, small landowners, tenants, and farm workers. On the other hand, the Bank has not been totally indifferent to structural and income distribution aspects, and the record shows an increasing awareness of the implications reflected in more frequent use of measures to improve them.

Nevertheless, few projects have supported land reform as such. In general, external financing, whether multilateral or bilateral, has played a minor role in the financing of land reform programs. One reason for this is that the process of reform in itself may only require relatively small outlays of public funds, as expenditures for a redistributive reform depend mostly on the levels and forms of compensation that are set for the former landowners. Public discussion of land reform financing is generally dominated by this issue. When land is confiscated as part of a revolutionary process--as it was in Mexico and Bolivia--there is clearly little if any public expenditure involved. Naturally, the compensation issue tends to be more important in countries such as Colombia and Venezuela where land is purchased. Even so, the actual amounts involved are not substantial, especially where, as is the usual case, payment is mostly in bonds. It is estimated that, in those Latin American countries that followed non-confiscatory reforms, only some nine to fifteen percent of their total reform-related cash budgets went for landowner compensation--though in other cases the figure could be much higher.

Compensation paid for land is a "transfer payment" from the public sector to the landholding groups. Without doubt, compensation can have serious implications for income distribution, consumption, and investment--but it does not of itself create any new productive capabilities in the country. Partly because of this, international lending institutions have refrained from using their resources for financing land purchase. It has been suggested that the international agencies might guarantee bonds issued to compensate landlords. If financing were to be through international maintenance-of-value guarantees of bonds and for compensation, this would have the paradoxical effect of giving land bonds greater stability than that enjoyed by the currencies of issuing countries.

The Bank has provided general support for at least one far-reaching land reform program. This was in Tunisia where the Bank provided a loan of US\$ 18 million intended to back a major agrarian reform relating to former French-owned estates, which occupied the most fertile land in that country. The nationalized land was to be converted into "units of production" which were to be farmed on a cooperative basis; each unit of production was to be self-financing and, inter alia, was to pay a guaranteed minimum cash wage to the workers out of the farm profits. However, the scarcity of trained manpower and the rapid pace taken in establishing new cooperatives made it difficult

for the production units to start on a sound basis and generate a large enough cash flow to meet their objectives. In addition, the system had built in disincentives because wages were not paid according to work. The Bank successfully pressed for substantial improvements in conception, design, and implementation of the agrarian reform. It was unable, however, to influence the major political decision to either take all the land in Tunisia under state management or put it all under the control of cooperatives. The extension of reform strained the limited administrative capacity and the reform program collapsed. Smallholders opted for private farming and were supported by landowners who resisted the takeover of their lands. The Bank subsequently cancelled half of the loan.

The problems encountered in financing the Tunisian program underscore some of the difficulties in lending for reform-related projects. The financial viability of these projects depends to a great extent on the managerial capacity of the beneficiaries of the reform and the development of an efficient service system for them. Very often the managerial capacity of the beneficiaries may be untried; the agencies created to deliver the inputs are usually new, have limited technical capacity, and are of questionable financial viability. Furthermore, as has been pointed out previously, these institutions often provide inputs formerly provided by the private sector, and the whole delivery system changes from one based on the profit motive to one based in the first instance on social considerations. This directly affects their financial viability, especially in that cash flows generated by reform projects tend to be less immediate than in other projects, and many investments in social overhead are not self-liquidating in the short run.

Another Bank project provided direct financial assistance to facilitate the implementation of land reform as part of the Lilongwe development scheme in Malawi. It was recognized during preparation of the Lilongwe Project that there was an opportunity to change the existing land tenure pattern of customary right of usufruct. The need for change to a more secure and lasting tenure system was evident as almost all uncultivated land had been taken up; individual holdings were of the order of about five acres per family, and fragmentation of holdings had occurred on a substantial scale. Five acres was deemed to be the minimum holding size capable of providing a family with subsistence at present levels of technology. As a consequence, the Malawi Government introduced three Acts of Parliament which provided for the allocation, consolidation, and registration of holdings, and the issue of either family or individual freehold titles. These Acts also provided for the regulation of the subsequent sale, mortgage, or transfer of registered land through the establishment of Land Boards. To date some 200,000 acres have been allocated and titles issued on 60,000 acres. IDA credits are being used for the land survey (both topographical and cadastral), the provision of allocation and registration staff, vehicles, equipment, and the construction of housing and a land registry. The amount involved will be approximately US\$ 1.0 million by the end of the second phase. The Lilongwe project indicates that Bank assistance can play a role in assisting governments in the "mechanics" of land reform and in the drafting of legislation.

There have been a number of other projects financed by the Bank that have involved some change in distribution of land or in tenurial rights within the area encompassed by the project. These include projects for land settlement, outgrower schemes, irrigation, and rural credit.

Land Settlement

The Bank has financed a number of settlement projects in which infrastructure was made available together with other services for families settled in the project area. Table 3.1 gives information on ten projects located in Brazil, Colombia, Ethiopia, Kenya, Malawi and Malaysia. Seven of the projects were established on public land and so did not involve any change in the size distribution of existing holdings. Thus, settlers were allocated holdings of from 3 or 4 hectares in Malaysia to 40 hectares in Brazil. Each holding was deemed adequate to provide a livelihood and full employment for the settler and his family.

There are severe limitations on settlement as a means of reaching large numbers of landless people or relieving pressures on land. Though the costs per family in a settlement project can be misleading, the data in Table 1 indicate the limitations on settlement projects--as presently conceived. The ten projects were intended to settle no more than 35,000 families; the total cost was expected to be \$190 million with Bank contributions almost half that amount. The capital requirement of more than \$5,000 per family limits the prospects of the approach. Clearly, the whole approach to capital intensive settlement requires reexamination in the light of the magnitude of the problem outlined in Annex I of this paper.

Outgrower Schemes

Previous mention was made of the problems of distributing the gains from plantation development. (Page 30) It was suggested that benefits be distributed through the raising of wages and the payment of dividends to the workers. In this area the Bank has made a substantial contribution toward a novel form of tenure through the development of "outgrower" schemes. These schemes involve the production of tree crops on smallholdings rather than on large scale plantations. These smallholdings are established around the central nucleus of either a processing plant or a plantation. The central unit provides technical assistance, inputs, and marketing services for the outgrowers who, in turn, sell their products through the central organization.

The Bank has participated in nine such projects--at a cost of \$125 million of which the Bank has contributed \$68 million--affecting some 120,000 families. These have included tea projects in Kenya, Uganda, Mauritius and Indonesia, rubber in Malaysia and Indonesia, cocoa in the Ivory Coast, and oil palm in Nigeria. The average holding in each project has ranged from 10 hectares in Senegal to an acre in Kenya. In the main, the size of holdings for outgrowers is small, although large enough, under labor intensive cropping

systems, to employ a family and produce enough of a high unit value commodity to yield an income well in excess of that earned by producers of staple commodities who have similar sized holdings. While this system has made a valuable contribution toward establishing viable smallholders, it is only effective when there is a commodity that can be handled through a central processing system.

Irrigation

The Bank has invested some \$1.45 billion in irrigation, flood and drainage projects. While these projects covered many facets of water storage and distribution, most were intended to improve the use of water and bring more land into intensive production. To this end the Bank has worked with various governments in determining the most appropriate size of holding for the beneficiaries of each project. For example, eleven projects costing \$342 million (incorporating a Bank investment of \$190 million) are expected to improve 810,000 hectares and benefit more than 500,000 families. Average size holding in the irrigated areas ranges from 10 hectares in Iraq to one hectare in Korea, Sri Lanka and Pakistan, or an average 1.6 hectares per family over all the projects.

In many instances, irrigation projects are subject to special regulations or laws regarding the size of holding that can be held by the beneficiary. Thus in Mexico, the Bank-sponsored projects have conformed to the law which limits the size of irrigated holdings to a maximum of 10 hectares. Elsewhere, problems have arisen because there is no legal provision regarding size of holding or because the law has been ignored. In some instances the Bank has insisted on special legislation giving tenants security of tenure. But in practice the Bank has found this difficult to enforce, and Governments have not cooperated fully.

Rural Credit

While in itself farm credit is an important instrument for reaching particular size groups in agriculture, access can be restricted by tenorial arrangements if lending criteria specify that registered land titles be used as collateral for borrowing. Bank projects have provided more than \$1.0 billion for rural credit. Most of these resources have aided larger commercial producers, though in recent years there has been a pronounced trend toward lending for smaller producers. By the end of 1973, an estimated \$250 million had been allocated for small farmers.

In some instances the Bank has made loans on condition that the recipient government take steps to ensure that the intended beneficiaries do indeed gain from the investment. However, in several instances, the governments concerned have not fulfilled obligations regarding the provision of security for tenants or the allocation of land to low-income groups. In other instances, governments have failed to implement conditions

provided for by existing legislation on rights to land; or they have failed to introduce legislation which would have met the conditions specified in the loans. This highlights one of the major dilemmas confronting an international lending agency concerned with promotion of land reform as an instrument of economic development. That is, to what extent can the Bank influence the course of events regarding distribution of land, and income from the land, in the sovereign states that are members of the Bank?

Major Policy Options

The Bank has to recognize that its leverage is limited as it seeks to redefine its position with regard to land reform. Using Bank finance to gain a developmental impact through land reform involves highly complex issues at the project level, and the potential for using Bank influence to press or even force the issue of structural reform on member countries is severely circumscribed. Such political decisions are not amenable to ready negotiation with the governments in the same way as are other institutional questions -- such as, for instance, the setting of public utility rates.

The Bank would seem to be left with only two options. First, in those countries interested in pursuing land reform the Bank can give support in the form of technical assistance and finance for reform related projects. It should give overt priority in lending to those countries and projects which meet land reform criteria. Second, in those countries where there is no government interest in land reform the Bank should: (i) study the situation in all cases; (ii) call the attention of the government to the problems associated with the existing tenure system, and enter into a dialogue on the subject; (iii) support land reform proposals when they are made officially; and (iv) not lend for projects if tenure arrangements are so bad that they frustrate the achievement of Bank objectives. These options are reflected in the policy guidelines provided in this paper.

Table 3.1

COSTS OF SELECTED SETTLEMENT
PROJECTS FINANCED BY THE WORLD BANK

Country	Project	Total project costs (US\$m.)	Bank and IDA Finance		Date	Number of families ^{2/} to be settled	Estimated project costs per family ^{4/} (US\$)	Average farm size (ha)	Settlement on
			Amount (US\$m.)	Loan or credit					
Brazil	Alto Turi Land Settlement Project	12.6	6.7	loan	1972	5,200	2,423 ^{5/}	40	public land
Colombia	Atlantico No. 3 Irrigation	15.7	9.0	loan	1967	2,500	6,280 ^{6/}	4.0 ^{7/}	INCORA land (involved appropriation of private land)
	Second Atlantico Development	9.7	5.0	loan	1972	1,800	5,389	11	
	Caqueta Land Colonization	21.6	8.1	loan	1971	6,300 ^{3/}	3,429	na. ^{8/}	
Ethiopia	Wolamo Agricultural Project	2,325 ^{1/}	3.5	credit	1969	1,050	2,214	6	public land
Kenya	Land Settlement and Development	6.9	3.9	credit	Rev. 303KE 1969	5,200	1,327	14.3	European-owned land
Malawi	Karonga Rural Development	7.8	6.6	credit	1972	2,830	2,756	6	public land
Malaysia	Jengka Triangle	29.1	14.0	loan	1968	2,770	10,505	4.8	public land
	2nd Jengka Triangle	41.0	13.0	loan	1970	3,000	13,667	4.3	public land
	3rd Jengka Triangle	43.3	25.0	loan	1973	4,000	10,825	4.5	public land

Source: World Bank and IDA, Appraisal Reports

- 1/ \$2.730 million used for agricultural development on highlands are excluded from the settlement cost.
- 2/ Except for Kenya, figures represent goals rather than actual state of settlement.
- 3/ Includes 2,800 new settlers and 3,500 partially established settlers.
- 4/ Project costs as estimated in the Appraisal Reports do not necessarily reflect total economic costs of settlement.
- 5/ The cost to the government is US\$1,700 per family settled. This excludes expenditures on health, education, research and related studies. These cost expenditures are now under review and expected to be considerably higher than the originally anticipated.
- 6/ The cost per small farmer settled is estimated to be US\$17,000, whereas the cost per middle-size farmer remaining in the project area is \$100,000. See World Bank, Operations Evaluation Report: Colombia, VI (Preliminary Draft), October 31, 1971, p.198.
- 7/ The original goal was to settle 2,500 landless peasants and develop 9,900 hectares. The project is two years behind schedule.
- 8/ Although 2,800 new settler families are scheduled to be settled on some 280,000 ha, no data on the farm size of 3,500 partially established settlers are given.

CONTEXT OF LAND REFORM

Population to Land Ratios

The total land area of the globe encompasses some 13,393 million hectares made up of 1,457 million hectares of cropland, defined as arable land and land under permanent crops (10.8 percent); 2,987 million hectares under permanent pasturage (22.8 percent); 4,041 million hectares under other uses (36.4 percent). Of the arable land, approximately 31 percent is in Asia; 19 percent in North and Central America; 16 percent in the USSR; 15 percent in Africa; 10 percent in Europe; 6 percent in South America; and 3 percent in Oceania.

The world's population was estimated to be approximately 3,617 million in the early 1970s. This represents an average of 3.9 hectares of land, or close to 0.40 hectares of cropland, per person. The world's agricultural population -- defined as population depending on agriculture for its livelihood -- is estimated to be 1,851 million, or 51 percent of the total population. On the basis of the global figures there is an average of 0.88 hectares of cropland per person in agriculture.

The relationship between population and land in all major regions and for 50 selected countries is shown in Tables 1 and 2 respectively. Among other things, the tables reveal that:

- (a) More than 70 percent of all rural people live in Asia, which has approximately 31 percent of the world's cropland. The ratio of agricultural population to cropland in Asia is the lowest among all the major regions, averaging 0.35 hectares per person. Together, the People's Republic of China (Mainland China) and India have an agricultural population of close to one billion, while Indonesia, Bangladesh, and Pakistan have a further 180 million. Of the Asian countries, Burma has the most favorable ratio of cropland to rural population (1.08) followed by Pakistan (0.69), Malaysia (0.57), and India (0.44), as compared with Indonesia (0.22), Mainland China (0.19), Bangladesh (0.16). The least favorable ratio is found in South Korea and the Democratic Republic of Vietnam (North Vietnam) (each with an estimated 0.13). It is notable that Taiwan and Japan have ratios of 0.14 and 0.26 arable acres per person in agriculture; Japan being the only developed country with such a low ratio -- well below the 1.63 of Europe and 5.02 of North and Central America.
- (b) South America accounts for 4.0 percent of the world's agricultural population and 5.8 percent of the world's cropland. Although 13 percent of the land area of the world is in South America, almost half of that area is in forests and woodlands, 20 percent is in pastureland and only between 5 and 6 percent is in cropland. However,

as only 39 percent of the population is in agriculture there is an average of 1.14 hectares of arable land per rural person. Argentina and Uruguay have high ratios of agricultural land to rural population, the most favorable in the developing world (7.03 and 4.04 respectively). Venezuela, Chile, Bolivia, Mexico, and Cuba have ratios of more than one hectare per person in agriculture; Brazil, Colombia, Peru and the crowded Central American Republics have ratios of less than one hectare per rural person; Haiti with 0.10 hectare per person in agriculture appears to have the most unfavorable ratio in the world.

- (c) Africa has 13 percent of the world's rural population and occupies close to 15 percent of the world's cropland with an average of 0.90 hectares of cropland per person in agriculture; 67 percent of the population depends on agriculture, a higher proportion than in any other region. The most favorable ratio in tropical Africa appears to be in the Ivory Coast with 2.22 hectares per person in agriculture. Uganda, Ghana, Nigeria, and Zaire have between close to 0.50 hectares and 0.70 hectares per person in agriculture. Rwanda with 0.21 hectares per person in agriculture is one of the handful of countries in tropical Africa that has a pressure on land resources that is greater than the average in Asia.

The above brief summary indicates the wide range of differences that prevail with regard to population densities in the rural areas in different regions and among various countries of the developing world. These data indicate that, by and large, it is the countries with a high proportion of population in agriculture that have the less favorable ratios of population to land; they are also among the poorest countries in the world. Further, these are also the countries in which population is increasing at a rapid rate and where raising agricultural output is perhaps most difficult.

Population and Production

The proportion of population in the rural areas of developing countries, while declining relative to total population, is increasing in absolute numbers. Despite rapid migration out of agriculture and the explosive growth of certain areas, there has been an increase and even an acceleration in the rates of growth of the rural population in all regions of the world other than Africa. Table 3 shows the trends in rates of growth between 1950-60 and 1960-70, with overall growth rates rising from 1.9 percent to 2.1 percent and the largest regional rate of increase being the rise from 1.8 percent to 2.1 percent in the Far East. (where rural population is already very dense).

The increasing number of people has added to the population pressure on the land. Historically, this pressure has been relieved through the expansion of acreage along a frontier of cultivation. Indeed it was the expansion of the frontier in the new lands of North America, Argentina, South Africa, and Australia that helped relieve population pressure in the first period of generalized population growth in the late eighteenth century. It was in these areas, where population growth was swollen by an influx of migrants, that there were rates of population increase that compare with the rates today in many of the poorer countries. However, since the frontier is fast disappearing in most of the poor countries of today, so are the opportunities for low-cost expansion of acreage under cultivation. The changing situation is difficult to document at an aggregate level, but Table 4 gives some perspectives on trends in expansion of cropped areas and production.

The rate of expansion in acreage fell, in the aggregate, between the 1950s and the 1960s. The only exception is Latin America where the acreage under cultivation grew from a rate of 1.8 to 2.5 percent a year; the rate of increase in expansion of acreage slowed down in all other areas, halving in the Near East from 2.2 percent a year to 1.1 percent. When the rates of growth of population are compared with rates of increase in acreage under cultivation, it appears that rural population was increasing at around the same rate as the cropped areas during the 1950s, but increased more than one and a half times as fast as the cropped area during the 1960s.

As is shown in Table 4, production increased at the same rate during the 1950s and the 1960s. A consistent rate of increase in output with an increasing rural population indicates a decline in the rate of growth of output and incomes; from 0.9 percent per annum in the 1950s to 0.7 percent per annum in the 1960s. At the same time as average per capita income was increasing at a declining rate, yields per acre rose very moderately -- in this instance an increase of around 0.4 percent a year between the 1950s and 1960s.

The increase in population and slow expansion of the area under cultivation have worsened man-land ratios. The worsening of these ratios, arising from constraints on the low-cost expansion of acreage under cultivation, makes it increasingly difficult to accelerate rates of growth of output and income in agriculture. This is because raising yields requires a higher level of technology and management compared with increasing output or expanding acreage under cultivation. It is only in recent years that there has been a concerted effort to develop technologies to raise yields of staple crops grown in the developing areas. Hitherto, these efforts have been confined to a handful of crops and the successes attained have been limited to a relatively small area of the developing world. There are some fortunate countries, such as Nigeria, that have some land resources available for future development through expansion of acreage under cultivation. But many other countries have little or no unused land and so the situation is correspondingly worse. The emphasis in the latter countries will have to be placed increasingly on raising yields per hectare.

The increasing pressure of population on the land highlights the issue of absorptive capacity in agriculture. There are considerable opportunities for increasing employment and production in agriculture in most of the developing countries. This applies to the more densely populated regions as well as to others. Table 5 shows the startling differences in input of agricultural labor and output per hectare in developing countries of Asia on the one hand and in Japan on the other. Japan is a country of small holdings and has approximately two workers per hectare with an average output of \$397 per worker and \$762 per hectare. Several other countries have a higher ratio of workers to the land than Japan. One country, Malaysia, has a higher output per worker in agriculture than in Japan. However, the point to be emphasized is that if the level of labor intensity of two workers per hectare prevailing in Japan could be attained in countries such as Pakistan and India, the agricultural sector in those two countries could absorb all the labor force expected by 1985. This kind of labor intensity is not likely to be reached, however, because of the smallness of the irrigated area in Pakistan and India, and other constraints related to technology, resource base, land tenure, and capital formation in these regions.

It is reasonably clear that whatever is done will only partially satisfy the ever-rising demands for work and income in the many less-developed countries that are faced with the general problems of high population growth, low incomes, and increasing unemployment. With very few exceptions, the poverty and unemployment problems of the less-developed countries are unlikely to have any long-term solutions that do not include a reduction in population growth, urban as well as rural. Nonetheless, even if effective birth control could be introduced overnight, there will still have to be special and possibly extraordinary measures to satisfy the expanding demands for work and income from today's children. Such measures include those related to land reform.

Distribution of Land

The ratio of population to land tells us nothing about the distribution of the land among the rural population: countries with dense rural populations can have a more even distribution of land than countries with sparse populations. The most recent data on distribution of holdings by size is given in the world-wide census of agriculture held in the early 1960s. This covered 83 countries, including all of the larger countries that are members of the Bank except Nigeria, Romania, Ecuador, Bolivia and Afghanistan.

The census provides a breakdown of distribution by size of 138.3 million holdings in the 83 countries. There is also a breakdown of the distribution of land and cropland by size of holding for 64 countries (which account for all but 9 percent of the land in the 83 countries covered in the census). Table 6 combines the two sets of information to give an indication of the distribution of land and cropland by size of holding.

The information in Table 6 shows the following:

- (a) 53.9 million holdings, or 39 percent of all holdings are under one hectare in size; if the patterns in the 83 countries is the same as in the 64 countries for which there are data on distribution of size and distribution of land, then these holdings occupy 1.1 percent of the land area and 3.4 percent of the cropland.
- (b) 109 million holdings, or 78.8 percent of all holdings, are less than 5 hectares in size; based on the same assumption as above, these holdings will account for approximately 6.8 percent of the land under farms and 20.7 percent of cropland.
- (c) One million holdings of 200 hectares or more represented less than 0.8 percent of all holdings in the 83 countries; in the 64 countries surveyed, farms of this size group accounted for 66 percent of all land under farms and nearly 25 percent of all cropland.

The data confirms that, when viewed in the aggregate, the distribution of land and cropland is highly skewed. If the distribution of holdings by size in 84 countries represents a global picture, and if the distribution of 91 percent of the land reflects the pattern of distribution of all the land, then: holdings above 50 hectares in size, which represent 3.2 percent of all holdings, account for 78.8 percent of the farmland and 45.3 percent of all the cropland, i.e., roughly 3 percent of all holdings (in the aggregate) accounts for slightly less than half of the arable land and land under permanent crops and more than three-quarters of all land under farms. Conversely 97 percent of all holdings accounts for less than one-quarter of all land under farms and slightly more than half of the area under crops.

The information on distribution of holdings by size refers to the 83 countries, both developed and developing, covered by the census. There were an estimated 16 million holdings of less than 5 hectares in the developed world: 6 million in Japan and 10 million in Europe. Thus there were some 122 million holdings in the less developed countries of which some 92 million were less than 5 hectares in size; approximately half of these holdings were less than 1 hectare and the remainder were between 1 and 5 hectares in size.

It is safe to conclude that there are well in excess of 100 million holdings of less than 5 hectares in the developing world at the present time. This conclusion is derived as follows: the 1960 census indicated there were approximately 92 million smallholders in developing countries, excluding those in Nigeria, Afghanistan, Ecuador and Bolivia. Together, at the time of the census, these countries had an agricultural population estimated to be close to 50 million people, or 10 million families, most of whom were farming on units of less than 5 hectares in size. Thus it is highly likely that there were already close to 100 million holdings of less than 5 hectares in 1960. Between

1960 and 1970 the agricultural population in the developing countries has increased by a reported 190 million persons, or by more than an estimated 35 million farm families. Preliminary indications are that there has been an increase in fragmentation of holdings in many of the more densely populated countries as well as in those countries that have skewed distribution of land. Consequently, it is safe to assume that the census forthcoming in the 1970s will reveal that there are well in excess of 100 million smallholders in the developing world; in all probability, more than half of their holdings are less than one hectare in size.

The 1960 census data also provided information on holdings by size and land area for different regions and countries. The most comprehensive regional and national analysis for the 83 countries deals with holdings of one hectare or more in size and pertains to 84.4 million holdings covering 2,242 million hectares. Obviously, this is not complete coverage, excluding, as it does, holdings of less than one hectare. However, it does provide insight into the patterns of distribution of holdings within the major regions. The results are summarized in Table 7.

The analysis indicates the vast differences in patterns of land holding and distribution of land between Asia and the other regions. The contrast between Asia and the Americas is highlighted by the fact that 78 percent of the holdings larger than 1 hectare in Asia are less than 5 hectares in size and occupy 40.7 percent of the land; the 36.4 percent of holdings in South America and 23.4 percent in North and Central America that are less than 5 hectares in size occupy only 1 percent and 0.5 percent respectively of the area under farms in these areas. Only 9 percent of the area in Asia is in holdings of more than 50 hectares; as much as 34.7 percent in Europe and more than 90 percent in North and Central America, South America, and Oceania, was in farms of more than 50 hectares in size.

The data for Africa as presented in the census are misleading. This is because the 1960 census had poor coverage of that continent with the data on the distribution of holdings by size and acreage for the 18 countries surveyed heavily weighted by the results in South Africa and Southern Rhodesia, and the confining of measures in Zambia to European holdings and in Tanzania to commercial holdings. If these are excluded from the sample then the land of under 5 hectares held by smallholders is much more than 50 percent of all land.

The analysis of distribution of holdings by size on a regional basis points to the highly skewed distribution in the Americas; the pattern of holdings in the eight major countries in Latin America helps explain this, as shown in Table 8. The information confirms that a very high proportion of all land -- ranging from 84 to 97.5 percent -- in the 8 countries is held in holdings of more than 50 hectares in size. At the other end of the spectrum only 5 percent of the land in the 8 countries is in holdings of less than 5 hectares (even though these holdings constitute between 14 percent and 74 percent of all holdings).

A further partial measure of concentration of holdings is given by the Gini coefficient -- an index of concentration based on the departure of an existing pattern of holdings from an even distribution, as revealed by a Lorenz curve. The Gini coefficient has been estimated for 31 countries which have been grouped into three categories, as shown in Table 9. As can be seen, the Gini coefficient indicates a high concentration in six South American countries included in the sample; on the other hand countries such as Taiwan, Canada, Japan, and Sweden have a low concentration of holdings. Clearly there is a wide range in the distribution of holdings by size in different parts of the world. The most skewed distribution appears to be in Latin America where there is a relatively low rural population density; at the same time the distribution of land appears to be much less skewed in many areas with a very high density of population, notably Asia and Europe. It is of special interest that two of the countries with dense populations and very little concentration of land holdings are Japan and Taiwan.

The distribution of land by size of holdings is "a geographical phenomenon" and must be interpreted with caution in a socio-economic context. The distribution of land may indicate little about the international distribution of wealth or income -- 5 hectares of irrigated land in Japan would most certainly yield an income well in excess of that yielded by 100,000 acres in parts of Northern Australia. Similarly, within countries, the pattern of distribution of land may not reflect the pattern of distribution of wealth or the socio-economic conditions that prevail in a given country -- two hectares of irrigated land in the Medjerda Valley of Tunisia, producing tomatoes, yield a far greater income than do 1,000 hectares of land used for sharecropping in the semi-arid parts of Tunisia's central area.

The caveats on quality of land and ecological conditions governing land-use patterns must be borne in mind. The evidence presented here (and elsewhere) indicates, however, that most of the agricultural land and cropland is concentrated within a relatively few holdings. It also indicates that the greatest skewness in distribution is in the Americas, and that this skewness is by no means confined to Latin America.

Tenants and Farm Laborers

The distribution of holdings by size and population densities indicates nothing of the status of those who hold the land or the numbers of landless. There are only limited data on these; Table 10 shows some available information on the number of renters and sharecroppers in 15 countries and the percentage of farms and areas of farmland they occupy. Table 11 indicates landless farm workers in 12 countries.

This limited sample indicates that renting and sharecropping is widespread in all the major regions of the world. In countries such as South Vietnam, Iran, and Egypt, more than two-thirds of the farms, occupying more than half of the land, are farmed by tenants or sharecroppers. However, in other countries, such as Guatemala and Tunisia, less than a quarter of the farms are rented or sharecropped. All in all, in the 15 countries, out of 87 million holdings there are close to 29 million renters and sharecroppers.

Renting or sharecropping of land is a common practice in both developed and developing countries. In some parts of the world the rights of those who rent land are protected by law or custom and renters enjoy the same working conditions as owners of land. In other areas, however, renters and sharecroppers are in a very tenuous position when it comes to negotiating arrangements with landlords, and they commonly give as much as half their output in return for the use of land and services provided by the landlord.

The conditions that govern rental agreements and crop-sharing arrangements differ throughout the world. In most developing countries, where there is widespread tenancy, there is heavy dependence on the landlord -- usually an absentee landowner -- for the provision of purchased inputs. Another widespread characteristic is the absence of written registered agreements governing the conditions of tenancy and the rights of tenants (even though there may be laws stipulating what these should be). Tenants and sharecropper typically operate under conditions of great insecurity and are in a weak bargaining position vis-a-vis the landlord. Frequently, the tenants are among the lowest income groups in agriculture. The insecurity of tenants has been highlighted by their displacement on short notice when technological change has made it more profitable for landowners to mechanize their holdings -- as has happened in India, Pakistan, and Ethiopia.

Landless Workers

The number of landless farm workers in the developing countries is increasing. There are approximately 100 million farm wage workers (including family members and heads of families with very small landholdings) in the 22 countries for which data are provided in Table 11. This figure includes an estimated 47 million in India alone -- about 32 percent of the active population in agriculture. There are about 10 million such workers in Latin America. Even in Argentina and Uruguay (with only 15 percent of the active population depending on agriculture) more than half of the workers are essentially landless. In the remaining countries of the region, the proportion ranges from a minimum of about one-fourth in Honduras and Brazil to a maximum of approximately two-thirds in Chile.

There are almost no reliable estimates of the unemployed in the rural areas. It is usually assumed that the labor force subsists off a holding and joins in some arrangement with the extended family whereby it shares work and output. The emergence of a landless wage-earning class confirms that there is a growing rural labor force that has to rely on work outside the traditional sectors for its livelihood. This group is increasing in size and the provision of employment for what is already a large rural proletariat may well be one of the greatest challenges facing national governments in the future.

There is a vast amount of underemployment in the rural areas of most countries of the world. The nature of this underemployment has been discussed elsewhere. At this juncture, it should be pointed out that the

redistribution of idle land can provide added employment, but that the prospect is limited for redistribution of land providing full employment for all the present and prospective population in the rural areas of densely populated countries. Structural changes within agriculture can help alleviate underemployment and open unemployment, but the problems of reducing nation-wide unemployment have to be seen in a national rather than a sectoral context.

Table 1: REGIONAL DISTRIBUTION OF LAND, EMPLOYMENT, AND POPULATION IN AGRICULTURE

Region	Land area (million ha)	Population (million)		Employment (million)		Percentage of pop. employed in agriculture (%)
		1950	1975	1950	1975	
Europe	1,200	100	100	100	100	100
U.S.S.R.	1,200	100	100	100	100	100
North and Central America	1,200	100	100	100	100	100
South America	1,200	100	100	100	100	100
Asia	1,200	100	100	100	100	100
Africa	1,200	100	100	100	100	100
Oceania	1,200	100	100	100	100	100
Total	12,000	1,000	1,000	1,000	1,000	100

Source: FAO Production Yearbook, 1975

Table 1: REGIONAL DISTRIBUTION OF LAND, CROPLAND, AGRICULTURAL POPULATION AND ACREAGE PER PERSON IN AGRICULTURE

Region	Land area (million ha)	Cropland		Rural Population		Agricultural population as percentage of total popu- lation	Cropland area per rural person (ha)
		(million ha)	Distri- bution (%)	(million)	Distri- bution (%)		
Europe	493	145	10.0	89	4.8	17	1.63
U.S.S.R.	2,240	232	15.9	77	4.2	32	3.01
North and Central America	2,242	271	18.6	54	2.9	17	5.02
South America	1,783	84	5.8	74	4.0	39	1.14
Asia	2,753	463	31.8	1,314	71.0	64	0.35
Africa	3,031	214	14.7	239	12.9	67	0.90
Oceania	851	47	3.2	4	0.2	4	11.75
Total	13,393	1,456	100.0	1,851	100.0	51	0.787

Source: FAO Production Yearbook, 1972

Table 2: CROPLAND IN RELATION TO POPULATION BY COUNTRIES

Country	Cropland hectares '000	Total population '000	Agricultural population '000	Hectares of cropland per person of:	
				Total population	Agricultural population
<u>Asia</u>					
China, People's Rep. of	110,300	850,406	568,921	.13	.19
China, Rep. of	867	14,520	6,171	.06	.14
Japan	5,510	103,540	21,329	.05	.26
Korea, Peop. Dem. Rep. of	1,894	13,674	7,275	.14	.26
Korea, Rep. of	2,311	32,422	17,300	.07	.13
Burma	18,941	27,584	17,570	.69	1.08
Indonesia	18,000	119,913	83,230	.15	.22
Malaysia	3,524	10,931	6,176	.32	.57
Philippines	8,977	38,493	26,752	.23	.34
Thailand	11,415	35,814	27,398	.32	.42
Vietnam, Dem. Rep. of	2,018	20,757	16,108	.10	.13
Vietnam, Rep. of	2,918	18,332	13,620	.16	.21
Bangladesh	9,500	71,000	60,000	.13	.16
India	164,610	550,376	372,605	.30	.44
Nepal	2,090	11,040	10,112	.19	.21
Pakistan	24,000	60,000	35,000	.40	.69
<u>Africa</u>					
Angola	900	5,501	3,568	.16	.25
Ghana	2,835	8,832	4,840	.29	.59
Ivory Coast	8,859	4,915	3,986	1.80	2.22
Nigeria	21,795	76,795	45,423	.32	.48
Rwanda	704	3,609	3,277	.20	.21
Uganda	4,888	8,549	7,342	.57	.67
Zaire	7,200	17,493	13,701	.41	.53
<u>Latin America</u>					
Cuba	3,585	8,407	2,755	.43	1.30
Guatemala	1,498	5,180	3,246	.29	.46
Haiti	370	4,867	3,754	.08	.10
Mexico	23,817	50,670	23,617	.47	1.01
Puerto Rico	236	2,784	387	.09	.61
Argentina	26,028	24,353	3,704	1.07	7.03
Bolivia	3,091	4,931	2,873	.63	1.08
Brazil	29,760	93,565	40,869	.32	.73
Chile	4,632	9,780	2,484	.47	1.86
Colombia	5,258	21,117	9,541	.25	.55
Peru	2,843	13,586	6,189	.21	.46
Uruguay	1,947	2,886	482	.67	4.04
Venezuela	5,214	10,997	2,887	.47	1.81
<u>Europe</u>					
Italy	14,930	53,667	9,735	.28	1.53
Portugal	4,370	9,630	3,523	.45	1.24
Spain	20,601	33,290	11,222	.62	1.84
Yugoslavia	8,205	20,527	9,651	.40	.85
Hungary	5,594	10,310	2,484	.54	2.25
Poland	15,326	32,805	9,940	.47	1.54
Romania	10,512	20,253	10,503	.52	1.00
U.S.S.R.	232,809	242,768	77,322	.96	3.01
Denmark	2,678	4,921	595	.54	4.50
Germany, Fed. Rep. of	8,075	61,682	3,514	.13	2.30
German Dem. Rep.	4,806	17,257	2,133	.28	2.25
Sweden	3,053	8,046	754	.38	4.05
United Kingdom	7,261	55,711	1,540	.13	4.71
<u>North America</u>					
Canada	43,404	21,406	1,712	2.03	25.4
United States	176,440	205,395	8,216	.86	21.5
<u>Oceania</u>					
Australia	44,610	12,552	1,049	3.55	42.53

Source: Folke Doving, Land Reform: Ends and Means; A Background Study prepared for the World Bank.

Country	Population '000	Population '000	Annual Percentage Rate 1950-1960	Annual Percentage Rate 1960-1970
United Kingdom	10,500	10,500		
Germany, Fed. Rep. of	18,000	18,000		
France, Rep. of	22,000	22,000		
Canada	10,000	10,000		
U.S.S.R.	150,000	150,000		
Romania	10,000	10,000		
Poland	15,000	15,000		
Hungary	10,000	10,000		
Czechoslovakia	10,000	10,000		
Yugoslavia	10,000	10,000		
India	100,000	100,000		
U.S.A.	150,000	150,000		
Latin America	200,000	200,000	1.4	1.5
Far East	100,000	100,000	1.8	2.1
Near East	100,000	100,000	1.8	1.8
Africa	100,000	100,000	2.4	2.2
TOTAL	1,000,000	1,000,000	1.9	2.1

Source: Kingsley Davis, World Urbanization, 1950-1970, Vol. I, 1969

Source: Folke Doring, Land Reform, Food and Wealth: A Background Study prepared for the World Bank.

Table 4: CROPPED AREA AND PRODUCTION TRENDS BY REGIONS

	1953/55-1962/63		1961/63-1969/71	
	Production	Area	Production	Area
All Regions	2.8	1.9	2.8	1.4
Latin America	3.1	1.8	2.9	2.5
Far East	2.5	1.9	2.8	1.1
Near East	3.8	2.2	2.7	1.1
Africa	3.0	1.7	2.6	1.2
Korea, Rep. of	2.8	1.8	2.8	1.1
Malaysia	3.1	1.8	2.9	2.5
Nepal	2.5	1.9	2.8	1.1
Pakistan	3.8	2.2	2.7	1.1
Philippines	3.0	1.7	2.6	1.2
Sri Lanka	3.1	1.8	2.9	2.5
Thailand	2.5	1.9	2.8	1.1
Vietnam, Rep. of	3.8	2.2	2.7	1.1
Average	2.8	1.9	2.8	1.4
Japan	3.0	1.7	2.6	1.2

Source: International Labor Office, Labor Force Projections, 1971, pp. 1-4, Annex, 1971.
 Columns 1 and 2: FAO; Columns 3 and 4: ILO. Data compiled from value of output calculated for the agricultural production index.

Table 5: FAR EAST AGRICULTURAL LABOR FORCE AND PRODUCTION, 1970

Country	Agri- cultural workers per 100 ha	Indices	Net agri- cultural produc- tion per ha	Indices	Output per worker	Indices
		Japan = 100	US\$	Japan = 100	US\$	Japan = 100
Burma	48	25	71	9	148	37
India	92	48	115	15	150	38
Indonesia	224	117	283	37	126	32
Laos	153	80	119	16	75	19
Khmer Republic	75	39	146	19	194	49
Korea, Rep. of	261	136	440	58	169	43
Malaysia	74	39	366	48	492	124
Nepal	229	119	220	29	96	24
Pakistan	101	53	218	29	215	54
Philippines	113	59	178	23	158	40
Sri Lanka	107	56	286	38	266	67
Thailand	119	62	179	23	150	38
Vietnam, Rep. of	242	126	241	32	100	25
Average	103	54		21	155	39
Japan	192	100	762	100	397	100

Sources: Column 1: International Labor Office, Labor force projections. Pt. 1-V, Geneva, 1971.

Columns 3 and 5: FAO: Compiled from value of output calculated for the agricultural production index.

Table 6: DISTRIBUTION OF HOLDINGS BY SIZE AND PERCENTAGE OF TOTAL HOLDINGS; DISTRIBUTION OF HOLDINGS BY PERCENTAGE OF LAND AND CROPLAND

Size distribution	Number of holdings		All land in holding %	Cropland in holding %
	(millions)	Percentage distribution		
Under 1 ha	53.9	38.9	1.1	3.4
1 ha and under 2	26.55	19.2	1.7	5.3
2 ha and under 5	28.73	20.7	4.0	12.0
5 ha and under 10	13.24	9.6	4.2	11.5
10 ha and under 20	7.27	5.2	4.4	10.7
20 ha and under 50	4.40	3.2	5.8	11.8
50 ha and under 100	1.97	1.4	5.8	9.8
100 ha and under 200	1.40	1.0	6.6	11.0
200 ha and under 500	0.67	0.48	8.6	11.5
500 ha and under 1000	0.23	0.16	6.5	5.9
1000 ha and over	0.23	0.16	51.3	7.1
Total	138.59	100.00	100.00	100.00

Source: FAO, Report on the 1960 World Census of Agriculture, V, Rome, 1971, pp. 34-36.

Table 7: DISTRIBUTION OF HOLDINGS ABOVE ONE HECTARE BY SIZE AND AREA

	1-5 ha		5-50 ha		50 ha	
	% Holdings	% Area	% Holdings	% Area	% Holdings	% Area
Europe	50	13.0	47.4	52.3	2.4	34.7
North & Central America	23.4	0.5	39.4	8.0	37.2	91.5
South America	36.4	1.0	45.5	8.5	17.8	90.5
Asia	78.2	40.7	21.6	50.2	0.2	9.1
Africa	73.2	3.7	23.7	6.3	3.1	90.0
Oceania	5.5	-	27.7	0.5	66.0	99.5

Source: 1960 Census of Agriculture, FAO, 1971.

Table 8: DISTRIBUTION OF HOLDINGS ABOVE ONE HECTARE
BY SIZE AND AREA - SOUTH AMERICA

	1-5 ha		5-50 ha		50 ha	
	% Holdings	% Area	% Holdings	% Area	% Holdings	% Area
Argentina	14.9	0.1	38.5	2.4	46.6	97.5
Brazil	28.1	1.0	52.6	12.8	20.3	86.2
Chile	37.7	0.7	30.3	5.2	32.0	94.1
Colombia	50.3	4.1	40.6	10.1	9.1	85.8
Paraguay	43.5	1.1	51.0	6.6	6.5	92.3
Peru	73.8	4.2	22.9	8.0	3.3	87.8
Uruguay	14.7	0.2	49.2	4.6	36.1	95.2
Venezuela	36.3	1.3	42.9	6.7	20.8	92.0

Table 9: CONCENTRATION OF LAND OWNERSHIP
IN SELECTED COUNTRIES

DISTRIBUTION OF HOLDINGS ABOVE ONE HECTARE
BY SIZE AND AREA - SOUTH AMERICA

<u>High Concentration</u>	<u>Medium Concentration</u>	<u>Low Concentration</u>
Argentina	Austria	Belgium
Brazil	Egypt	Canada
Colombia	India	China (Taiwan)
Iraq	Iran	Denmark
Spain	Ireland	Germany, Fed. Rep. of
Uruguay	Italy	Greece
Venezuela	Netherlands	Japan
	Norway	Philippines
	Pakistan	Sweden
	Turkey	Yugoslavia
	U.K.	
	U.S.A.	

Table 10: TENANCY AND SHARECROPPING IN SELECTED COUNTRIES ^{1/}

	Renting & Sharecropping as percent of total		Number of Renters and Sharecroppers ^{2/} '000
	Number of Farms ^{3/} %	Farmland %	
<u>Asia</u>			
India	27.3	n.a.	13,350
Indonesia	35.9	25.9	4,392
Malaya, Fed. of *	31.2	15.7	141
Pakistan ^{3/}	43.4	57.0	5,271
Philippines	54.3	40.4	1,176
Vietnam, Rep. of	<u>70.3</u>	<u>70.0</u>	<u>1,334</u>
Total	33.0	45.7 ^{4/}	25,664
<u>Near East & North Africa</u>			
Egypt	62.1	57.2	1,020
Iran	66.7	73.4	1,253
Tunisia	<u>23.3</u>	<u>32.0</u>	<u>76</u>
Total	61.1	62.6	2,349
<u>Latin America and Caribbean</u>			
Dominican Republic	28.9	n.a.	129
Guatemala	22.4	16.6	93
Nicaragua	26.3	n.a.	27
Trinidad & Tobago	49.5	32.8	18
Chile	49.3	24.4	128
Colombia	<u>31.5</u>	<u>13.5</u>	<u>381</u>
Total	31.4	19.2 ^{4/}	776

^{1/} Data refer to latest available year in 1960's and therefore do not reflect land reform action, on the one hand and changes in the work force on the other.

^{2/} Includes holdings operated under more than one tenure form (21.8%).

^{3/} Includes both Pakistan and Bangladesh.

^{4/} India, Dominican Republic and Nicaragua are excluded, due to lack of data.

* 1960 estimates in former Federation.

Source: Report on the 1960 World Census of Agriculture, Vol. 5, FAO, Rome, 1971, pp. 92-97.

Table 11: LANDLESS FARM WORKERS IN SELECTED COUNTRIES^{1/}

	Number of landless workers '000	Landless workers as % of active population in agriculture %	Active agricultural population as % of total active population %
<u>Asia</u>			
India ^{2/}	47,300	32	68
Indonesia	5,673	20	70
Pakistan ^{3/}	8,013	29	70
Total	60,986	30	68
<u>Middle East & North Africa</u>			
Algeria	1,099	60	56
Egypt	1,865	38	55
Iran	903	25	46
Morocco	484	19	61
Tunisia	210	20	46
Total	4,561	33	58
<u>Latin America & Caribbean</u>			
Costa Rica	122	53	45
Dominican Republic	179	25	61
Honduras	138	27	67
Jamaica	72	41	27
Mexico (1970)	2,499	49	39
Nicaragua (1971)	101	43	47
Argentina	694	51	15
Chile (1971)	378	66	28
Colombia	1,158	42	45
Ecuador	391	39	54
Peru	557	30	46
Uruguay	99	55	17
Brazil	3,237	26	44
Venezuela	287	33	26
Total	9,912	35	39

^{1/} Except for India, data presented here are estimated from ILO Year Book of Labor Statistics, 1971, pp. 43-294, and 1972, pp. 44-301. Unless otherwise indicated, data refer to latest year available in 1960's and thus do not reflect recent reform actions on the one hand, and changes in the work force, on the other.

^{2/} Agricultural laborers as shown in India, Ministry of Agriculture, Directorate of Economics and Statistics, Indian Agriculture in Brief (11th ed., 1971) p. 14.

^{3/} Includes population now belonging to Bangladesh.

EXPERIENCES WITH LAND REFORM

The following summaries illustrate selected country experience in land reform over the last three decades. Their inclusion in this paper should not be taken as indicative of Bank judgement on what does or does not constitute land reform, nor should the statements be regarded as definitive. Land reform is a complex process in which several socio-economic variables are changed more or less simultaneously. In most cases, the evidence is inadequate to allow identification of causal relationships between reform measures on the one hand and production, income, and social effects on the other, even though it is often feasible to trace correlations, such as that between land distribution and a rise in productivity.

REPUBLIC OF CHINA (TAIWAN)

Taiwan's land reform program was implemented in three steps. A reduction of rents in 1949 was followed by the sale of public lands. A land-to-the-tiller program completed the reform in 1953. The proportion of cultivated land under tenancy leases was reduced from 41 to 16 percent, while the proportion of farm families owning all land under their cultivation increased from 33 to 59 percent. On the land remaining under tenancy cultivation, written and secure leases were arranged at much reduced rental rates.

Following the reform, the productivity of agriculture has increased, income distribution has become more even, and rural and social stability have been enhanced. Land productivity is highest on holdings below 0.5 hectare. The share of total agricultural income that is consumed has increased only moderately, leaving intact enough income to achieve a fairly high agricultural savings rate.

The smooth implementation of the reform program in Taiwan was due to a stable socio-political climate and the many complementary development measures taken before and during the reform. The existence of a thorough cadastral survey, good agricultural research and extension services, a vast expansion of publicly sponsored farm credit during the reform period, and a gradually increasing involvement of tenant farmers in the administration of the program, all contributed to success.

REPUBLIC OF KOREA (SOUTH KOREA)

Land reform in South Korea after the Second World War consisted of: (i) a reduction of farm rents from 40-60 percent of production to 33 percent in 1945; (ii) a redistribution in 1948 of Japanese property confiscated by

the military authorities; and (iii) a redistribution between 1950 and 1953 of land in excess of a ceiling of 3 hectares on Korean holdings. The terms of sale were similarly generous towards the buyer in both cases. Some 1.4 million acres (25 percent of the total farmland) were distributed to 1.6 million farmers (approximately 70 percent of all farmers).

It has been estimated that before the reform 19 percent of the farmers owned 90 percent of the land, and more than 50 percent of the farmers were landless tenants. Afterwards, 69 percent of the farmers owned all the land on which they worked and 24 percent are part-owners while only 7 percent are tenants. Considerable socio-political stability has been achieved, together with income redistribution in favor of the poorer rural families. Yields did not fall as a consequence of the reform; by the 1960's, yields had far surpassed pre-reform levels. Labor productivity and rural employment increased. Presently, the small size of most farms has become a constraint on farm income, however.

JAPAN

The first Japanese land reform program, in 1868, laid the groundwork for Japan's social and economic transformation. The peasantry was freed from bondage, the power of the feudal lords to collect taxes from landowners was broken, and private land ownership was reinforced for the purpose of cash taxation by the central government. Supplementary programs for infrastructure improvement, training and extension, credit services, and promotion of farm chemicals and new crop varieties, were pushed on a large scale. Labor intensity and land productivity rose quickly, with the result that the agricultural sector could provide savings, cheap food, and surplus labor to the industrial sector. The first reform did little, however, to distribute property ownership or reduce income inequality-- rather it strengthened the land-owners class.

Subsequent to the first reform the tenancy problem grew gradually worse. Large numbers of smallholders lost their property in the agricultural depression at the turn of the century, partly because of heavy land taxes. In the late 1940's a second land reform program was executed. Owners had to sell all land in excess of about one hectare to the government at confiscatory prices. The former tenants were given property rights at an extremely low real cost, which resulted in a thorough restructuring of rural society.

The second reform resulted in greater equity, and may also have removed a constraint on the growth of Japanese agriculture. The economic effects were not as enormous as those associated with the first reform. Land productivity did increase after 1947, but some observers regard this as essentially a continuation of a long-term trend (1895-1939) started by the first reform.

The second reform worsened, however, the problems of fragmentation and undersized farms. At the time of the reform, the tenancy problem had already been relieved through reduction of excess rural population by the war and absorption into industry. The landlords who were forced to sell excess property were mostly smallholders themselves. Two-thirds of the owners were required to sell less than one hectare, and only six percent more than five hectares. Although the reform increased income equality among farmers, it hampered equalization of rural and urban incomes. Part-time work outside the farm is an outlet, but the farmers concerned are often limited to low-skilled work. Rural incomes have, therefore, lagged behind, price supports notwithstanding. An attempt to create larger farming units through cooperatives has had little effect. Agricultural policy is now aimed at, among other objectives, an increase of farm income through diversification into horticulture and animal husbandry.

INDIA

Land reform in India, pursued since 1950-51, is largely recommended and coordinated by the Central Government and the Planning Commission and executed by the individual state governments, with the result that policy implementation varies widely. The four major types of reform have been: (i) the abolition of the zamindari^{1/} system; (ii) tenancy reform designed to fix maximum rents, to improve security of tenure and to give the right of purchase to the tenant; (iii) ceilings on land ownership and distribution of surplus; and (iv) consolidation of fragmented holdings.

By 1961, the intermediary rent and tax collectors, most important of whom were the zamindars, had been abolished. Since tenants continue to pay revenue directly to the government, their economic position has not been greatly improved. The abolition of the zamindari system involved 173 million acres, more than half of the area occupied by holdings. A total of Rs. 4.35 billion was paid in compensation, mainly in the form of bonds.

Under the tenancy reforms, three million tenants, sub-tenants, and share-croppers had by 1961 acquired ownership under purchase agreements of seven million acres. Security of tenure appears in general to have worsened, however. Actual rents have not come down; in some states they have even increased. Landowners have been permitted to resume land above legal ceilings for personal cultivation, which has allowed them to escape the reforms. Unreported casual tenancy and share agreements have multiplied.

Under the ceilings legislation, approximately two million acres have been taken over by the government in order to settle tenants and landless laborers. A further 4.2 million acres were formally pledged to the Bhoodan (gift) movement, but most of the donated parcels are still in the hands of the donors. Only about 1 million acres out of all gifted land have actually been given to landless laborers.

^{1/} The zamindars were revenue-collectors during the Moghul period. Under the British, they gradually turned into powerful landlords.

Consolidation of land parcels has been more successful and has resulted in a rationalization of holdings covering 69 million acres. It appears to have contributed to a growth in productivity in the northern states of Punjab, Utter Pradesh, and Haryana.

It is presently well recognized in India that the reform measures dealing with security of tenure and acreage ceilings are only partially enforced and that many of the state legislatures are not anxious to have such radical land reform. Even if a ceiling is imposed, the land acquired is sufficient to give minimal holdings either to the mini-farmers or the landless—but not both. There appears to be scope for some distribution which will also assist agricultural production because the yield per acre in India is higher on small farms. So long as population pressure continues, it will be unrealistic to try to abolish tenancy in the short run. Therefore, it will be better to legalize some forms of tenancy which exist on a large scale, and to promote more efficient types of tenancy contracts. All kinds of tenants should also be registered and given access to credit and inputs. A large extension of credit at reasonable terms, together with accessible marketing channels to small farms in general, and particularly to tenants with secure leases, are required. Provision of these facilities is as essential as further land distribution for attaining the income equity and productivity objectives of India's land reform, and is likely to present fewer problems.

IRAN

Iran's land reform started in 1962. Before the reform, 56 percent of the holdings, covering 62 percent of the area under cultivation, were rented. Tenants were rotated annually, a practice which hampered agricultural investment and caused exploitative use of the soil. The largest estates occupied relatively more fertile lands, and owners were often absentee-landlords who contributed little to agricultural production.

Former landowners were partly compensated upon expropriation by cash payment, from 10 to 20 percent of the estimated value of their holdings, with the balance paid in bonds in annual installments. The beneficiaries were to repay the government the expropriation price plus 10 percent to cover administrative charges. As these payments fell behind, the Central Bank funded the difference. The costs to the government were limited to those incurred in carrying over the acquisition costs to the time of final reimbursement.

During the first stage of the reform, land ownership was limited to a maximum of one village per owner. Excess land was expropriated and distributed to the tenants. In the second stage, the limit of one village was reduced further to plots of 20-100 hectares (depending on the nature and location of the land). The landlord had five options for the area in excess of the maximum allowed to him, to wit: (i) leasing to the tenants for 30 years; (ii) selling to the tenants; (iii) purchasing the tenants' rights; (iv) dividing the land with the tenants in the same ratio as the customary crop-sharing; and (v) forming an agricultural unit for joint operation by the owner and the tenants.

The third and final stage of the reform, which was practically completed in 1971, aimed at conversion of all 30-year leases into small-holdings. Virtually all of Iran's 50,000 villages have undergone land reform and more than three million families have received land.

Although agricultural output increased by a total of 18 percent in the first five years of the reforms, it is believed that the land reform program on balance had adverse short-run effects on output. It created uncertainty which discouraged investment in improvements; there was also considerable interference with the normal flow of irrigation water from streams and storage places still controlled by landlords.

The reform favored tenants and sharecroppers insofar as it conferred ownership on them or enhanced their security of tenure. Because they were based on the existing distribution of holdings, the reforms did not assist those who were landless. Continuation of the existing inequities of land distribution was regarded as one of the costs of ensuring a speedy enactment of the reform.

The ownership and tenancy reforms have been complemented by rural cooperatives, credit and extension services, and increased supply of quality seeds and fertilizers. Many measures were set up in a somewhat improvised fashion. The early accomplishments of the credit program were striking; total lending by the Agricultural Bank tripled between 1960 and 1965, but this growth levelled off after 1966.

MOROCCO

The Moroccan Government has undertaken a series of measures aimed at land reform since independence in 1956. The objective of these measures is to facilitate an increase in agricultural production, and to improve the distribution of rural incomes. Legislation passed in 1962, 1966, and 1972 provides for land consolidation and distribution of land to smallholders and landless families throughout the country. The Agricultural Investment Code, published in 1969, is aimed at facilitating the development of irrigated agriculture in well-defined development zones, and provides for the restriction of inheritance rights to limit fragmentation, the improvement in the tenure position of members of traditional collectives and the adoption of modern cultivation techniques.

Land distribution is so far based mainly on former foreign-owned land, although some other state-owned land and traditional collective land is involved. At the time of independence in 1956, about 900,000 ha were foreign-owned; of this area, about 300,000 ha were sold privately to Moroccans, mainly before 1963, when legislation was introduced subjecting such transfers to Government approval. Thirty-one thousand ha which were mainly used by foreigners for research purposes were recovered by 1960,

and a further 220,000 ha of "official colonisation" lands were taken over by the Government between 1963 and 1965.

Distribution to date has been limited to land under field crops, while land under tree crops (mainly orange groves) remained under Government control and ownership. Distribution to smallholders and landless families was slow until 1967 and then gathered momentum up to 1972. By the end of 1972, 181,000 ha (3 percent of the cultivated area) had been distributed to over 11,000 families. However, the impact of land distribution alone on the problem of rural poverty has been small; the number of beneficiaries so far is only about one percent of farm families with less than two ha.

Through the establishment of cooperatives, intensified extension support, and the provision of modern inputs, the beneficiaries of land reform have generally quickly achieved high yields and acceptable incomes. Land consolidation has also been successful and has so far benefitted almost 200,000 ha. The main constraint on the program has been the unavoidable complexity of supervising its implementation compared to the Government's manpower resources. The Government's main priority now is to accelerate land distribution, while maintaining high technical standards of management on the distributed land. Remaining foreign-owned land, amounting to about 370,000 ha, was recovered by the Government in 1973. The target for the third Five Year Plan is to distribute 395,000 ha of land under field crops, mainly formerly foreign-owned, between 1974 and 1977, and to seek a suitable formula for distributing land under tree crops. The achievement of the distribution target for land under field crops alone would by the end of the Plan enable the program to cover 9 percent of cultivated area and 5 percent of farm families with less than 2 ha.

YUGOSLAVIA

The first land reform in Yugoslavia was undertaken in 1919. In the south and west, bondage was abolished, and the tenants of the Turkish landowners received ownership rights. In the north, the size of the large estates was reduced, but the former landowners were allowed to retain rather large holdings. The implementation took two decades, and resulted in a transfer of ownership of almost 25 percent of the farmland to more than 33 percent of the peasants.

The second land reform started in 1945, when all large estates, all land in excess of 25-35 hectares per farm, and the farm property of Germans and other aliens, were expropriated. Half of the seized land was distributed to the poor and landless, while the other half was retained as state property. The state and collective farms created in the late 1940's along Soviet lines expanded to approximately 25 percent of the total cropland. Collective farms were allowed to disband after 1952, however, and by 1956 they accounted for only about 10 percent of all land under cultivation.

Aside from the socialist sector, the private sector of individual owners who cultivate their own land remains important, and vast tracts of mountain pastures are still under traditional, collective forms of usage. In 1953, a ceiling of 10 hectares of arable land or its equivalent was imposed on private holdings. The average holding in the private sector is now only 3.9 hectares. The socialist sector includes state farms, producer cooperatives, and general cooperatives. The kombinats, which resemble the worker-managed industrial firms, form the largest and fastest growing socialist element, whereas the producer cooperatives have declined. The general cooperatives are mainly associations for joint input purchases, equipment use, and output sales, and have expanded to about 40 percent of all smallholdings.

The socialist sector is reportedly the most productive. This is related to the location of holdings on the better soils and its priority treatment in the allocation of inputs such as fertilizers, machinery, and expertise. However, the bulk of agricultural output still originates from the large group of small farms, consisting of both the cooperatives and the farms outside the socialist sector. The reforms have resulted in a sizeable redistribution of rural income and an increase in peasant participation in rural decision-making, particularly since the mid-1950's.

KENYA

Land reform was initiated in Kenya by the colonial administration in 1954 and expanded by the government after independence in 1963. The reform aimed at solving several problems at the same time. These included (i) adjudication and consolidation of holdings under cultivation by African farmers; (ii) resettlement of African farmers on the large farms previously owned by Europeans; (iii) promotion of cash cropping and dairying, and increased production for the market; and (iv) diversification of export output. More than one million acres of land formerly cultivated by Europeans was opened up to Kenyan smallholders, and the rights to about seven million acres were adjudicated and consolidated.

The implementation and results of the reforms have been quite successful, notwithstanding political friction and a lack of qualified personnel. An active extension program has enabled smallholders to increase the production of coffee, pyrethrum, maize, wheat, dairy products, and beef. The economic benefits of the adjudication and consolidation of holdings at a cost of £ 5-50 per family seem to have been greater than the resettlement on large farms at a cost of £ 750 per family. Socially, the reforms have created a class of prosperous smallholders. In particular those that were already relatively well-to-do have profited, while the poorest smallholders and nomads have benefited much less from the reform. It was estimated in 1973 that approximately 25 percent of all smallholdings were less than one hectare and about 50 percent less than two hectares, occupying altogether less than four percent of total arable land. The landless amount to approximately 16 percent of the rural population.

MEXICO

Having its roots in the revolution of 1910-15, the agrarian reform in Mexico created village groups (ejidos) with usufruct rights to land. Most of the ejidos were formed in the late 1930's and have been operated on an individual rather than collective basis by the ejidatarios. Close to 90 million hectares have been distributed between 1915 and 1972 to about 3 million ejidatarios. These primary beneficiaries of the reform represented 53 percent of all farmers and 26 percent of the rural labor force. Some three million landless rural workers remain and, despite the considerable concentration of ownership that persists in the private sector, 1976 has been planned as a terminal year for land reform.

Total ejido production grew very slowly during the first decade of their establishment. Since then the ejidos have increased output about as fast as has the private sector. Incomes to the ejidatarios are almost certainly better than would have been the case without reform, but there are substantial regional differences in natural resource endowment and in the extent of public investment in complementary infrastructure. More such investment and a mechanism for selective consolidation of small farms will be required to ensure that the impact of the reform is maximized.

Following the land redistribution during the Thirties, the concentration of land ownership increased again between 1940 and 1960. Since then, the concentration may have fallen back as a result of the distribution of another 35 million hectares during the last decade. Rural income distribution is still skewed. In 1967-68, 50 percent of the farmers earned only 20 percent of all farm income (including personal income from sources other than agriculture). Among ejidatarios, however, income was more evenly distributed. While the top 20 percent of private farmers received 60 percent of all private farm income, the top 20 percent of the ejidatarios accounted for only 45 percent of all ejido income.

PERU

Between the start of land reform in 1963 and 1972, a total of 4.7 million hectares have been expropriated. Over 100,000 families have been settled on 2.8 million hectares of this area. Expropriated lands that have not yet been resettled continue to be operated under direct government supervision until a cooperative or SAIS farm organization (see below) has been formed, to which the land title is then transferred. Despite the priority given by the government, implementation is well behind schedule. The target for the current five year plan is to expropriate 26,200 farm units containing 12 million hectares, and to redistribute these to half a million families. In 1972, about three-quarters of the target area still remained to be expropriated and reallocated before the end of 1975.

The agrarian reform law of 1964 concentrated on redistribution of inefficiently managed latifundia in the Sierra. Well managed productive units were exempted. The more fundamental reform law of 1969 was the basis for the expropriation of the large, productive and profitable sugar complexes of the north coast. A limit was established on the size of holdings (150 hectares on the Coast). The government bonds given to the former owners can be used for investment in industry to supplement their other resources.

Four different categories of farm organizations can receive redistributed land, but the bulk has been placed in the hands of worker-owned cooperatives. Only a small number of individual farms have been assigned to former tenants, while in a few cases land has been added to the holdings of Indian communities.

A unique form of farm organization, the Sociedades Agrícolas de Interés Social (SAIS), is the basic unit of agricultural reform in the Sierra. The SAIS represents an attempt to solve the problem of providing agricultural and social development opportunities to the members of the traditional Indian communities without jeopardizing the relatively high production and economies of scale attainable on expropriated haciendas. Hacienda production is almost entirely based on extensive grazing of mountain pastures, and early experiences of land distribution in the Sierra indicated a high risk to production if haciendas were taken over as community land or subdivided into small sheep ranches.

In any attempt to meet social needs through redistributing land and income in the Sierra, therefore, the government is faced with problems of maintaining or raising productivity levels attainable only through exploitation of scale economies. The SAIS, the proposed solution to this dilemma, accounted in 1972 for 10 percent of the families benefiting from the agrarian reform program. It can be regarded as a second-degree cooperative whose members are social bodies instead of individuals. Membership of each SAIS unit consists of the cooperative of the production unit and of the communities surrounding it. Each group contributes to the capital of the enterprise on the basis of resources, population, and economic potential; the share of each group is determined by the land reform agency. Management of the SAIS is in the hands of professional employees. Profits are allocated to each member community in relation to its share in the SAIS, and are to be used in community development projects involving schools, roads, power re-tilation, and housing. In this manner, surplus manpower is given employment, and the rather meagre profits can be used in developing badly needed physical infrastructure.

The debt assumed by each SAIS unit is to be repaid from profits in 20 years following a five-year grace period. Debt repayment may become an onerous burden on those units whose profit potential is limited by their physical capacity to expand livestock numbers and by the need to employ high quality technical services. Legally, the full market value of expropriated livestock has to be paid in cash while fixed capital is to be paid for largely in agrarian bonds.

The land reform program alone will not be able to solve the rural unemployment problem. Even if the optimistic targets for 1975 are met, employment opportunities in agriculture will increase only from 1.32 million to 1.6 million, while the number seeking work in agriculture will rise from 1.9 million to 2.1 million. There are nearly 800,000 families with insufficient land to provide adequate subsistence which are eligible to benefit through the land reform program. Even if all land which can be expropriated is redistributed, about 500,000 families, mostly in the Sierra, will still lack a minimum subsistence land holding. However, agrarian reform is providing the basis for social and economic change.

Four different categories of land organizations are receiving titles: individual, family, cooperative, and community. Only a small number of individual farms have been assigned titles, while in a few cases land has been added to the holdings of individual farmers.

A major form of land organization is the Agrarian Social (SAIS), which is the basic unit of agrarian reform in the Sierra. The SAIS represents an attempt to solve the problem of providing agricultural and social development opportunities to the members of the traditional Indian communities without jeopardizing the relatively high production and economic of scale attainable on expropriated lands. The SAIS is based on a group of land distributed in the Sierra, and each SAIS is based on a group of land distributed in the Sierra. The SAIS is based on a group of land distributed in the Sierra, and each SAIS is based on a group of land distributed in the Sierra.

In any attempt to meet social needs through redistributing land and income in the Sierra, therefore, the government is faced with the problem of maintaining or raising productivity levels which are only through expropriation of scale economies. The SAIS, the proposed solution to this dilemma, accounts for 10 percent of the families benefiting from the agrarian reform program. It can be regarded as a second-stage cooperative where members are social bodies instead of individuals. Membership of each SAIS unit consists of the cooperative of the production unit and of the community surrounding it. Each group contributes to the capital of the enterprise on the basis of resources, population, and economic potential. The SAIS is in the hands of professional agronomists. Titles are allocated to each member community in relation to the SAIS, and are to be used in community development projects involving schools, roads, power, irrigation, and housing. In this manner, surplus support is given to the SAIS, and the rural wage policy can be used in developing badly needed physical infrastructure.

The debt assumed by each SAIS unit is to be repaid from profits in 20 years following a five-year grace period. Debt repayment may become an onerous burden on those with whose profit potential is limited by their physical capacity to expand livestock numbers and by the need to employ high quality technical services. Ideally, the full market value of expropriated livestock has to be paid in cash while fixed capital is to be paid for largely in agrarian bonds.

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INTERNATIONAL BANK FOR RECONSTRUCTION AND DEVELOPMENT
INTERNATIONAL DEVELOPMENT ASSOCIATION

POLICY REVIEW COMMITTEE

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April 22, 1974

LAND REFORM PAPER
POLICY REVIEW COMMITTEE MEETING

The attached paper, presented by the Agriculture & Rural Development Department with the assistance of the Development Economics Department, will be discussed by the Policy Review Committee at a future date to be announced. The paper was discussed at the staff level on April 8, 1974 (minutes attached) and revised in the light of the comments made.

Frank Vibert
Secretary
Policy Review Committee

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BANK POLICY
ON
LAND REFORM

Agriculture & Rural Development Department
Development Economics Department

April 22, 1974

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PREFACE

1. Land reform is concerned with changing the institutional structure governing man's relationship with the land. At present the livelihood of more than half of mankind is directly dependent on agriculture -- a land based industry. Nine-tenths of this total agricultural population is in the developing countries, where questions of access and rights to land are of paramount interest to more than two billion people.
2. Land is, of course, one of the basic factors of production for food and other agricultural products. With food production rising in the LDC's at about the same rate as population growth, there is growing pressure on land resources to increase output. Much of this increase will have to come from a higher output per hectare. Changing the pattern of land ownership and redistributing land can contribute to increases in output in some country situations but will make little difference in others.
3. The conditions governing agriculture vary enormously among the developing countries. There is one characteristic, however, which is common to all: a very rapid growth in rural population. Pressure on the land is thus increasing and the average man-land ratio is worsening. This is at a time when non-agricultural employment opportunities are not expanding rapidly enough to provide adequate incomes for all entrants to the labor market. In some countries, however, there are prospects for expanding the frontier of cultivation to absorb more labor; in others more labor could be employed in the rural sector through a redistribution of land; but in yet other countries changing the rights to land will make little direct contribution toward increasing labor absorption.
4. The distribution of land in terms of size of holdings varies from country to country. The greatest disparities are found in Latin America. Where the pattern of land control is skewed the distribution of income is generally uneven, although to some extent it is the poorer land that makes up the larger holdings. In Asia and the Middle East maldistribution is reflected in the landlord-tenant problem. Here the population is more evenly spread, but rights of access to land are restricted. Much of Africa presents a different problem as the traditional pattern of group ownership and communal rights is eroded in favor of individual ownership with varying degrees of equality.
5. In terms of land reform policy, therefore, we are confronted with a range of cultural and political situations -- based on different patterns of social organization and customs -- and with different levels of development. As shown in Chapter 1, at least six land tenure situations can be delineated. The differences among these types point to the varying reforms necessary to achieve more equitable land access and improved productivity in specific country situations. Accordingly, while

it is possible to identify the need for land reform, it is difficult to make general prescriptions with regard to the form of land holding or pattern of distribution necessary to achieve the multipurpose objectives of development.

6. Further, we are dealing with a dynamic situation, where rural population growth and changing technology interact with the existing institutional structures of rural society. The manifestations of this interaction are seldom benign for the majority of the land based population. A situation that has seemed relatively stable and equitable for decades can become untenable. This dynamism means that a solution which was appropriate ten years ago may be inappropriate today. Not surprisingly, therefore, we find many LDC's experimenting with a variety of possible solutions -- with different forms of rural organization ranging from communes to private ownership.

7. While recognizing the broad context of the land reform issue, the concern here is with a much narrower aspect, that is the appropriate role of the Bank Group. In pursuing this question Chapter I looks at the characteristics of land reform in terms of both its rural context and its component elements. Chapter II examines the economic implications of land reform in relation to the goals of development. Chapter III reviews Bank Group policy in relation to land reform. The quantitative background to land reform in terms of population patterns and land distribution is outlined in Annex I, while some experiences with land reform programs are summarized in Annex II. The policy recommendations are presented at the end of the Summary.

SUMMARY AND RECOMMENDATIONS

Definition and Setting

1. Land reform involves intervention in the prevailing pattern of land ownership, control, and usage in order to change the structure of holdings, improve land productivity, and broaden the distribution of benefits. In practice, land reform is pursued in response to political pressures for socio-economic change arising from factors such as increased population, pressure on a limited land base, or an ideology of egalitarianism based on more even distribution of land or income. Land reform, by its very context, has interlinked political, economic, and social dimensions which in turn have significant implications for development.
2. The systems of land control in developing countries can be classified into six types, as presented in Chapter 1, though in many countries examples can be found of more than one type. Three of the six types are found in a traditional context: the feudalistic landlord and tenant system of some Asian countries; the feudal Latin American system of large farms; and the communal land ownership patterns of many tribal groups (especially in Africa). The other three major types have a modern context: the private ownership of land common in most market economies; the state or collective ownership of socialist countries; and the plantation or ranch type, which is often interspersed with other forms of tenure.
3. Landreform necessarily implies many different kinds of adjustments in an array of situations where there are great variations in individual equity and agricultural productivity. In most instances social or equity considerations are the main concerns. Thus when there are exploitive landlord tenant systems of the Asian or Latin American feudal type, reform incorporates changes in the rights of tenants, redistribution of ownership to existing tenants, or the replacement of the landlord by the tribe or the community. When individual ownership of the market economy type is the norm but the distribution of land is skewed, reform may require subdivision of large holdings or transfer to the state. In contrast to this, reform in highly controlled government states may involve the transfer of some land from the state to individuals.
4. There are other variations of land reform that focus more on the economic use of resources than on equity. Where there is fragmentation of holdings an appropriate reform might involve consolidation of holdings without change in the patterns of ownership of land. Where there is erosion or depletion of communal lands the appropriate reform might involve a program of supervised cooperative land management without changing the distribution of land. Elsewhere land reforms might involve changing tenancy arrangements with the emphasis on providing security of tenure so as to encourage on-farm investment. Again, these do not require redistribution but eventually lead to more economic use of resources.

5. The typology outlined in Chapter 1 makes it clear that there are situations where land reform is a necessary precondition for modifying the structure of a society and raising agricultural output. However, while land reform in itself may be necessary, it is not a sufficient condition for improving land productivity and distribution of income. Changes in patterns of land ownership will not automatically lead to an increase in output or technological change in agriculture. These will come about only if adequate provision is made for the supply of necessary inputs and mandatory services to the users of the land. Indeed, as stressed in Chapter II, the organization of the supply of inputs to accompany any land reform program is essential, especially where the process of reform leads to a breakdown of the institutional structure of agriculture and leaves nothing in its place.

6. Finally, it must be recognized that a policy for land reform for a given situation cannot be simply stated. Any policy involves fundamental judgments about the adequacy of an existing system and the most appropriate alternative. The judgments of policy makers differ. The case studies in Annex II show that reform minded governments such as Kenya and Peru have pursued different approaches. Some governments favor individual ownership of land; others favor communal or collective control over land. Clearly the policies followed are not a matter of economics alone. They also reflect politics and ideology and reach far beyond any purely economic calculus.

Distribution of Land and Income

7. Although few data are available, the distribution of land ownership is known to be skewed; the degree of concentration varying with the tenure situation types. The Asian and Latin American feudal and the plantation-ranch types have high degrees of property concentration while the socialist and traditional communal types have low concentrations, with the market economy type somewhere in between. Individual countries are classified on the basis of land ownership concentration in Annex I, Table 9.

8. The distribution of land by size of holding is also highly skewed throughout the world. As shown in Annex I, Table 6, an estimated 80 percent of all holdings are less than five hectares in size with about 40 percent less than one hectare; these holdings account for approximately 20 percent of all cultivated land, and only seven percent of all land in holdings. Considered separately, Latin America has a particularly skewed pattern -- less than 20 percent of holdings (those over 50 hectares) accounting for over 90 percent of the total area held in holdings, and more than one-third of all holdings (those less than five hectares) accounting for only one percent of area held. (Annex I, Table 8.) For Asia, in contrast, 40 percent of the land (accounting for almost 80 percent of holdings) is in holdings of less than five hectares.

9. The distribution of holdings by size is frequently used as a proxy for the distribution of wealth and income in the agricultural sector. The skewness of the distribution of holdings, though, does not reflect precisely the patterns of distribution of wealth or income. First, all land is not homogenous; a concentration of large holdings in a semi-arid region may reflect a smaller concentration of wealth than a concentration of small holdings in an irrigated area. Second, the distribution of holdings by size is not the same as the distribution of ownership of land; in general there is a greater concentration of land ownership than of holdings, as evidenced by widespread tenancy especially in parts of Asia. (See Annex I.) The distribution of income in these regions will depend largely on the contractual arrangements between owners and tenants or sharecroppers. But, in most cases, the distribution of income will be more skewed than the pattern of holdings. Frequently the income of sharecroppers and renters may be little different from that of landless labor.

Social and Economic Issues

10. Rural population in the LDC's continues to increase at over two percent a year, adding to the already heavy population pressure on the land. With few exceptions, the frontier of virgin cultivatable land has already disappeared, so that the absorption of more people into agricultural activity will require more intensive cultivation of land already in use. The need to absorb more people in the rural areas differs among LDC's. In many countries, massive rural under-employment is accompanied by high rates of open unemployment in the cities and growing inequality in the overall distribution of income. Where the problems are most acute -- as in parts of Asia -- the emergence of substantial numbers of landless labor in rural areas suggests that the family farm system as a means of spreading work among family members may be breaking down.

11. The extreme poverty of many who live on the land, and the increasing pressure on the land through population growth, highlight the double challenge of rural development, to raise productivity and income in agriculture while at the same time absorbing more people into employment in the sector. Access to land, and the conditions that govern access, are questions of major importance in these circumstances. Where land is marketable, increasing population pressure must inevitably drive up the price of land, thus benefiting those who own land; where land ownership is skewed this will tend to exacerbate inequality in income distribution.

12. These same circumstances (relating to employment and income distribution) give rise to questions about the efficiency of land use under existing arrangements. Landowners often prefer for various reasons to underutilize land, either by working it themselves on an extensive basis instead of through tenants on an intensive basis, or by leaving it unused. In other cases tenancy arrangements are such that landlords are discouraged from making investments, and tenants are discouraged from applying variable inputs, because half the benefits will go to the other party. In some situations, too, the fragmentation of holdings causes great inefficiencies in land use associated with

transportation, irrigation, and mechanized operations (even on a small scale). In general terms, increases in the population of working age create additional demands for work and income; at the same time, however, the additional labor available, if used productively, could serve to augment output. There is a strong case for land reform (including tenancy reform and consolidation) in situations where land would otherwise be underutilized in terms of its production potential.

13. Evidence on the effects of changing farm size (examined in Chapter 2) indicates that the productivity of land -- defined as yield per hectare -- is generally higher on smaller holdings than on larger holdings. The main reason for this is that smaller holdings are worked with bigger inputs of labor than are large holdings, so that greater land productivity is attained. Often the economic benefits will depend, however, on the effectiveness of new technology when used on small as compared with large farms; mere redistribution of land may not suffice to raise farmer output substantially without accompanying agrarian reforms and new services.

14. These effects on output may be reinforced by some of the possible side effects following land reform. Smallholders tend to consume more of their own produce and therefore market less, per unit of output, than do large farmers; this may necessitate food imports to meet the needs of urban consumers. On the other hand, the additional food consumed by small farm families might have otherwise been purchased if members of the family had moved to the city. The consumption of food by poor growers may also be less costly than the consumption of imported or capital-intensive consumer goods by the better-off farmers. Small farmers may also save less per unit of income. Evidence suggests, however, that small farmers save proportionately more than urban dwellers and that in the aggregate they may also have larger savings than large farmers, though these may be directly invested in the smallholding.

15. On the other hand, while "the benefits should go to those who till the soil" is often a reasonable program in an agrarian society, in a partly urbanized one those who do not work on the land still require and have some rights of access to the products of these land resources. The food and fibre needs (and the spatial requirements) of the non-farm population are not infrequently overlooked by the proponents of land reform. In this respect, there is a case for considering both a minimum and maximum farm size. These might be designed first, to ensure that smallholdings are large enough to provide food sufficient to meet with a high degree of certainty the minimum physiological limit of the farm family; and second, to ensure a scale large enough to provide a saleable surplus to meet the needs of urban consumers, especially for fresh produce. Few land reform programs provide for such a minimum limit despite evidence, from many areas, that allowing farms to become too small (relative to the best available technology) may be just as unsatisfactory in terms of equity and efficiency as an uncontrolled tenancy situation.

Recent Experience with Land Reform

16. A primary conclusion from examination of past experience with land reform is the over-riding importance of the political factor in

securing meaningful change. The concentration of control over land provides a power base for many groups in the LDC's. Land is a symbol of authority and a source of political power, especially where the land owner controls the access of peasants to their only source of security -- the land. A meaningful land reform program will inevitably destroy or limit the power base of many persons. It is not surprising, therefore, that land reform is often a central issue in political debates and that these debates are often couched in terms of redistributing political power as well as wealth. Ambitious programs of land reform will seldom be implemented unless there are shifts in political sentiment and power. Many countries have legislated land reform but only a few can be said to have achieved real land reform -- and these reforms were only implemented when there was a change in government in the context of circumstances that favored drastic change, as in Mexico, Japan, Taiwan, and Kenya.

17. A second factor of importance in making reform effective is the creation of institutions to implement the reforms once legislated, and to press for continuing development. This has usually involved organizing the beneficiaries to create follow-up pressure. For example, in Japan, Taiwan, and Venezuela suitable institutions were established to ensure that land was indeed transferred. In other countries, a community of interest between landowners and officials, combined with an absence of organized pressure from the beneficiaries, largely nullified positive reform efforts. The land reform experience in much of Asia and Latin America suggests that some form of rural organization especially involving local representation, may be a critical condition for successful land reform.

18. A third conclusion is that land reform is rarely undertaken without considerable upheaval and loss of production, although there is evidence to suggest that these costs can be kept small and temporary. The restructuring of land holdings is often accompanied by the destruction of traditional delivery systems for input needs and marketing, since these systems are almost always tied to the operations of the larger farmers that are dispossessed. Because of this, rather than because of any deficiency inherent in the small relative to the larger farmers, land reform has often proved costly in terms of lost output. Minimizing such costs necessitates the provision of services concurrently with reform implementation incorporating as much forward planning as feasible.

19. A fourth consideration relates to the problem of perspective over time in assessing the effects of land reform. As the country experiences summarized in Annex II reveal, the effectiveness of land reform may be relatively limited in the short run, and many socio-economic benefits, such as are associated with greater social mobility and improved political stability, emerge only in the longer run and accrue for many years subsequently. The cases of Japan and Mexico are particularly significant in this respect. While the direct short run effects of the land reforms in these countries have not been considered wholly beneficial, there is little doubt that the long run

effects for their total societies have been overwhelmingly favorable, contributing substantially to the ultimate economic development of both countries.

The Bank and Land Reform

20. The Bank Group has taken an active interest in land reform on a number of occasions. Concern has usually been focussed on new or improved possibilities for production following changes in the tenure situation, with emphasis on security of tenure being a particularly important theme. More recently, the extent and gravity of the employment problems and income disparities in the LDC's have caused a new concern over land reform, from an equity as well as a productivity standpoint.

21. Bank Group experience through project financing of land reform has been very limited. In part this may be because there have been relatively few land reforms, particularly in areas where the political situation was reasonably stable and otherwise conducive to Bank Group involvement. But also relevant is the fact that the financial requirements of land reform tend to be relatively limited. Even where the land transferred is purchased from the previous owners, the amounts involved are usually small, especially where payments are in the form of bonds. In addition, such payments usually constitute an internal transfer (unless foreign owners are involved) and thus are not attractive for external financing. Some examples of Bank Group involvement in land reform programs, notably in Tunisia and Malawi, are discussed in the main report.

22. In general, this report concludes that land reform is consistent with the development objectives of increasing output, improving income distribution, and expanding employment, and that the Bank Group should support reforms that are consistent with these goals. However, it is recognized that the Bank cannot force structural change but can only support appropriate efforts within existing structures. Although the Bank's direct action must be limited, its preferences regarding national policy choices and those which are considered consistent with the Bank's development goals are set out below as country guidelines. These same conclusions are reflected in the subsequent Bank policy recommendations.

Country Guidelines

1. Governments which accept a basic commitment to land reform should consider three components: (i) redistribution of land ownership to reduce the present mal-distribution; (ii) tenancy reform; and (iii) consolidation, where necessary.

2. A commitment to land reform implies simultaneous action to create or develop an input supply system to meet the special needs of the beneficiaries of land reform. This may require either the creation of new institutions or special branches or fund allocations within existing

organizations to supply credit, inputs, and technical services, including research and extension.

3. In sparsely populated regions (countries), specially structured settlement schemes can serve as second-best substitutes for, or supplements to the redistribution of land currently in use.

4. It should be recognized that a small farm structure can generate employment to absorb underemployed labor in crowded regions where there is no short term prospect of absorbing it in non-farm or large farm employment. With the scale-neutral seed-water-fertilizer technology now available, such a structure can produce at least as much per unit of land as a large farm structure.

5. Equity-oriented land reform should be so programmed that (i) the effective ceiling on holding size is low; (ii) the beneficiaries belong to the poorest group; (iii) the extension and (non-land) input distribution system favors the beneficiaries; and (iv) owned and self-operated land, as well as leased land, is redistributed.

6. Where efficient large scale plantations or ranches exist, they need not be broken up, but it should be accepted that in such cases the objectives of reform can only be realized if (i) the enterprises are covered by a progressive tax system; (ii) their workers are unionized and protected by labor legislation; (iii) they are required to introduce profit-sharing schemes; and (iv) their workers participate in an organized fashion in management.

7. Research should be organized to evolve a low-cost settlement policy. Wherever settlement policy is used to supplement land reform, settlement schemes should be planned to have approximately the same effects as the redistribution of existing holdings. These effects can accrue if (i) the settlers are the really poor small farmers or landless workers and an input supply system is available to support their operations; (ii) the size distribution of the new holdings is equitable; and (iii) tenancy is discouraged, and allowed only under specified types of contracts.

8. Where the shortage of land is so acute that even with a low ceiling both smallholders and landless workers cannot be given minimum holdings, preference should be given to the smallholders in the allotment of land, and a rural works program should be organized for the landless.

9. Experience in Far Eastern and some Latin American countries clearly shows that the organization of beneficiaries both before and after the enactment of reform is an indispensable condition for its success.

10. It should be recognized that landless recipients of land who take up independent farming for the first time may need to be provided with their entire short term and long term credit requirements and perhaps some consumption credit for three or four initial crop seasons.

There may also be a need for special training facilities, research activities, and field demonstrations in such circumstances.

11. The abolition of tenancy may not be a feasible policy in many countries (regions) where the demand for land by the landless and small farmers far exceeds the available supply. In such cases regulation of tenancy might be a more efficient policy. Generally, fixed cash-rent contracts are superior to crop-sharing contracts because they encourage the use of inputs to the optimal level. But where crop-sharing cannot be eliminated because it provides risk insurance to crop-sharers, it can be made more efficient and equitable if it is combined with cost-sharing. Such contracts should be promoted with a system of incentives and deterrents. The incentives can include the accrual of legal rights in land and the availability of credit and other inputs only if preferred types of tenancy contracts are implemented.

12. When the land-labor ratio becomes favorable the conversion of tenants into owners of the land they cultivate, preferably against very low compensation payments, should be undertaken because, in general, owner-operated farming is likely to be more efficient and equitable than tenant farming.

Bank Policy Recommendations

1. The Bank should give priority in lending to those member countries that pursue broad based strategies directed toward the promotion of adequate new employment opportunities, with special attention to the needs of the poorest groups. The Bank should support policies of land reform designed to further these objectives.

2. The Bank should make it known that it stands ready to finance special projects and programs that may be a necessary concomitant of land reform, so long as the reforms and related programs are consistent with the objectives stated above. These programs should include credit, technical services, and infrastructure projects designed to meet the special needs of land reform beneficiaries.

3. The Bank should cooperate with FAO, UNDP, and other organizations to provide support and assistance to member governments seeking help with the specification and design of land reform programs where these are in keeping with Bank objectives. This support should include financial and technical aid with cadastral surveys, registration of land titles, and similar services.

4. The Bank should continue to explore, through its agricultural and rural development projects, ways of providing for a distribution of benefits consistent with the goals outlined under (1) above, including appropriate tenurial arrangements and projects designed to serve the needs of small farmers and settlers.

5. The Bank should intensify efforts through sector and country economic work to identify and draw attention to the need and opportunities for land reform with respect to existing tenurial situations and their economic effects.
6. The Bank should support and encourage research related to the economics of land reform in its broadest aspects, including its social dimensions. It should continue its support for programs of economic and technical research directed toward the special needs of the type of small farmer likely to emerge from land reforms.
7. The Bank should undertake studies of the costs and benefits of settlement projects, with particular attention to developing approaches which will lower the cost per family settled.
8. The Bank should support projects where land rights are such that a major share of the benefits will accrue to high income groups only if increases in output and improvements in the balance of payments are over-riding considerations; in such cases it should carefully consider whether the fiscal arrangements are appropriate to ensure that a reasonable share of the benefits accrues to the government.
9. In circumstances where increased productivity can effectively be achieved only subsequent to land reform, the Bank should not support projects which do not include land reform.
10. Where land is held under some form of tenancy, the Bank should foster the adoption of tenancy conditions and share-cropping arrangements that are equitable and conducive to the optimal use of resources.
11. Where land is communally held without regulation of access, the Bank should encourage sub-division, if sedentary forms of agriculture are possible, or pursue land usage and access arrangements that are compatible with long run productivity of the land and the welfare of the resident population.
12. The Bank should pay particular attention to the consequences of the interaction of new technology and the prevailing institutional structures, as reflected in the pattern of land ownership, in order to avoid adjustments which will increase the mal-distribution of income and cause economic hardship.

I. CHARACTERISTICS OF LAND REFORM

Man and the Land

1.1 Man's relationship to the land, and patterns of land-holding and land use, are shaped by the interaction of a complex of forces--climatic, economic, cultural, religious, and political. In East Africa, for instance, the physical conditions in the temperate areas are suited to a sedentary agriculture, whereas the more tropical and arid areas are better suited to shifting cultivation or livestock herding. As a result, different systems of land management and patterns of holdings have emerged in adjacent zones in this part of Africa. Similarly, laws and customs governing inheritance have an effect on the distribution of land. Where land is inherited by the oldest heir and not sub-divided, the pattern of holdings is less fragmented than in societies where the custom is to divide holdings equally among all heirs. In addition, many socio-economic factors affect customs of usufruct, traditions of crop sharing, and other arrangements surrounding land use in varying situations.

1.2 The political ideologies of governments also have a bearing on the relationship between people and the land. The right of the individual to own, sell, and accumulate private property--including land--is one of the cornerstones of the market economy. While this right might be constrained in the public interest, land can in general be exploited, accumulated, and traded by individuals for private gain. Under some other ideologies there is no opportunity for individuals to acquire and accumulate land; the right to own land may be vested solely in the state or in semi-public institutions, and it is the state which organizes and controls the land according to its own criteria. To the extent that the state controls the land, the allocative process may serve any number of ideological ends. Some governments have used control over land to implement policies of geographical separation of racial groups. The People's Republic of China, on the other hand, has changed rights to land and the organization of work several times over the past twenty-five years as part of a drive to eliminate rural inequality.

1.3 The level of economic development of a country has a strong influence on attitudes toward the land. The more industrialized a country, the smaller the proportion of the population in agriculture and the less significant the role of land in the economy. Where there is a mobile population with ample alternative opportunities, land is often seen merely as one factor of production in a highly developed commercial agriculture. However, in less developed countries where there is a large rural population, limited alternative opportunities, and increasing pressure on the land, access to land may provide at least a subsistence income. In these circumstances producers see the land as more than a factor of production; it may well provide the margin between destitution and subsistence.

1.4 The established pattern of land ownership is basic to both the social organization and institutional structures of rural areas. The social hierarchy in most agrarian societies reflects the kind of access that different groups

have to land, while individual status within these groups depends on the amount and quality of land commanded. The institutional structures which formalize the various means of control and the relationship between categories of land users, also determine the accessibility of external institutions and services to the various groups.

Context of Land Reform

1.5 The many complex factors that influence the patterns of land ownership and land use in different regions of the world may be summarized as: (i) the political system and situation; (ii) the structure of the economy; (iii) the social system; (iv) the legal system; (v) the demographic situation; (vi) the agricultural system; and (vii) the national resource base. When these interacting elements are taken into account, it is possible to delineate six main land tenure-land use categories. These are characterized as follows:

(a) Feudal Asian Type

- high property concentration
- great social inequality
- great economic inequality
- low land productivity
- low labor productivity
- low level of technology
- mainly operated by sharecroppers
- high labor intensity
- low capital intensity
- production mainly for subsistence
- land very scarce
- institutional structure centralized

(b) Feudal Latin-American Type

- high property concentration
- great social inequality
- great economic inequality
- low land productivity
- low labor productivity
- low level of technology
- labor provided by squatters, neighboring smallholders,
and migrant workers
- capital-extensive
- labor-extensive
- operated by owner or manager plus hired labor, serfs,
or sharecroppers
- production for subsistence and export
- institutional structure highly centralized

(c) Traditional Communal Type

low property concentration - sovereign rights vested in
community
decentralized cultivation - usufruct rights for members
of group
moderate or high socio-economic equality
low labor productivity
low land productivity
low level of technology
medium labor intensity
low capital intensity
production for subsistence
supporting service structure underdeveloped

(d) Market Economy Type

medium property concentration
decentralized cultivation
medium socio-economic inequality
high land productivity
high labor productivity
high level of technology
capital-intensive
labor-extensive
market production oriented
institutions and services dispersed

(e) Socialist Type

property right vested in the state or a group
centralized or decentralized cultivation
low, medium or high socio-economic equality
low, medium or high land productivity
low, medium or high labor productivity
medium level of technology
production for market or subsistence
supporting systems centralized

(f) Plantation-Ranch Type

high property concentration; owned by state or foreigners
great social inequality
great income inequality
high land productivity
low or medium labor productivity
medium or high level of technology
operated by manager plus wage labor
production mainly for export

1.6 In a traditional context, extremes in the pattern of land control are exemplified, on the one hand, by the feudalistic landlord and tenant system found in some Asian and Latin American countries and, on the other, by the communal land ownership pattern of certain tribal groups in Africa. In the landlord-tenant system, land ownership is vested in an elite minority with the majority having access through tenancy arrangements of various kinds. The ownership of property is generally highly concentrated, more so than the pattern of land holdings. However, since holdings (the only category for which we have data) involve leasehold units for which rent is paid on a share basis, the distribution of income is also highly skewed. (See Annex I, Tables 6 and 8.) In the communal system, by contrast, land is common property and access to it relatively unrestricted. Whereas in the feudalistic system the distribution of land ownership and benefits are highly skewed and class differentiation is marked, the communal system has relatively egalitarian land access and class differentiation is less marked.

1.7 Both systems are relatively stable under favorable conditions, but have difficulties as the man-land ratio declines through population growth, unless there are off-setting changes in technology. In the landlord-tenant system land pressures are reflected in a growing army of landless people and widening income differentials. (See Annex I, Table 11.) The communal system manifests the same pressures by compressed fallow periods and declining soil fertility, overgrazing and increased erosion, accompanied by extensive poverty and vulnerability to seasonal effects.

1.8 The two systems differ in ability to respond to changing external conditions and especially to new technology. The landlord elite, by virtue of its privileged position and power, can, and often does, become educated and innovate both through experimentation and the adoption of external ideas. (In doing so, however, its primary concern may be to promote its own narrow interests in terms of wealth and power, for instance, by displacing tenants through mechanization.) The communal system generally lacks such an institutional mechanism and tends to be both static in its technology and relatively insular, but such communities seldom manage to remain completely isolated from external influences.

1.9 In a modern context, the extremes in patterns of land control are seen respectively in the private ownership of land, which is a fundamental aspect of the market economy and common in most Western countries, and the state or collective ownership characteristic of socialist countries. Under private ownership, land is held by individuals and, while usually subject to special restrictions, can be bought or sold like any other commodity. Such holdings are typically operated as family units with little hired labor. However, a range of sub-types exists within this category which reflects a gradation in size from the predominantly subsistence smallholdings of many of the LDC's to the broad acres of North America and Australia. Although similar in legal and institutional respects these differ significantly in technology and input mix as well as degree of market orientation. In the socialist system, on the other hand, there is little or no provision made for individuals to acquire or accumulate land, this right being vested in the state, with control determined in accordance with the objectives of the state.

However, some variations remain within many socialist systems, often providing for the existence of private smallholdings in parallel with larger social units. A special type found in a modern context is one which includes the plantations and large ranches which often operate in the LDC's as well as in some developed countries. These form in some respects a special category of the market economy type, but the tendency toward a corporate legal structure and dependence on hired labor differentiate them from privately owned family farms.

1.10 While private ownership has generally been compatible with technological progress and the economic adjustment of agriculture, it has often created inequities as people have been compelled to move from rural pursuits or have been squeezed into land scarce rural enclaves. Generally, private control has been most satisfactory where population pressure could be offset by colonizing virgin land or moving people out of the rural sector. It has been most unsatisfactory where ownership patterns have become skewed because of the growth of large farms, combined with limited opportunities for people to move out of agriculture, and the subsequent emergence of economic dualism. State or communal control has led to fewer interpersonal inequities though in most cases not without some broader economic inefficiencies.

1.11 Land reform becomes an equity issue in the context of both the traditional landlord-tenant relationship and the modern skewed ownership pattern. In both of these contexts it is often a highly political concern especially in the traditional feudalistic and communal systems. There are many situations where the prevailing tenure conditions are the major impediment to development. For example, a high level of fragmentation can make canal irrigation virtually impossible and seriously impede mechanized operations even when on a very small scale. In other cases the contractual share arrangement is such that neither landlord nor tenant are able to introduce new technology because, on the one hand, the landlord cannot capture a profitable share of the return on his investment, and on the other, the tenant cannot find the capital for investment or lacks the security of tenure that would guarantee a return from it. Further, there are some situations where the social environment is characterized by inequity and oppression to the extent that there exists no human motivation toward improved productivity or the resolution of any problem within the existing structures. In such circumstances land reform may become a prerequisite of development. But, whether primarily an equity or a production concern, it is clear that land reform will involve different changes in different type situations.

Dimensions of Land Reform

1.12 Land reform is thus concerned with interrelated productivity and equity aspects of land use. It is frequently pursued as a goal in itself, but in a development context is usually seen as a concomitant of agrarian reform or of rural development programs. Land reform differs from political, administrative, fiscal, or monetary reforms in that it normally relates to one sector and involves changes in control of a tangible asset which is both fixed in supply and provides the basic factor on which most of the people in the LDC's are dependent for their livelihood.

1.13 Land reform can involve varying degrees of change including some or all of the following:

- (a) Redistribution of public or private land so as to change the patterns of land distribution and size of holdings. Usually this involves an increase in the number of small or medium-sized farms and a reduction in the number of large holdings. Alternatively all land can be nationalized and regrouped into state-owned holdings, all of which might be large.
- (b) Consolidation of individual holdings, thereby reorganizing the physical pattern of control. Fragmented holdings can be regrouped into contiguous blocks of land. This can be done with or without changing the distribution of land ownership in terms of acreage or value belonging to each individual.
- (c) Changes in land ownership and tenurial rights, with or without physical redistribution of land. Redistributed land can be allocated to new owners or to farmers working on the land. Alternatively, there need be no redistribution of land but tenants or workers can be made owners of the land they work. In this case, there is generally a redistribution of income away from the former owners of the land to the new owners. The new owners may farm cooperatively or as individuals.
- (d) Changes in conditions of tenure without changing ownership or redistributing land. The rights of those working on the land can be safeguarded by law without a change in ownership. Changes in conditions of tenure would include providing security of tenure, introducing equitable crop sharing arrangements, cooperative land management, and so forth. These changes would also include the conversion from customary to legal rights to land.

1.14 Structural Change. In the main, land reform is seen as a means of bringing about structural changes in the agricultural sector thereby altering the size distribution of holdings or the distribution of income. By definition, therefore, pilot projects cannot be considered to be land reform for they operate within an existing structural framework, even though they might be useful in identifying problems of management or the economics of various "models", or arrangements that might be part of a subsequent reform. Similarly, land settlement on the frontier does not usually constitute land reform, although land settlement might be a means of bringing unused land into production. Land settlement, by itself, may or may not have an impact on the structure of land holdings in a country, depending on the manner in which the settlers are selected and the size distribution of the new holdings. The kind of structural change involved depends on the prevailing tenure type and the proposed alternative. As reflected in the country experiences summarized in Annex II, most changes involve a shift from traditional to modern types. Thus Japan, Taiwan, and Korea moved from a "feudal Asian" to a "market modern-smallholding" type; India and Iran moved from a "Feudal Asian" toward a

"market modern", with some traditional farms retained and some "plantation-ranch" type variations in certain areas. Morocco and Kenya redistributed the large-scale alien owned "market economy" type holdings of their colonial eras, some going to smallholdings of the "market economy" type and some to "plantation-ranch" type units. Mexico and Peru moved from a "feudal Latin American" type to a "market modern-mixed large and small holding" type, and a mixed "market modern" and "socialist" type structure, respectively. These tenure system changes were in all cases accompanied by changes in related organizations and services.

1.15 Fiscal Measures. Land taxes and pre-emptive taxes on income earned from land are often cited as instruments that will obtain the same ends as land reform. An effective land tax may have an impact on land use but its main purpose is usually to encourage more intensive production by making it costly to either leave productive land idle or use it below its productive capacity. On the other hand, such taxes may provide a disincentive to investment with the potential of increasing productivity or bringing new land into production. In any event, the use of a fiscal instrument such as a land tax will not lead to structural changes in agriculture-- at least not in the short run. A more likely fiscal instrument to encourage structural change is a graduated estate tax which would force estates to dispose of land to meet their financial obligations. But this is likely to bring about structural change only over a long period of time. While land taxes and estate taxes are often considered significant elements in fiscal policy intended to redistribute income, they cannot ensure the same degree of structural reform as can land reform and have, in general, been quite ineffective. In situations where fiscal measures--whether of a redistributive kind or a type which provides a return to the state on its investment--are found to be ineffective, land reform may be the only alternative option if economic development is to be pursued.

1.16 Agrarian Reform. Agrarian reform is a much more comprehensive concept than land reform, since it involves modification of a wide range of conditions that affect the agricultural sector. These modifications might include changing price policies so as to turn the terms of trade in favor of the agricultural sector; increasing allocations to the agricultural sector in order to expand research, extension, training, and storage facilities; making physical supplies such as fertilizers available and increasing credit for their purchase, or providing infrastructure to facilitate agricultural production. Agrarian reform may or may not include land reform; in some instances there may be no need for land reform since land is already evenly distributed. In other cases, it may not be politically feasible to have land reform--though it might be both politically and economically feasible to raise output through the measures involved in agrarian reform. The point is that land reform may be a necessary conditions for agrarian reform, but it is seldom a sufficient condition for increasing agricultural output, given that land is only one factor of production.

1.17 Rural Development. Broader still is the concept of rural development, since it embraces all dimensions of the rural sector (agricultural and non-agricultural) and is more concerned with the welfare of rural people than with

agricultural output or productivity as an end in itself. Since it has significant equity implications land reform may be necessary concomitant of successful rural development, depending on the prevailing pattern of land control. Where the ownership of land directly affects the nature of local institutions and the participation in them of the majority of rural people, land reform may be essential. However, in terms of implementation it may be that in some situations the preparation of local institutions and smallholder services may be a prerequisite of land reform rather than vice versa. Where the existing service systems and administrative structure is geared to working with large scale farmers, land reform without concurrent rural development activity might cause hardship and economic losses which would outstrip the equity gains associated with the land redistribution. Tenancy reform, on the other hand, insofar as it stabilizes the existing relationship between landowners and renters may be a useful precursor of rural development programs.

1.18 Political Dimensions. Substantial reform of the structure of holdings and the distribution of income from the land cannot be achieved without political action. For instance, where semi-feudal conditions prevail, patterns of land rights and tenurial conditions have been established by tradition, and these cannot be changed through market operations as there is virtually no organized market for land. Elsewhere large land holders have accumulated capital and expanded land holdings acquired through the market; in most market-oriented economies with a skewed distribution of land, the tendency is for the skewed distribution to worsen. Whatever the prevailing situation, it can seldom be changed without actions that emanate from outside the market. Since these actions are based on policies deliberately intended to alter the distribution of land and change tenure, the implementation of these policies depends on the political will of the policy makers and the ability of the administrators to execute this will.

1.19 The concentration of control over land provides the base for powerful elements in many non-industrialized societies. Where groups derive authority from their land, a meaningful land reform program will inevitably destroy or limit the power base of these groups. Land reform can change the political balance and the power structure in a country. Reforms have stripped large landholders, whether they were military, religious or private, of their power. It is not surprising, then, that land reform is often a central issue in political debates and that these debates are often coached in terms of redistributing political power as well as wealth. The political implications of land reform must be taken into account; ambitious programs of land reform will seldom be implemented unless shifts are made in political sentiment and power. Many countries have legislated for land reform but relatively few have achieved them--and these only with a change in government.

1.20 Frequently the implementation of massive reform legislation has depended on the effective organization of the beneficiaries. In Japan, Taiwan, and Venezuela--to name three countries--suitable organizations were established to ensure that land was indeed transferred. In other countries, such as India and Pakistan, the official bureaucracy was the only implementation agency

contemplated by the reformers. Because of the community of interest between the bureaucrats and the landowners, and the absence of organized pressure from the beneficiaries, the massive legislation has produced no significant reform. Experience in much of Asia and Latin America suggests that effective popular participation of rural people may be a critical condition of successful land reform.

1.21 Implications for Social Justice. The imbalance between the distribution of control over the land and the numbers dependent on it has historically led to increasing pressures for change. While the focus on land reform is related to economic development, the concept of an overriding social function of land justifying the imposition of limitations on private rights, appears to be gaining the support of many groups, including the Catholic Church. Formerly one of the largest landholders in the world, the Church in Europe as well as in Latin America has increasingly put its weight behind this new concept, both in precept and practice. The Church's new philosophy regarding the relationship between man and the land declared that "private property does not constitute for anyone an absolute and unconditional right". And the immediate extension of this postulate to the world's agrarian problem is that, "if certain landed estates impede the general prosperity because they are extensive, unused, or poorly used, or because they bring hardship to peoples or are detrimental to the interests of the country, the common good sometimes demands their expropriation".

1.22 A further facet of land reform that warrants consideration in this respect is the potential of a new societal structure following a reform. Mexico, and more recently Egypt and Bolivia, had semi-feudal societies similar to many which still prevail in other parts of the world. In these societies, large numbers of tenants and laborers were tied to the land and were held in forms of human bondage; this arose from custom, tradition, or sheer indebtedness to landlords. The reforms that have taken place in these countries have changed this. The reform in Mexico broke a system that denied many people any range of choice in the pursuit of a livelihood. If the experience of Mexico--which has had the longest period of reform--is any indication of the long run outlook, the reforms have led to an increase in social mobility.

1.23 In summary, from this brief overview of its characteristics, it is apparent that land reform is a complex subject. The issues involved are diffuse and the reform measures appropriate vary according to the situation. It is also evident that land reform is in practice predominantly an equity concern and therefore one that is often highly political. Nevertheless, it has, too, significant implications for economic development, and these in turn are relevant concerns in the formulation of Bank Group policy.

II. LAND REFORM AND ECONOMIC DEVELOPMENT

2.1 Economic development has three basic objectives: rapid economic growth, full employment and distributive justice. Some policies and related investments, such as those affecting power plants or large-scale industry, are primarily growth oriented; others, for example, those for rural works, are employment oriented; still others, such as those related to land reform, are essentially equity oriented. Each set of policies and investments aimed toward one objective has important repercussions with regard to the other two objectives, and these must be taken into account when weighing the potential impact of particular policies on economic development. For this reason, it is important to determine to what extent land reform might be costly in terms of growth and employment.

2.2 There are manifold problems in assaying the costs and benefits of land reform. These include the definition of an acceptable time frame for measuring the effects of the related structural change in the agricultural sector. The available evidence suggests that a well-designed land reform program need not entail unacceptable costs in terms of other objectives; its contribution to output and employment -- as well as to equity -- depends on the speed and effectiveness of the reform and complementary investments. However, the effects of land reform can best be examined by focusing on particular measures, such as the effects of farm size on productivity, equity and employment as well as on savings and market surplus. These measures are interrelated but, for analytical convenience, are here treated separately.

Implications for Productivity

2.3. The effects of land reform on productivity might best be isolated by comparing productivity in a given area before and after reform. Unfortunately, that is not possible as there is no situation where change has occurred in only one variable -- size of farm -- over time. The nearest alternative is the comparison over a defined period of the productivity of groups of different sized farms in a given area. The ideal measure for comparison would take into account the contributions of all factors of production and so measure total factor productivity. Since data are not available to derive this measure, changes in yields per hectare are considered to be the most appropriate proxy.

2.4 There have been several multi-country, comparative analyses of the effect of differences in distribution of size of holdings on yields. One 13 country study undertaken by the FAO analyzed the relationship among size of holding concentration of land, and productivity. A similar study of 41 countries was undertaken by the Bank Group. (See Table 2.1.) Both studies indicated that smaller average size of holding and a lower concentration of land ownership were associated with an increase in output per hectare.

2.5 Similar findings can be cited from cross section studies in a number of individual countries. In Ceylon, for example, in 1966-67, the yield of paddy averaged 36 to 37 bushels per acre on farms of up to one acre and 33 to 34 bushels on larger holdings. In Central Thailand, yields were reported to decline from 306 kilograms per rai, on holdings of two to six acres, to 194 kilograms per rai, on holdings of 140 acres or more. Small farms in the Philippines -- that is, less than two hectares -- produced 2.9 tons of paddy per hectare, while farms of more than four hectares produced 2.2 tons per hectare. In a systematic analysis of the differences between large "multi-family" farms and small "sub-family" farms in Argentina, Brazil, Chile, Colombia, Ecuador and Guatemala, output per hectare was found to be three to 14 times greater, on the average, on the small farms than on the large. (See Table 2.2.)

2.6 There is other evidence to support these findings, including the results of Bank-sponsored analysis in Mexico, as well as studies on Japan and Taiwan. However, there is no claim that all conditions were identical; the studies simply indicate that yields were higher on small farms than on large farms.

2.7 The important implication is that reductions in neither the size of holdings nor land concentration need be associated with a reduction in output per hectare. On the contrary, it appears that under controlled circumstances output per hectare is likely to be higher. There are two associated reasons for this assumption. First, there are limited economies of scale in most agricultural production. Second, small-scale producers tend to maximize output by applying labor intensively, while large-scale operators tend to maximize profits by using hired labor only until incremental production covers incremental costs. This is usually short of the output per hectare that would be produced if the goal were maximization of output.

2.8 In broad terms, land reform can be consonant with development from a point of view concerned purely with productivity, with output per hectare as the relevant criterion. Output per worker, however, is likely to decrease for the simple reason that, as pointed out below, smaller farms would employ more labor per hectare. In other words, the larger income would be shared by an even larger number of families. This decline in labor productivity only reflects the employment and equity benefits of land reform: the same land would supply more people and the income generated would be more widely shared.

Land Reform and Employment

2.9 There is also evidence that there is greater labor absorption per hectare on smaller holdings than on larger holdings. The cross sectional analysis of the 13 countries previously mentioned showed that manpower per hectare of agricultural land was significantly correlated with the size of the holding -- the smaller the holding, the greater the input of manpower. This cross section evidence of the higher productivity of small farms indicates their long-run equilibrium potential.

But the realization of this potential is contingent on non-land being inputs increased as soon as farm size is decreased.

2.10 There have also been a limited number of studies in Asia and Latin America that confirm these findings. In the Ferozepur District in Punjab (India), for example, in 1968, labor absorption varied between 33 and 39 man-days per acre on holdings of less than 30 acres. On larger holdings it ranged between 20 and 23 per acre. In Colombia, man-years per hectare declined continuously from 2.7 on small holdings (less than 0.5 hectare) to 0.17 on large farms (500 to 1000 hectares) in 1960. In other Latin American countries also (Argentina, Brazil, Chile and Guatemala), the number of workers per hectare of agricultural land on the smallest farms (sub-family units) has been estimated to be 30 to 60 times greater than on the largest (multi-family) farms.

2.11 More intensive labor use is, of course, the main reason why small farms are able to produce more per unit of land than the larger farms. But inputs other than labor are also likely to be applied more intensively on small farms, unless access to these inputs is blocked by institutional arrangements. Unfortunately, the relationship between these other inputs and farm size cannot be studied in many developing countries for want of data. It is interesting to note, however, that in the cross section of developed countries, in 1961, fertilizer consumption and gross fixed capital formation per unit of land were relatively higher in countries with a smaller average holding.

2.12 In developing countries, too, small farms undoubtedly need much more non-labor input in order to raise productivity. The mere redistribution of land and augmentation of employment may not suffice to raise output substantially. Therefore, the organization of an effective extension-cum-input supply system for small farmers must accompany land reform. Where there is such a system --as in Japan, Taiwan and Korea--the absorptive capacity of agriculture tends to be high even though holdings are small; at the same time output per hectare is high. Small holdings can yield high returns to labor provided output per hectare is high; a condition that can only be fulfilled by the application of high-yielding, labor intensive technologies.

Land Reform and Equity

2.13 The more radical the land reform and the more important the share of agricultural land in total tangible wealth, the larger will be the equity effect of the reform program. In the rural areas, agricultural land accounts for such a large proportion of total wealth that it is usually the single most significant determinant of the distribution of both income and power. Evidence of this can be seen in many Latin American and Middle Eastern countries where the large landowners often dominate both commerce and government. Here land reform could have a major equity impact. However, where much of the wealth exists in the form of financial assets, real estate and other investments apart from farm land, and commodity stocks in the hands of traders, the redistribution of farm land alone may not improve the distribution of total wealth substantially. Landowners may easily change the composition of their assets on the eve of land reform if agricultural land alone is the target of redistributive zeal.

2.14 If the rural and urban areas are considered together, the limitations of redistributing farm land alone appear even more serious. The distribution of real estate, financial assets, and commodity stocks in the urban areas is even more skewed than the distribution of farm land in the rural areas. If, therefore, urban property reform or a highly progressive taxation program on urban wealth does not accompany land reform in countries with a substantial and prosperous industrial-commercial urban sector, land reform alone is not sufficient. Alone, it may not only not decrease but may even increase the inequity of the distribution of total wealth in the country as a whole -- in particular, the inequity between the town and the village -- since it will freeze the maximum permissible ownership of the main rural asset, without freezing the maximum permissible ownership of urban assets.

2.15 Even with this broader focus, the equity effect of land reform will be significant only if: (i) the effective ceiling is low; (ii) the beneficiaries belong to the poorer groups; (iii) the extension and (non-land) input distribution system favors the beneficiaries; and (iv) owned and self-operated land as well as leased land is redistributed.

2.16 Opportunities for the redistribution of land depend to a great extent on the existing pattern of distribution of holdings and population density. As will be shown further on, there are some countries, notably in the Americas, where land distribution is skewed and population is not dense. Here are ample opportunities for redistributing land so that inequalities can be diminished and the recipients of the land can generate an acceptable minimum income. In other areas, however, the pressure of population is such that there is not enough land to meet the minimum requirements of all claimants. The density of the farm sector is so high in some countries in Asia that, even if holdings above a certain size were completely eliminated, there would not be enough land to either raise the acreage of the mini-farms to a tolerable minimum or provide for the landless.

2.17 In India, even if the maximum holding was 20 acres, the available land (43 million acres) would be barely sufficient to bring up the size of mini-holdings to a minimum of five acres, and no land would be available for the landless (20-25 million households). In Bangladesh, a low 10 acre ceiling would not suffice even to bring up all mini-holdings to a minimum two acre size. The millions of landless families could not be provided for at the same time. In Ceylon, too, even with a low ratio between the ceiling and the floor holding (5 to 1), there would be enough land only to give two acres to each mini-farmer. In Haiti, only 1.5 hectares is available for the average rural family of five. The solution to rural poverty clearly cannot be found exclusively in the agriculture sector. In these situations it might be wise to give land only to the mini-farmers and to attack the poverty problem of the landless by means of a massive rural works program. (Settlement of the landless on new land, where available, and their migration to urban areas, when possible, are the other obvious alternatives.)

Effects on Marketed Surplus and Savings

2.18 The redistribution of land can have a pronounced impact on both availability of a marketable surplus and aggregate savings in the agricultural sector. Although the total effect of the redistribution process will depend to a large extent on the costs of increased output after the redistribution, the change in the size distribution of holdings will shift the distribution of the source of marketable surplus and savings. As the marketed surplus generates agricultural incomes and so potential cash savings, it determines the size of the rural market for domestically produced industrial products. The marketed surplus also represents the supply of agricultural products, mostly food, for the urban population. A fall in surplus could thus necessitate imports and put an added strain on the balance of payments. But increasing the marketed surplus need not necessarily increase savings, and where it does these need not be monetized but rather may take the form of increased on-farm investment in items such as improved housing, wells, and access roads.

Marketed Surplus

2.19 A reduction in land concentration through land reform could lead to a fall in the marketed surplus -- at least in the short run. Small farm households tend to consume a larger proportion of their small output than do households which have a large enough acreage to produce in excess of domestic requirements. Thus, the ratio of marketed surplus to production falls as farm size decreases. Data from India show, for example, that small farms (2.5 acres or less) sell only 24.5 percent of their output whereas large farms (50 acres or more) sell 65.4 percent. But these farm groups produce only 9.5 percent each of the national output. If output remained the same but, hypothetically, farms above a certain size were eliminated and their land transferred to the small class, the surplus-output ratio would probably decline. The rate of decline, however, might not be very great given that the largest and the smallest farm size groups account for only small proportions of total output.

2.20 But the surplus-output ratios of different farm-size groups, and their shares of total output and sales, can differ widely across countries and regions. Sixty-one percent of the maize farmers in Puebla, Mexico, for example, sells no maize at all; and another 16 percent sells 25 percent or less of its output. In Chile, on the other hand, a typical crop sharer sells as much as 43 percent of his output. In Mexico, 6.6 percent of the marketed surplus comes from 70.7 percent of the farmers; and 55.4 percent comes from only 1.7 percent. In India, 48 percent of the farms (less than 2½ acres) contribute only 6 percent of sales, 1 percent (more than 50 acres) contribute 16 percent and 51 percent (with 2.5 - 50 acres) contribute the bulk (78 percent) of the total surplus.

2.21 These differences would determine how much the surplus ratio would fall after land reform; but there can be no doubt that it would fall, with subsequent deleterious effects on the economy. However, this decline in the market surplus ratio need not result in a decline in total

surplus, provided that there is a compensatory increase in total output. Since per acre yields on small farms can be higher than on large farms, a sufficient increase in output can materialize if, after reform, the necessary conditions are fulfilled whereby small farms can realize their full production potential. In addition, from the welfare point of view, a decline in the market surplus ratio has a direct distributive dimension which should be offset against the decline. As the surplus-output ratio falls, the subsistence consumption of small farmers increases -- the extra consumption in kind representing a direct increase in their incomes (nutrition). Insofar as the productivity of small farmers was previously constrained by inadequate nutrition, there should also be a positive productivity effect.

Savings

2.22 In considering the productivity effect of land reform, it is necessary to examine the implications of a change in farm size structure on the aggregate savings rate of the farm sector as a whole, since the savings rate represents the contribution of the sector to the long run growth of both its own productive capacity and that of the rest of the economy. Although there is scant evidence on savings rates of different classes of farm households in developing countries, it can be expected that the behavior of the savings rate will be similar to that of the marketed surplus. At the lowest end of the farm size scale, the subsistence farmers can be expected to be net "dissavers" (for instance, by running down the existing soil fertility). As farm size increases, the savings rate can be anticipated to become positive and increase along with farm size (though large farmers can be "dissavers" too, by using capital for consumption). A recent study in the State of Haryana, India, tended to confirm this: the savings ratio was found to be -0.24 percent for small farmers, 8.5 percent for medium farmers, and 16.3 percent for large farmers. In a further study in Orissa, India, there was no direct measure of the savings made, but the ratio of net capital formation as a proportion of income was found to be 5.5 percent in the smallest farm size group (0-2 acres) and 19.3 percent on larger farms (8 acres and above). For unirrigated villages, the corresponding figures were lower -- 2.6 percent on the smallest farms, and 11.2 percent on the larger farms.

2.23 It follows that a reduction in concentration of land will reduce the average savings rate of the farm sector. But, again, if a compensatory increase in total income can be secured by intensifying inputs per unit of land soon after land reform, the aggregate savings can be prevented from falling. This adds to the urgency of introducing effective agrarian reform (including improved technology and services) along with land reform.

2.24 A policy implication, from the above, is that the farm size structure created by any land reform program should fix a minimum as well as a maximum farm size. The minimum farm size clearly should be determined on the basis of the current national norm of minimum family income. But one of the criteria for determining the minimum income itself should be that it at least enable the smallholder to cease to be

a "dissaver." An analogous criterion can also be derived from the known behavior of marketed surplus: the smallholder should have at least enough land for positive sales.

Tenancy Reform

2.25 The most successful land reforms include those whereby tenants become owners of the land they operate, as in Japan, Taiwan, and some parts of Europe. Ownership control and income from the land is thus redistributed. However, if landlords are allowed to retain land that might be self-operated, and tenants become owners of the land that they operate, then the size distribution of operational holdings may not change. With the conversion of tenants into owners, there is greater security of tenure and larger incomes for the farmers. This, in turn, encourages increased savings and so on-farm investment and higher output.

2.26 The conversion of tenants into owner-operators generally leads to a more efficient and more equitable form of production organization than tenancy. This is evidenced not only from the reforms in Japan and Taiwan, but also from experience in parts of Africa where "customary" tradition is converted into freehold. In Kenya, the provision of security of tenure, especially in the temperate production areas, has increased on-farm investment and helped raise output.

2.27 There may be situations where tenancy reform aims at stabilizing the position of tenants with respect to rent paid, security of tenure, and labor objectives, without transferring ownership rights to them. Here the problem is to promote more efficient types of tenancy, with contracts having well-defined incentives and deterrents. Expert consensus is that fixed cash-rent contracts are superior to the more common crop-share contract, for the whole income in excess of the fixed rent accrues to the actual cultivator. Crop sharers, though, often have a preference for crop sharing because it provides risk insurance. Crop sharing, however, can be made more efficient and equitable if it is considered with cost sharing. There is growing evidence from the Philippines, for example, that since the onset of the spread of the seed-fertilizer technology, landlords and crop sharers spontaneously have begun trying to combine cost sharing with crop sharing because the combination is profitable to both.

2.28 Tenurial reforms, whether through the distribution of the land to those working it or the provision of greater security of tenure and improved rental contracts, have an effect on development. They improve income distribution by shifting income away from the landlords to small-scale producers, often those among the lowest income groups. The more secure producers tend to invest part of their higher earnings in their holdings -- thus raising the level of investment in agricultural production -- whereas absentee landlords frequently invest in off-farm activities. Finally, greater security enables tenants to benefit from appropriate technological changes instead of being displaced when landlords find it to their advantage to adopt a different technology. The financial returns to the landlord may be high from using machines and hired labor, but the returns to the economy are usually higher from labor-intensive operations undertaken by smallholders.

Implementation Issues

2.29 If reforms are to generate the anticipated benefits, several important considerations must be taken into account. First, since agriculture is a private sector activity in most countries of the world, production and investment decisions are made by millions of individuals operating in their own interests. Very often the greater part of national output comes from medium-sized farmers. These farmers, as with all investors, weigh the risks as they perceive them before making on-farm investments -- the major component of total investment in agriculture. Sustained uncertainty about a government's intentions with regard to the distribution of land adds to the risk of investment and can have a negative impact on capital formation and production. In some instances, continued uncertainty has led to disinvestment in agriculture by owner-operators and capital flight from the country. It follows that the more specific the plans and the more clearly defined the policies regarding land reform, the less likely the acceleration of disinvestment by land owners and, so, the lower the "cost" of the reform.

2.30 Second, the introduction of a major land reform program usually disrupts the system of logistical support from the commercial sector to the farmers. In most countries in the world, there is a well-established link between commercial bankers and suppliers in the private sector and the larger agricultural producers. This linkage is based on mutual interests and, often, on long-standing business association. The redistribution of land frequently leads to a breakdown of this system. There is often a long hiatus before the public sector can undertake the role previously filled by the private sector or the private sector adjusts to its new situation. Without an appropriate organization for the provision of inputs there will be a decline in productivity and a fall in output. Thus, the reduction of the costs of a land reform program -- in terms of production foregone -- depends on the rapid reorganization of the input supply system.

2.31 Third, the nature of the organizations providing for both the supply of necessary inputs and the marketing of production surpluses is crucial in a post-reform period. There are many different forms of organization: cooperatives, agricultural development banks, special credit institutions, marketing authorities, and the like. Whatever the organizations that prevail, it is essential that they be designed specifically to assist the beneficiaries of a reform. In many instances, the institutions that have provided services in a post-reform period have continued with a bias in favor of larger size operations. Part of the reason for this is that these institutions have not been able to adapt their methods of operation to the needs of large numbers of small farmers. Unless this is done, the beneficiaries of the reform may not be in a position to increase their outputs. Indeed the appropriate organization of supplies and the evolution of a low-cost delivery system to reach small-scale producers is a sine qua non for sustained increased productivity.

2.32 Fourth, there are situations where land reform programs might need adaptation if they are to fulfill the objectives of development.

When land is fully utilized and yields are already high, there may be some question as to the impact of redistribution of land on productivity and employment. In this context, it is important to determine the reasons for high yields. In much of agriculture, most of the inputs are "divisible," thus reducing the importance of scale of operations as a factor in raising productivity. There are some situations where high yields and efficient operations may be directly associated with a system organized to function on a large scale (as in certain types of sugar plantations). The breaking up of such holdings may well reduce yields and lower output. A more realistic approach to obtaining widespread benefits would be to leave such operations intact and redistribute the profits from the enterprise. This can be done through taxation, by raising the wages of the workers, or -- as in Peru -- converting the operation into a worker-owned corporation and distributing dividends, out of profits, to the participating stockholders.

2.33 Finally, land reform leads to structural changes within the agricultural sector. The post-reform structure will depend on the ideology of the government. In some instances, there will be an increase in the number of small-scale owner operations; in others, producers cooperatives, or communes, or large-scale state farms will emerge. The pattern that evolves may also be tailored to fit the economic environment: the organization might be based on a system which can use surplus labor for direct capital formulation; other organizations (such as large-scale state farms) might be intended to save labor. Experience has indicated, however, that:

- (a) Government reorganization can generate enthusiasm and provide opportunities for mobilizing laborers, but raising output depends on more than land and labor. There must be an appropriate supply of other inputs.
- (b) No matter what the structure, an appropriate system of management is necessary which enables the managers of land to make decisions in a timely fashion -- a most important condition in agriculture and one that is dependent on weather. This is a condition, however, that is often unfulfilled in rigidly controlled societies.
- (c) There must be an adequate system of incentives and rewards if there is to be an increase in productivity in agriculture. This applies both to the agricultural sector as a whole and to the units in which beneficiaries of reforms are organized. Many communes, producer cooperatives, and other units of production have floundered over the developing of a system that contains both equity and incentives. The creation of adequate incentives is particularly important in a situation where labor is the major input.

2.34 Land reforms, although equity oriented, can be consistent with all the goals of economic development: raising productivity, increasing employment, and providing wider equity. In the long run, land reform need not lead to a reduction in marketed output or savings. Tenancy reforms can redistribute incomes and, through providing security of tenure, can encourage increased on-farm investment. However, sustained increases in output depend on complementary investments and policies. The most important of these concern the organization and provision of an adequate supply of inputs for the beneficiaries and the creation of appropriate incentives to use these inputs to raise output.

Table 2.1 Productivity, Employment and the Distribution of Land in Different Countries

Country	Date Year	Farm GDP per Hectare (US\$)	Farm GDP per Worker (US\$)	Employment per Hectare	Average Holding Size (Hectare)	Gini's Index of Land Concentration
Europe						
Greece	1961	424	848	0.50	3.18	.597
Spain	1962	90	980	0.09	14.85	.832
Central America						
Costa Rica	1963	83	951	0.09	40.74	
Dominican Rep.	1971	129	463	0.28	8.64	
El Salvador	1961	186	489	0.28	6.95	
Guatemala	1964	144	492	0.29	8.17	
Mexico	1960	22	569	0.04	123.9	
Nicaragua	1963	55	580	0.09	37.34	
South America						
Argentina	1970	18	1903	0.01	270.1	.873
Brazil	1960	14	285	0.05	79.25	.845
Chile	1965	18	692	0.03	118.5	
Colombia	1960	67	663	0.10	22.60	.865
Paraguay	1961	11	479	0.02	108.7	
Peru	1961	50	477	0.10	20.37	.947
Uruguay	1966	14	1333	0.01	208.8	.833
Venezuela	1961	31	925	0.03	81.24	.936
Asia						
India	1960	172	141	1.22	6.52	.607
Indonesia	1963	323	149	2.17	1.05	
Iran	1960	187	581	0.32	6.05	.624
Korea, Rep. of	1970	1085	377	2.88	0.85	
Japan	1960	1720	1188	1.45	1.18	.473
Nepal	1961/62	352	138	2.54	1.23	
Pakistan	1960	240	249	0.96	2.35	.607
Philippines	1960	250	200	1.25	3.59	.580
Sri Lanka	1962	376	337	1.12	1.61	
Taiwan	1960/61	841	410	2.05	1.27	.474
Thailand	1963	166	137	1.21	3.47	
Turkey	1963	155	243	0.64	5.03	.611
Vietnam, Rep. of	1960	355	127	2.79	1.33	
Africa						
Botswana	1969/70	168	142	1.18	4.75	
Kenya	1969	183	140	1.31	871.3	
Malagasy	1961/62	293	88	3.32	1.04	
Mali	1960	98	48	2.06	4.35	
Morocco	1961	144	295	0.49	4.62	
Senegal	1960	209	174	1.20	3.62	
Tanzania	1960	485	94	5.16	785.7	
Togo	1961/62	189	180	1.05	2.62	
Tunisia	1961/62	42	341	0.12	15.41	
U.A.R.	1960/61	681	360	1.89	1.59	.748
Uganda	1963/64	167	198	0.84	3.29	
Zambia	1960	68	101	0.67	11.73	

Sources: Unless otherwise footnoted below, cols. 1 and 3 are based on FAO, Production Yearbook, 1971, pp. 10-11, 21-23, and col. 4 on UN, Monthly Bulletin of Statistics, XVI, No. 4, Apr. 1972 and XVII, No. 11, Nov. 1973. For currency exchange rates, see ibid, and IMF, International Financial Statistics, XVI, No. 8, Aug. 1973. GDP in agriculture shown here includes, unless otherwise indicated, agriculture, hunting, forestry, and fishing.

Table 2.2: AGRICULTURAL OUTPUT PER HECTARE & PER WORKER
BY FARM SIZE, LATIN AMERICA

Country	Year	1	2	3
		Smallest Sub-family Farms	Largest Multi-family Farms	Ratio Col. 1 to Col. 2
(National Monetary Unit Per Agricultural Hectare)				
Argentina	1960	2492	304	8.2
Brazil	1950	1498	170	8.8
Chile	1955	334	41	8.2
Colombia	1960	1198	84	14.3
Ecuador	1954	1862	660	2.8
Guatemala	1950	63	16	3.9
(National Monetary Unit Per Worker)				
Argentina	1960	40	192	.21
Brazil	1950	1197	8237	.14
Chile	1955	268	1171	.23
Colombia	1960	372	9673	.10
Guatemala	1950	74	523	.14

Source: Barraclough and Collarte (1973), Table B-2.

III. THE BANK AND LAND REFORM

Changing Concerns

3.1 The position of the Bank Group in regard to land reform has changed over the past decade, reflecting a reconsideration of the objectives of development and the most appropriate strategies for attaining these objectives. The objectives of development are now generally accepted to be the attainment of increased productivity and employment, and social justice. As has been pointed out, land reform can be consistent with these objectives and, in some situations, may well be a necessary condition for attaining them.

3.2 In the early years of Bank Group operations, the focus was on providing adequate infrastructure for increasing agricultural production. In the early 1960s, the approach to agricultural development was widened to include the provision of rural credit and on-farm inputs. Problems of tenure were seen to have an indirect bearing on production, mainly because they influenced on-farm investment decisions and determined the efficiency of resource use, especially irrigation water. By the end of the 1960s, though, there was growing concern about distribution of income in the rural areas and the relationship between land distribution and income distribution. This was reflected in the Agriculture Sector Paper of 1972, which recognized a relationship between land distribution and equity. The paper stated:

"In developing countries, land presents a much higher proportion of total wealth than in developed countries, and inequalitarian patterns of landownership are a major source of income inequality. Furthermore, the owners of land usually possess political and economic power which can be exercised in ways that harm the interests of the bulk of the rural people." (p. 30)

The paper goes on to affirm that:

"It is clear that agricultural development cannot do all it might to improve rural life if the distribution of land ownership is highly skewed." (p.35)

This concern has been reflected both in the technical assistance offered to governments (especially in sector survey and economic reports) and in the types and components of projects in the lending program.

Technical Assistance

3.3 The Bank has been concerned with problems associated with land distribution and land reform since the beginning of its operations. One of the first major economic surveys undertaken was of Colombia in 1955. The mission identified the patterns of land use and land distribution by size of holding to be major obstacles to accelerating agricultural development. Large stretches of fertile land were held by large scale producers for livestock raising, while intensive agriculture was practiced by "minifundios" on land that was less suited for crop production. The mission recommended to the

government that they introduce a graduated land tax as a means of intensifying land use. A subsequent agricultural sector mission in 1956 confirmed that the systems of land tenure and land use were barriers to increasing output. This mission recommended that the government adopt a presumptive income tax to encourage a more productive use of land.

3.4 The two missions to Colombia were concerned with increasing productivity and intensifying land use. The missions were not concerned with the redistribution of land as a means of encouraging greater equity, nor did they consider redistribution as a means of intensifying production. Rather, they took the view that the distribution of land was a matter of national policy and internal politics and that the Bank Group--as an external lending agency--should adhere to the existing policy and not advocate a rapid redistribution of land. It did, however, recommend a vigorous policy of settlement on reclaimed and cleared land.

3.5 Since that time there have been missions and sector surveys in almost all the countries served by the Bank. Many of these have pointed to patterns of land control and insecurity of tenure as obstacles to raising agricultural productivity. More recently, there is a growing emphasis on the problems of distribution of land and the rights to land as factors that influence equity as well as productivity. Thus, missions to Ethiopia and Morocco have drawn attention to the relationship between the land tenure situation and the distribution of benefits from growth. In Morocco, the mission emphasized the possibility of redistributing land as a means of increasing both output and equity. In Ethiopia, the problem was seen as one of uneven land distribution and insecurity of tenure; security of tenure was considered to be especially significant in the light of the distribution of potential gains from new technology being introduced into the country. Landlords were finding it increasingly profitable to displace their tenants as machine technology provided higher returns to the landlord when he hired labor.

3.6 Despite this trend, many reports do not give appropriate emphasis to issues related to land reform and development. We need to be better informed about conditions governing rights to land and related institutions in member countries. More needs to be known about the distribution of land, conditions governing tenancy, and the policies and programs instituted to influence the distribution of land and rural incomes. It is only through a thorough analysis of conditions within member countries that the Bank will be in a position to discuss policy options with member governments. At present, many reports still do not address these problems; however, new guidelines are being developed which can form a basis for discussing these issues in a systematic way in sector and economic reports.

3.7 The Bank's lending for agricultural development has increased very rapidly in recent years. Loans and credits have been made to countries with widely differing social and political structures. These have included socialist countries, such as Yugoslavia and Tanzania, as well as countries that follow

capitalism, such as Argentina and Thailand. Loans and credits have been made for agriculture operating under different forms of tenure--for kombinats in Yugoslavia, kibbutzes in Israel, individual holdings in India, cooperative production units in Tunisia, and group farmers in Kenya. Funds have also been provided for large scale livestock producers, large scale plantations and small scale producers; these have benefited absentee landlords, large landowners, small landowners, tenants, and farm workers. On the other hand, the Bank has not been totally indifferent to structural and income distribution aspects, and the record shows an increasing awareness of the implications reflected in more frequent use of measures to improve them.

3.8 Nevertheless, few projects have supported land reform as such. In general, external financing, whether multilateral or bilateral, has played a minor role in the financing of land reform programs. One reason for this is that the process of reform in itself may only require relatively small outlays of public funds, as expenditures for a redistributive reform depend mostly on the levels and forms of compensation that are set for the former landowners. Public discussion of land reform financing is generally dominated by this issue. When land is confiscated as part of a revolutionary process--as it was in Mexico and Bolivia--there is clearly little if any public expenditure involved. Naturally, the compensation issue tends to be more important in countries such as Colombia and Venezuela where land is purchased. Even so, the actual amounts involved are not substantial, especially where, as is the usual case, payment is mostly in bonds. It is estimated that, in those Latin American countries that followed non-confiscatory reforms, only some nine to fifteen percent of their total reform-related cash budgets went for landowner compensation--though in other cases the figure could be much higher.

3.9 Compensation paid for land is a "transfer payment" from the public sector to the landholding groups. Without doubt, compensation can have serious implications for income distribution, consumption, and investment--but it does not of itself create any new productive capabilities in the country. Partly because of this, international lending institutions have refrained from using their resources for financing land purchase. It has been suggested that the international agencies might guarantee bonds issued to compensate landlords. If financing were to be through international maintenance-of-value guarantees of bonds and for compensation, this would have the paradoxical effect of giving land bonds greater stability than that enjoyed by the currencies of issuing countries.

3.10 The Bank has provided general support for at least one far-reaching land reform program. This was in Tunisia where the Bank provided a loan of US\$ 18 million intended to back a major agrarian reform relating to former French-owned estates, which occupied the most fertile land in that country. The nationalized land was to be converted into "units of production" which were to be farmed on a cooperative basis; each unit of production was to be self-financing and, inter alia, was to pay a guaranteed minimum cash wage to the workers out of the farm profits. However, the scarcity of trained manpower and the rapid pace taken in establishing new cooperatives made it difficult

for the production units to start on a sound basis and generate a large enough cash flow to meet their objectives. In addition, the system had built in disincentives because wages were not paid according to work. The Bank successfully pressed for substantial improvements in conception, design, and implementation of the agrarian reform. It was unable, however, to influence the major political decision to either take all the land in Tunisia under state management or put it all under the control of cooperatives. The extension of reform strained the limited administrative capacity and the reform program collapsed. Smallholders opted for private farming and were supported by landowners who resisted the takeover of their lands. The Bank subsequently cancelled half of the loan.

3.11 The problems encountered in financing the Tunisian program underscore some of the difficulties in lending for reform-related projects. The financial viability of these projects depends to a great extent on the managerial capacity of the beneficiaries of the reform and the development of an efficient service system for them. Very often the managerial capacity of the beneficiaries may be untried; the agencies created to deliver the inputs are usually new, have limited technical capacity, and are of questionable financial viability. Furthermore, as has been pointed out previously, these institutions often provide inputs formerly provided by the private sector, and the whole delivery system changes from one based on the profit motive to one based in the first instance on social considerations. This directly affects their financial viability, especially in that cash flows generated by reform projects tend to be less immediate than in other projects, and many investments in social overhead are not self-liquidating in the short run.

3.12 Another Bank project provided direct financial assistance to facilitate the implementation of land reform as part of the Lilongwe development scheme in Malawi. It was recognized during preparation of the Lilongwe Project that there was an opportunity to change the existing land tenure pattern of customary right of usufruct. The need for change to a more secure and lasting tenure system was evident as almost all uncultivated land had been taken up; individual holdings were of the order of about five acres per family, and fragmentation of holdings had occurred on a substantial scale. Five acres was deemed to be the minimum holding size capable of providing a family with subsistence at present levels of technology. As a consequence, the Malawi Government introduced three Acts of Parliament which provided for the allocation, consolidation, and registration of holdings, and the issue of either family or individual freehold titles. These Acts also provided for the regulation of the subsequent sale, mortgage, or transfer of registered land through the establishment of Land Boards. To date some 200,000 acres have been allocated and titles issued on 60,000 acres. IDA credits are being used for the land survey (both topographical and cadastral), the provision of allocation and registration staff, vehicles, equipment, and the construction of housing and a land registry. The amount involved will be approximately US\$ 1.0 million by the end of the second phase. The Lilongwe project indicates that Bank assistance can play a role in assisting governments in the "mechanics" of land reform and in the drafting of legislation.

3.13 There have been a number of other projects financed by the Bank that have involved some change in distribution of land or in tenurial rights within the area encompassed by the project. These include projects for land settlement, outgrower schemes, irrigation, and rural credit.

Land Settlement

3.14 The Bank has financed a number of settlement projects in which infrastructure was made available together with other services for families settled in the project area. Table 3.1 gives information on ten projects located in Brazil, Colombia, Ethiopia, Kenya, Malawi, and Malaysia. Seven of the projects were established on public land and so did not involve any change in the size distribution of existing holdings. Thus, settlers were allocated holdings of from 3 or 4 hectares in Malaysia to 40 hectares in Brazil. Each holding was deemed adequate to provide a livelihood and full employment for the settler and his family.

3.15 There are severe limitations on settlement as a means of reaching large numbers of landless people or relieving pressures on land. Though the costs per family in a settlement project can be misleading, the data in Table 1 indicate the limitations on settlement projects--as presently conceived. The ten projects were intended to settle no more than 35,000 families; the total cost was expected to be \$190 million with Bank contributions almost half that amount. The capital requirement of more than \$5,000 per family limits the prospects of the approach. Clearly, the whole approach to capital intensive settlement requires reexamination in the light of the magnitude of the problem outlined in Annex I of this paper.

Outgrower Schemes

3.16 Previous mention was made of the problems of distributing the gains from plantation development. (Para. 2.32.) It was suggested that benefits be distributed through the raising of wages and the payment of dividends to the workers. In this area the Bank Group has made a substantial contribution toward a novel form of tenure through the development of "outgrower" schemes. These schemes involve the production of tree crops on smallholdings rather than on large scale plantations. These smallholdings are established around the central nucleus of either a processing plant or a plantation. The central unit provides technical assistance, inputs, and marketing services for the outgrowers who, in turn, sell their products through the central organization.

3.17 The Bank Group has participated in nine such projects--at a cost of \$125 million of which the Bank has contributed \$68 million--affecting some 120,000 families. These have included tea projects in Kenya, Uganda, Mauritius and Indonesia, rubber in Malaysia and Indonesia, cocoa in the Ivory Coast, and oil palm in Nigeria. The average holding in each project has ranged from 10 hectares in Senegal to an acre in Kenya. In the main, the size of holdings for outgrowers is small, although large enough, under labor intensive cropping

systems, to employ a family and produce enough of a high unit value commodity to yield an income well in excess of that earned by producers of staple commodities who have similar sized holdings. While this system has made a valuable contribution toward establishing viable smallholders, it is only effective when there is a commodity that can be handled through a central processing system.

Irrigation

3.18 The Bank Group has invested over \$400 million in irrigation. Most of the projects were intended to improve the use of water and bring more land into intensive production. To this end the Bank Group has worked with various governments in determining the most appropriate size of holding for the beneficiaries of each project. Thus far, eleven projects costing \$342 million (incorporating a Bank investment of \$190 million) are expected to improve 810,000 hectares and benefit more than 500,000 families. Average size holding in the irrigated areas ranges from 10 hectares in Iraq to one hectare in Korea, Ceylon, Pakistan, or an average 1.6 hectares per family over all the projects.

3.19 In many instances, irrigation projects are subject to special regulations or laws regarding the size of holding that can be held by the beneficiary. Thus, in Mexico, Bank Group sponsored projects have conformed to the law which limits the size of irrigated holdings to a maximum of 10 hectares. Elsewhere, problems have arisen because there is no legal provision regarding size of holding or because the law has been ignored. In some instances the Bank Group has insisted on special legislation giving tenants security of tenure. But in practice the Bank has found this difficult to enforce, and Governments have not incorporated fully.

Rural Credit

3.20 While in itself farm credit is an important instrument for reaching particular size groups in agriculture, access can be restricted by tenurial arrangements if lending criteria specify that registered land titles be used as collateral for borrowing. This question has been discussed more fully in the paper "Bank Policy on Agricultural Credit." Bank Group projects have provided more than \$1.0 billion for rural credit. Most of these resources have aided larger commercial producers, though in recent years there has been a pronounced trend toward lending for smaller producers. By the end of 1973, an estimated \$250 million had been allocated for small farmers.

3.21 In some instances the Bank Group has made loans on condition that the recipient government take steps to ensure that the intended beneficiaries do indeed gain from the investment. However, in several instances, the governments concerned have not fulfilled obligations regarding the provision of security for tenants or the allocation of land to low-income groups. In other instances, governments have failed to implement conditions provided for by existing legislation on rights to land; or they have failed to introduce legislation

which would have met the conditions specified in the loans. This highlights one of the major dilemmas confronting an international lending agency concerned with promotion of land reform as an instrument of economic development. That is, to what extent can the Bank influence the course of events regarding distribution of land, and income from the land, in the sovereign states that are members of the Bank Group?

Major Policy Options

3.22 The Bank has to recognise that its leverage is limited as it seeks to redefine its position with regard to land reform. Using Bank Group finance to gain a developmental impact through land reform involves highly complex issues at the project level, and the potential for using Bank influence to press or even force the issue of structural reform on member countries is severely circumscribed. Such political decisions are not amenable to ready negotiation with the governments in the same way as are other institutional questions-- such as, for instance, the setting of public utility rates.

3.23 The Bank Group would seem to be left with only two options. First, in those countries interested in pursuing land reform the Bank can give support in the form of technical assistance and finance for reform related projects. It should give overt priority in lending to those countries and projects which meet land reform criteria. Second, in those countries where there is no government interest in land reform the Bank should: (i) study the situation in all cases; (ii) call the attention of the government to the problems associated with the existing tenure system, and enter into a dialogue on the subject; (iii) support land reform proposals when they are made officially; and (iv) not lend for projects if tenure arrangements are so bad that they frustrate the achievement of Bank objectives. These options are reflected in the policy recommendations provided in this paper.

TABLE 3.1

COSTS OF SELECTED SETTLEMENT
PROJECTS FINANCED BY THE BANK GROUP

Country	Project	Total project costs (US\$m.)	Bank Group Finance			Number of families ^{2/} to be settled	Estimated project costs per family ^{4/} (US\$)	Average farm size (ha)	Settlement on
			Amount (US\$m.)	Loan or credit	Date				
Brazil	Alto Turi Land Settlement Project	12.6	6.7	loan	1972	5,200	2,423 ^{5/}	40	public land
Colombia	Atlantico No. 3 Irrigation	15.7	9.0	loan	1967	2,500	6,280 ^{6/}	4.0 ^{7/}	INCORA land (involved appropriation of private land)
	Second Atlantico Development	9.7	5.0	loan	1972	6,800	5,389	11	
	Cocuila Land Colonization	21.6	8.1	loan	1971	5,300 ^{3/}	3,429	n.a. ^{8/}	
Ethiopia	Wolamo Agricultural Project	2.325 ^{1/}	3.5	credit	1969	1,050	2,214	6	public land
Kenya	Land Settlement and Development	6.9	3.9	credit	Rev. 303YE 1969	5,200	1,327	14.3	European-owned land
Malawi	Koronga Rural Development	7.8	6.6	credit	1972	2,830	2,756	6	public land
Malaysia	Jangka Triangle	29.1	14.0	loan	1968	2,770	10,505	4.8	public land
	2nd Jangka Triangle	41.0	13.0	loan	1970	3,000	13,667	4.3	public land
	3rd Jangka Triangle	43.3	25.0	loan	1973	4,000	10,825	4.5	public land

Source: IBRD and IDA, Appraisal Reports

^{1/} \$2.730 million used for agricultural development on highlands are excluded from the settlement cost.

- 2/ Except for Kenya, figures represent goals rather than actual state of settlement.
- 3/ Includes 2,800 new settlers and 3,500 partially established settlers.
- 4/ Project costs as estimated in the Appraisal Reports do not necessarily reflect total economic costs of settlement.
- 5/ The cost to the government is US\$1,700 per family settled. This excludes expenditures on health, education, research and related studies. These cost expenditures are now under review and expected to be considerably higher than the originally anticipated.
- 6/ The cost per small farmer settled is estimated to be US\$17,000, whereas the cost per middle-size farmer remaining in the project area is \$100,000. See IBRD, Operations Evaluation Report: Colombia, VI (Preliminary Draft), October 31, 1971, p. 198.
- 7/ The original goal was to settle 2,500 landless peasants and develop 9,900 hectares. The project is two years behind schedule.
- 8/ Although 2,800 new settler families are scheduled to be settled on some 280,000 ha, no data on the farm size of 3500 partially established settlers are given.

CONTEXT OF LAND REFORM

Population to Land Ratios

1. The total land area of the globe encompasses some 13,393 million hectares made up of 1,457 million hectares of cropland, defined as arable land and land under permanent crops (10.8 percent); 2,987 million hectares under permanent pasturage (22.8 percent); 4,041 million hectares under other uses (36.4 percent). Of the arable land, approximately 31 percent is in Asia; 19 percent in North and Central America; 16 percent in the USSR; 15 percent in Africa; 10 percent in Europe; 6 percent in South America; and 3 percent in Oceania.

2. The world's population was estimated to be approximately 3,617 million in the early 1970s. This represents an average of 3.9 hectares of land, or close to 0.40 hectares of cropland, per person. The world's agricultural population -- defined as population depending on agriculture for its livelihood -- is estimated to be 1,851 million, or 51 percent of the total population. On the basis of the global figures there is an average of 0.88 hectares of cropland per person in agriculture.

3. The relationship between population and land in all major regions and for 50 selected countries is shown in Tables 1 and 2 respectively. Among other things, the tables reveal that:

- (a) More than 70 percent of all rural people live in Asia, which has approximately 31 percent of the world's cropland. The ratio of agricultural population to cropland in Asia is the lowest among all the major regions, averaging 0.35 hectares per person. Together, Mainland China and India have an agricultural population of close to one billion, while Indonesia, Bangladesh, and Pakistan have a further 180 million. Of the Asian countries, Burma has the most favorable ratio of cropland to rural population (1.08) followed by Pakistan (0.69), Malaysia (0.57), and India (0.44), as compared with Indonesia (0.22), Mainland China (0.19), Bangladesh (0.16). The least favorable ratio is found in South Korea and North Vietnam (each with an estimated 0.13). It is notable that Taiwan and Japan have ratios of 0.14 and 0.26 arable acres per person in agriculture; Japan being the only developed country with such a low ratio -- well below the 1.63 of Europe and 5.02 of North and Central America.
- (b) South America accounts for 4.0 percent of the world's agricultural population and 5.8 percent of the world's cropland. Although 13 percent of the land area of the world is in South America, almost half of that area is in forests and woodlands, 20 percent is in pastureland and only between 5 and 6 percent is in cropland. However,

as only 39 percent of the population is in agriculture there is an average of 1.14 hectares of arable land per rural person. Argentina and Uruguay have high ratios of agricultural land to rural population, the most favorable in the developing world (7.03 and 4.04 respectively). Venezuela, Chile, Bolivia, Mexico, and Cuba have ratios of more than one hectare per person in agriculture; Brazil, Colombia, Peru and the crowded Central American Republics have ratios of less than one hectare per rural person; Haiti with 0.10 hectare per person in agriculture appears to have the most unfavorable ratio in the world.

- (c) Africa has 13 percent of the world's rural population and occupies close to 15 percent of the world's cropland with an average of 0.90 hectares of cropland per person in agriculture; 67 percent of the population depends on agriculture, a higher proportion than in any other region. The most favorable ratio in tropical Africa appears to be in the Ivory Coast with 2.22 hectares per person in agriculture. Uganda, Ghana, Nigeria, and Zaire have between close to 0.50 hectares and 0.70 hectares per person in agriculture. Rwanda with 0.21 hectares per person in agriculture is one of the handful of countries in tropical Africa that has a pressure on land resources that is greater than the average in Asia.

4. The above brief summary indicates the wide range of differences that prevail with regard to population densities in the rural areas in different regions and among various countries of the developing world. These data indicate that, by and large, it is the countries with a high proportion of population in agriculture that have the less favorable ratios of population to land; they are also among the poorest countries in the world. Further, these are also the countries in which population is increasing at a rapid rate and where raising agricultural output is perhaps most difficult.

Population and Production

5. The proportion of population in the rural areas of developing countries, while declining relative to total population, is increasing in absolute numbers. Despite rapid migration out of agriculture and the explosive growth of certain areas, there has been an increase and even an acceleration in the rates of growth of the rural population in all regions of the world other than Africa. Table 3 shows the trends in rates of growth between 1950-60 and 1960-70, with overall growth rates rising from 1.9 percent to 2.1 percent and the largest regional rate of increase being the rise from 1.8 percent to 2.1 percent in the Far East. (where rural population is already very dense).

6. The increasing population has added to the population pressure on the land. Historically, this pressure has been relieved through the expansion of acreage along a frontier of cultivation. Indeed it was the expansion of the frontier in the new lands of North America, Argentina, South Africa, and Australia that helped relieve population pressure in the first period of generalized population growth in the late eighteenth century. It was in these areas, where population growth was swollen by an influx of migrants, that there were rates of population increase that compare with the rates today in many of the poorer countries. However, since the frontier is fast disappearing in most of the poor countries of today, so are the opportunities for low-cost expansion of acreage under cultivation. The changing situation is difficult to document at an aggregate level, but Table 4 gives some perspectives on trends in expansion of cropped areas and production.

7. The rate of expansion in acreage fell, in the aggregate, between the 1950s and the 1960s. The only exception is Latin America where the acreage under cultivation grew from a rate of 1.8 to 2.5 percent a year; the rate of increase in expansion of acreage slowed down in all other areas, halving in the Near East from 2.2 percent a year to 1.1 percent. When the rates of growth of population are compared with rates of increase in acreage under cultivation, it appears that rural population was increasing at around the same rate as the cropped areas during the 1950s, but increased more than one and a half times as fast as the cropped area during the 1960s.

8. As is shown in Table 4, production increased at the same rate during the 1950s and the 1960s. A consistent rate of increase in output with an increasing rural population indicates a decline in the rate of growth of output and incomes; from 0.9 percent per annum in the 1950s to 0.7 percent per annum in the 1960s. At the same time as average per capita income was increasing at a declining rate, yields per acre rose very moderately -- in this instance an increase of around 0.4 percent a year between the 1950s and 1960s.

9. The increase in population and slow expansion of the area under cultivation have worsened man-land ratios. The worsening of these ratios, arising from constraints on the low-cost expansion of acreage under cultivation, makes it increasingly difficult to accelerate rates of growth of output and income in agriculture. This is because raising yields requires a higher level of technology and management compared with increasing output or expanding acreage under cultivation. It is only in recent years that there has been a concerted effort to develop technologies to raise yields of staple crops grown in the developing areas. Hitherto, these efforts have been confined to a handful of crops and the successes attained have been limited to a relatively small area of the developing world. There are some fortunate countries, such as Nigeria, that have some land resources available for future development through expansion of acreage under cultivation. But many other countries have little or no unused land and so the situation is correspondingly worse. The emphasis in the latter countries will have to be placed increasingly on raising yields per hectare.

10. The increasing pressure of population on the land highlights the issue of absorptive capacity in agriculture. There are considerable opportunities for increasing employment and production in agriculture in most of the developing countries. This applies to the more densely populated regions as well as to others. Table 5 shows the startling differences in input of agricultural labor and output per hectare in developing countries of Asia on the one hand and in Japan on the other. Japan is a country of small holdings and has approximately two workers per hectare with an average output of \$397 per worker and \$762 per hectare. Several other countries have a higher ratio of workers to the land than Japan. One country, Malaysia, has a higher output per worker in agriculture than in Japan. However, the point to be emphasized is that if the level of labor intensity of two workers per hectare prevailing in Japan could be attained in countries such as Pakistan and India, the agricultural sector in those two countries could absorb all the labor force expected by 1985. This kind of labor intensity is not likely to be reached, however, because of the smallness of the irrigated area in Pakistan and India, and other constraints related to technology, resource base, land tenure, and capital formation in these regions.

11. It is reasonably clear that whatever is done will only partially satisfy the ever-rising demands for work and income in the many less-developed countries that are faced with the general problems of high population growth, low incomes, and increasing unemployment. With very few exceptions, the poverty and unemployment problems of the less-developed countries are unlikely to have any long-term solutions that do not include a reduction in population growth, urban as well as rural. Nonetheless, even if effective birth control could be introduced overnight, there will still have to be special and possibly extraordinary measures to satisfy the expanding demands for work and income from today's children. Such measures include those related to land reform.

Distribution of Land

12. The ratio of population to land tells us nothing about the distribution of the land among the rural population: countries with dense rural populations can have a more even distribution of land than countries with sparse populations. The most recent data on distribution of holdings by size is given in the worldwide census of agriculture held in the early 1960s. This covered 83 countries, including all of the larger countries that are members of the Bank Group except Nigeria, Romania, Ecuador, Bolivia, and Afghanistan.

13. The census provides a breakdown of distribution by size of 138.3 million holdings in the 83 countries. There is also a breakdown of the distribution of land and cropland by size of holding for 64 countries (which account for all but 9 percent of the land in the 83 countries covered in the census). Table 6 combines the two sets of information to give an indication of the distribution of land and cropland by size of holding.

14. The information in Table 6 shows the following:
- (a) 53.9 million holdings, or 39 percent of all holdings are under one hectare in size; if the patterns in the 83 countries is the same as in the 64 countries for which there are data on distribution of size and distribution of land then these holdings occupy 1.1 percent of the land area and 3.4 percent of the cropland.
 - (b) 109 million holdings, or 78.8 percent of all holdings, are less than 5 hectares in size; based on the same assumption as above these holdings will account for approximately 6.8 percent of the land under farms and 20.7 percent of cropland.
 - (c) One million holdings of 200 hectares or more represented less than 0.8 percent of all holdings in the 83 countries; in the 64 countries surveyed farms of this size group accounted for 66 percent of all land under farms and nearly 25 percent of all cropland.

15. The data confirms that, when viewed in the aggregate, the distribution of land and cropland is highly skewed. If the distribution of holdings by size in 84 countries represents a global picture, and if the distribution of 91 percent of the land reflects the pattern of distribution of all the land, then: holdings above 50 hectares in size, which represent 3.2 percent of all holdings, account for 78.8 percent of the farmland and 45.3 percent of all the cropland, i.e., roughly 3 percent of all holdings (in the aggregate) accounts for slightly less than half of the arable land and land under permanent crops and more than three-quarters of all land under farms. Conversely 97 percent of all holdings accounts for less than one-quarter of all land under farms and slightly more than half of the area under crops.

16. The information on distribution of holdings by size refers to the 83 countries, both developed and developing, covered by the census. There were an estimated 16 million holdings of less than 5 hectares in the developed world: 6 million in Japan and 10 million in Europe. Thus there were some 122 million holdings in the less developed countries of which some 92 million were less than 5 hectares in size; approximately half of these holdings were less than 1 hectare and the remainder were between 1 and 5 hectares in size.

17. It is safe to conclude that there are well in excess of 100 million holdings of less than 5 hectares in the developing world at the present time. This conclusion is derived as follows: the 1960 census indicated there were approximately 92 million smallholders in 83 developing countries, excluding those in Nigeria, Afghanistan, Ecuador, and Bolivia. Together, at the time of the census, these countries had an agricultural population estimated to be close to 50 million people, or 10 million families, most of whom were farming on units of less than 5 hectares in size. Thus it is highly likely that there were already close to 100 million holdings of less than 5 hectares in 1960. Between

1960 and 1970 the agricultural population in the developing countries has increased by a reported 190 million persons, or by more than an estimated 35 million farm families. Preliminary indications are that there has been an increase in fragmentation of holdings in many of the more densely populated countries as well as in those countries that have skewed distribution of land. Consequently, it is safe to assume that the census forthcoming in the 1970s will reveal that there are well in excess of 100 million smallholders in the developing world; in all probability, more than half of their holdings are less than one hectare in size.

18. The 1960 census data also provided information on holdings by size and land area for different regions and countries. The most comprehensive regional and national analysis for the 83 countries deals with holdings of one hectare or more in size and pertains to 84.4 million holdings covering 2,242 million hectares. Obviously, this is not complete coverage, excluding, as it does, holdings of less than one hectare. However, it does provide insight into the patterns of distribution of holdings within the major regions. The results are summarized in Table 7.

19. The analysis indicates the vast differences in patterns of land holding and distribution of land between Asia and the other regions. The contrast between Asia and the Americas is highlighted by the fact that 78 percent of the holdings larger than 1 hectare in Asia are less than 5 hectares in size and occupy 40.7 percent of the land; the 36.4 percent of holdings in South America and 23.4 percent in North and Central America that are less than 5 hectares in size occupy only 1 percent and 0.5 percent respectively of the area under farms in these areas. Only 9 percent of the area in Asia is in holdings of more than 50 hectares; as much as 34.7 percent in Europe and more than 90 percent in North and Central America, South America, and Oceania, was in farms of more than 50 hectares in size.

20. The data for Africa as presented in the census are misleading. This is because the 1960 census had poor coverage of that continent with the data on the distribution of holdings by size and acreage for the 18 countries surveyed heavily weighted by the results in South Africa and Southern Rhodesia, and the confining of measures in Zambia to European holdings and in Tanzania to commercial holdings. If these are excluded from the sample then the land of under 5 hectares held by smallholders is much more than 50 percent of all land.

21. The analysis of distribution of holdings by size on a regional basis points to the highly skewed distribution in the Americas; the pattern of holdings in the eight major countries in Latin America helps explain this, as shown in Table 8. The information confirms that a very high proportion of all land -- ranging from 84 to 97.5 percent -- in the 8 countries is held in holdings of more than 50 hectares in size. At the other end of the spectrum only 5 percent of the land in the 8 countries is in holdings of less than 5 hectares (even though these holdings constitute between 14 percent and 74 percent of all holdings).

22. A further partial measure of concentration of holdings is given by the Gini coefficient -- an index of concentration based on the departure of an existing pattern of holdings from an even distribution, as revealed by a Lorenz curve. The Gini coefficient has been estimated for 31 countries which have been grouped into three categories, as shown in Table 9. As can be seen, the Gini coefficient indicates a high concentration in six South American countries included in the sample; on the other hand countries such as Taiwan, Canada, Japan, and Sweden have a low concentration of holdings. Clearly there is a wide range in the distribution of holdings by size in different parts of the world. The most skewed distribution appears to be in Latin America where there is a relatively low rural population density; at the same time the distribution of land appears to be much less skewed in many areas with a very high density of population, notably Asia and Europe. It is of special interest that two of the countries with dense populations and very little concentration of land holdings are Japan and Taiwan.

23. The distribution of land by size of holdings is "a geographical phenomenon" and must be interpreted with caution in a socio-economic context. The distribution of land may indicate little about the international distribution of wealth or income -- 5 hectares of irrigated land in Japan would most certainly yield an income well in excess of that yielded by 100,000 acres in parts of Northern Australia. Similarly, within countries, the pattern of distribution of land may not reflect the pattern of distribution of wealth or the socio-economic conditions that prevail in a given country -- two hectares of irrigated land in the Medjerda Valley of Tunisia, producing tomatoes, yield a far greater income than do 1,000 hectares of land used for sharecropping in the semi-arid parts of Tunisia's central area.

24. The caveats on quality of land and ecological conditions governing land-use patterns must be borne in mind. The evidence presented here (and elsewhere) indicates, however, that most of the agricultural land and cropland is concentrated within a relatively few holdings. It also indicates that the greatest skewness in distribution is in the Americas, and that this skewness is by no means confined to Latin America.

Tenants and Farm Laborers

25. The distribution of holdings by size and population densities indicates nothing of the status of those who hold the land or the numbers of landless. There are only limited data on these; Table 10 shows some available information on the number of renters and sharecroppers in 15 countries and the percentage of farms and areas of farmland they occupy. Table 11 indicates landless farm workers in 12 countries.

26. This limited sample indicates that renting and sharecropping is widespread in all the major regions of the world. In countries such as Vietnam, Iran, and Egypt, more than two-thirds of the farms, occupying much more than half of the land, are farmed by tenants or sharecroppers. However, in other countries such as Guatemala and Tunisia less than a quarter of the farms are rented or sharecropped; all in all, in the 15 countries, out of 82 million holdings there are close to 29 million renters and sharecroppers.

27. Renting or sharecropping of land is a common practice in both developed and developing countries. In some parts of the world the rights of those who rent land are protected by law or custom and renters enjoy the same working conditions as owners of land. In other areas, however, renters and sharecroppers are in a very tenuous position when it comes to negotiating arrangements with landlords, and they commonly give as much as half their output in return for the use of land and services provided by the landlord.

28. The conditions that govern rental agreements and crop-sharing arrangements differ throughout the world. In most developing countries, where there is widespread tenancy, there is heavy dependence on the landlord -- usually an absentee landowner -- for the provision of purchased inputs. Another widespread characteristic is the absence of written registered agreements governing the conditions of tenancy and the rights of tenants (even though there may be laws stipulating what these should be). Tenants and sharecroppers typically operate under conditions of great insecurity and are in a weak bargaining position vis-a-vis the landlord. Frequently, the tenants are among the lowest income groups in agriculture. The insecurity of tenants has been highlighted by their displacement on short notice when technological change has made it more profitable for landowners to mechanize their holdings -- as has happened in India, Pakistan, and Ethiopia.

Landless Workers

29. The number of landless farm workers in the developing countries is increasing. There are approximately 100 million farm wage workers (including family members and heads of families with very small landholdings) in the 22 countries for which data are provided in Table 11. This figure includes an estimated 70 million in India alone -- about 47 percent of the active population in agriculture. There are about 10 million such workers in Latin America. Even in Argentina and Uruguay (with only 15 percent of the active population depending on agriculture) more than half of the workers are essentially landless. In the remaining countries of the region, the proportion ranges from a minimum of about one-fourth in Honduras and Brazil to a maximum of approximately two-thirds in Chile.

30. There are almost no reliable estimates of the unemployed in the rural areas. It is usually assumed that the labor force subsists off a holding and joins in some arrangement with the extended family whereby it shares work and output. The emergence of a landless wage-earning class confirms that there is a growing rural labor force that has to rely on work outside the traditional sectors for its livelihood. This group is increasing in size and the provision of employment for what is already a large rural proletariat may well be one of the greatest challenges facing national governments in the future.

31. There is a vast amount of underemployment in the rural areas of most countries of the world. The nature of this underemployment has been discussed elsewhere. At this juncture, it should be pointed out that the

redistribution of idle land can provide added employment, but that the prospect is limited for redistribution of land providing full employment for all the present and prospective population in the rural areas of densely populated countries. Structural changes within agriculture can help alleviate underemployment and open unemployment, but the problems of reducing nation-wide unemployment have to be seen in a national rather than a sectoral context.

Table 1: REGIONAL DISTRIBUTION OF LAND, CROPLAND, AGRICULTURAL POPULATION AND ACREAGE PER PERSON IN AGRICULTURE

Region	Land area (million ha)	Cropland		Rural Population		Agricultural population as percentage of total popu- lation	Cropland area per rural person (ha)
		(million ha)	Distri- bution (%)	(million)	Distri- bution (%)		
Europe	493	145	10.0	89	4.8	17	1.63
U.S.S.R.	2,240	232	15.9	77	4.2	32	3.01
North and Central America	2,242	271	18.6	54	2.9	17	5.02
South America	1,783	84	5.8	74	4.0	39	1.14
Asia	2,753	463	31.8	1,314	71.0	64	0.35
Africa	3,031	214	14.7	239	12.9	67	0.90
Oceania	851	47	3.2	4	0.2	4	11.75
Total	13,393	1,456	100.0	1,851	100.0	51	0.787

Source: FAO Production Yearbook, 1972

Table 2: CROPLAND IN RELATION TO POPULATION BY COUNTRIES

Country	Cropland hectares '000	Total population '000	Agricultural population '000	Hectares of cropland per person of:	
				Total population	Agricultural population
Asia					
China, Mainland	110,300	850,406	568,921	.13	.19
" Taiwan	867	14,520	6,171	.06	.14
Japan	5,510	103,540	21,329	.05	.26
Korea, North	1,894	13,674	7,275	.14	.26
" South	2,311	32,422	17,300	.07	.13
Burma	18,941	27,584	17,570	.69	1.08
Indonesia	18,000	119,913	83,230	.15	.22
Malaysia	3,524	10,931	6,176	.32	.57
Philippines	8,977	38,493	26,752	.23	.34
Thailand	11,415	35,814	27,398	.32	.42
Vietnam, North	2,018	20,757	16,108	.10	.13
" South	2,918	18,332	13,620	.16	.21
Bangladesh	9,500	71,000	60,000	.13	.16
India	164,610	550,376	372,605	.30	.44
Nepal	2,090	11,040	10,112	.19	.21
Pakistan	24,000	60,000	35,000	.40	.69
Africa					
Angola	900	5,501	3,568	.16	.25
Ghana	2,835	8,832	4,840	.29	.59
Ivory Coast	8,859	4,916	3,986	1.80	2.22
Nigeria	21,795	76,795	45,423	.32	.48
Rwanda	704	3,609	3,277	.20	.21
Uganda	4,888	8,549	7,342	.57	.67
Zaire	7,200	17,493	13,701	.41	.53
Latin America					
Cuba	3,585	8,407	2,755	.43	1.30
Guatemala	1,498	5,180	3,246	.29	.46
Haiti	370	4,867	3,754	.08	.10
Mexico	23,817	50,670	23,617	.47	1.01
Puerto Rico	236	2,784	387	.09	.61
Argentina	26,028	24,353	3,704	1.07	7.03
Bolivia	3,091	4,931	2,873	.63	1.08
Brazil	29,760	93,565	40,869	.32	.73
Chile	4,632	9,780	2,484	.47	1.86
Colombia	5,258	21,117	9,541	.25	.55
Peru	2,843	13,586	6,189	.21	.46
Uruguay	1,947	2,886	482	.67	4.04
Venezuela	5,214	10,997	2,887	.47	1.81
Europe					
Italy	14,930	53,667	9,735	.28	1.53
Portugal	4,370	9,630	3,523	.45	1.24
Spain	20,601	33,290	11,222	.62	1.84
Yugoslavia	8,205	20,527	9,651	.40	.85
Hungary	5,594	10,310	2,484	.54	2.25
Poland	15,326	32,805	9,940	.47	1.54
Romania	10,512	20,253	10,503	.52	1.00
U.S.S.R.	232,809	242,768	77,322	.96	3.01
Denmark	2,678	4,921	595	.54	4.50
Germany, West	8,075	61,682	3,514	.13	2.30
" East	4,806	17,257	2,133	.28	2.25
Sweden	3,053	8,046	754	.38	4.05
United Kingdom	7,261	55,711	1,540	.13	4.71
North America					
Canada	43,404	21,406	1,712	2.03	25.4
United States	176,440	205,395	8,216	.86	21.5
Oceania					
Australia	44,610	12,552	1,049	3.55	42.53

Source: Folke Devring, Land Reform: Ends and Means; A Background Study to the IBRD Policy Paper on Land Reform, March 1973, pp.54-56.

Table 3: RURAL POPULATION GROWTH BY REGION

	Annual Percentage Rate	
	1950-1960	1960-1970
TOTAL	<u>1.9</u>	<u>2.1</u>
Latin America	1.4	1.5
Far East	1.8	2.1
Near East	1.8	1.8
Africa	2.4	2.2

Source: Kingsley Davis, World Urbanization, 1950-1970, Vol. I, 1969

Table 4: CROPPED AREA AND PRODUCTION TRENDS BY REGIONS

	1953/55-1962/63		1961/63-1969/71	
	Production	<u>Average Annual Growth Rate</u> Area	Production	Area
All Regions	2.8	1.9	2.8	1.4
Latin America	3.1	1.8	2.9	2.5
Far East	2.5	1.9	2.8	1.1
Near East	3.8	2.2	2.7	1.1
Africa	3.0	1.7	2.6	1.2

Table 5: FAR EAST AGRICULTURAL LABOR FORCE AND PRODUCTION, 1970

Country	Agri- cultural workers per 100 ha	Indices	Net agri- cultural produc- tion per ha	Indices	Output per worker	Indices
		Japan = 100	US\$	Japan = 100	US\$	Japan = 100
Burma	48	25	71	9	148	37
Ceylon	107	56	286	38	266	67
India	92	48	115	15	150	38
Indonesia	224	117	283	37	126	32
Laos	153	80	119	16	75	19
Khmer Republic	75	39	146	19	194	49
Korea, Rep. of	261	136	440	58	169	43
Malaysia	74	39	366	48	492	124
Nepal	229	119	220	29	96	24
Pakistan	101	53	218	29	215	54
Philippines	113	59	178	23	158	40
Thailand	119	62	179	23	150	38
Vietnam, Rep. of	242	126	241	32	100	25
Average	103	54		21	155	39
Japan	192	100	762	100	397	100

Sources: Column 1: International Labor Office, Labor force projections. Pt. 1-V, Geneva, 1971.

Columns 3 and 5: FAO: Compiled from value of output calculated for the agricultural production index.

Table 6: DISTRIBUTION OF HOLDINGS BY SIZE AND PERCENTAGE
OF TOTAL HOLDINGS; DISTRIBUTION OF HOLDINGS
BY PERCENTAGE OF LAND AND CROPLAND

Size distribution	Number of holdings		All land in holding %	Cropland in holding %
	(millions)	Percentage distribution		
Under 1 ha	53.9	38.9	1.1	3.4
1 ha and under 2	26.55	19.2	1.7	5.3
2 ha and under 5	28.73	20.7	4.0	12.0
5 ha and under 10	13.24	9.6	4.2	11.5
10 ha and under 20	7.27	5.2	4.4	10.7
20 ha and under 50	4.40	3.2	5.8	11.8
50 ha and under 100	1.97	1.4	5.8	9.8
100 ha and under 200	1.40	1.0	6.6	11.0
200 ha and under 500	0.67	0.48	8.6	11.5
500 ha and under 1000	0.23	0.16	6.5	5.9
1000 ha and over	0.23	0.16	51.3	7.1
Total	138.59	100.00	100.00	100.00

Source: FAO, Report on the 1960 World Census of Agriculture, V,
Rome, 1971, pp. 34-36.

Table 7: DISTRIBUTION OF HOLDINGS ABOVE ONE HECTARE BY SIZE AND AREA

	1-5 ha		5-50 ha		50 ha	
	% Holdings	% Area	% Holdings	% Area	% Holdings	% Area
Europe	50	13.0	47.4	52.3	2.4	34.7
North & Central America	23.4	0.5	39.4	8.0	37.2	91.5
South America	36.4	1.0	45.5	8.5	17.8	90.5
Asia	78.2	40.7	21.6	50.2	0.2	9.1
Africa	73.2	3.7	23.7	6.3	3.1	90.0
Oceania	5.5	-	27.7	0.5	66.0	99.5

Table 8: DISTRIBUTION OF HOLDINGS ABOVE ONE HECTARE
BY SIZE AND AREA - SOUTH AMERICA

	1-5 ha		5-50 ha		50 ha	
	% Holdings	% Area	% Holdings	% Area	% Holdings	% Area
Argentina	14.9	0.1	38.5	2.4	46.6	97.5
Brazil	28.1	1.0	52.6	12.8	20.3	86.2
Chile	37.7	0.7	30.3	5.2	32.0	94.1
Colombia	50.3	4.1	40.6	10.1	9.1	85.8
Paraguay	43.5	1.1	51.0	6.6	6.5	92.3
Peru	73.8	4.2	22.9	8.0	3.3	87.8
Uruguay	14.7	0.2	49.2	4.6	36.1	95.2
Venezuela	36.3	1.3	42.9	6.7	20.8	92.0

Table 9: CONCENTRATION OF LAND OWNERSHIP
IN SELECTED COUNTRIES

<u>High Concentration</u>	<u>Medium Concentration</u>	<u>Low Concentration</u>
Argentina	Austria	Belgium
Brazil	India	Canada
Colombia	Iran	China (Taiwan)
Iraq	Ireland	Denmark
Peru	Italy	Germany
Spain	Netherlands	Greece
Uruguay	Norway	Japan
Venezuela	Pakistan	Philippines
	Turkey	Sweden
	U.A.R.	Yugoslavia
	U.K.	
	U.S.A.	

Table 10: TENANCY AND SHARECROPPING IN SELECTED COUNTRIES^{1/}

	Renting & Sharecropping as percent of total		Number of Renters and Sharecroppers ^{2/} '000
	Number of Farms ^{2/} %	Farmland %	
<u>Asia</u>			
India	27.3	n.a.	13,350
Indonesia	35.9	25.9	4,392
Malaya, Fed. of	31.2	15.7	141
Pakistan ^{3/}	43.4	57.0	5,271
Philippines	54.3	40.4	1,176
Vietnam, Rep. of	70.3	70.0	1,334
Total	33.0	45.7 ^{4/}	25,664
<u>Near East & North Africa</u>			
Iran	66.7	73.4	1,253
Tunisia	23.3	32.0	76
U.A.R.	62.1	57.2	1,020
Total	61.1	62.6	2,349
<u>Latin America and Caribbean</u>			
Dominican Republic	28.9	n.a.	129
Guatemala	22.4	16.6	93
Nicaragua	26.3	n.a.	27
Trinidad & Tobago	49.5	32.8	18
Chile	49.3	24.4	128
Colombia	31.5	13.5	381
Total	31.4	19.2 ^{4/}	776

- 1/ Data refer to latest available year in 1960's and therefore do not reflect land reform action, on the one hand and changes in the work force on the other.
 2/ Includes holdings operated under more than one tenure form (21.8%).
 3/ Includes both Pakistan and Bangladesh.
 4/ India, Dominican Republic and Nicaragua are excluded, due to lack of data.

Source: Report on the 1960 World Census of Agriculture, Vol. 5, FAO, Rome, 1971, pp.92-97.

Table 11: LANDLESS FARM WORKERS IN SELECTED COUNTRIES^{1/}

	Number of land- less workers	Landless workers as % of active population in agriculture	Active agricultural population as % of total active popu- lation
	'000	%	%
<u>Asia</u>			
India	70,000	47	68
Indonesia	5,673	20	70
Pakistan ^{2/}	8,013	29	70
	83,686	41	68
<u>Middle East & North Africa</u>			
Iran	903	25	46
U.A.R.	1,865	38	55
Algeria	1,099	60	56
Morocco	484	19	61
Tunisia	210	20	46
	4,561	33	58
<u>Latin America & Caribbean</u>			
Costa Rica	122	53	45
Dominican Republic	179	25	61
Honduras	138	27	67
Jamaica	72	41	27
Mexico (1970)	2,499	49	39
Nicaragua (1971)	101	43	47
Argentina	694	51	15
Chile (1971)	378	66	28
Colombia	1,158	42	45
Ecuador	391	39	54
Peru	557	30	46
Uruguay	99	55	17
Brazil	3,237	26	44
Venezuela	287	33	26
	9,912		39

1/ Unless otherwise indicated, data refer to latest year available in 1960's and thus do not reflect recent reform actions on the one hand, and changes in the work force, on the other.

2/ Estimated from a number of unverifiable sources.

3/ Includes population now belonging to Bangladesh.

Source: Unless otherwise specified, data presented here are estimated from ILO Year Book of Labor Statistics, 1971, pp. 43-294, and 1972, pp. 44-301.

EXPERIENCES WITH LAND REFORM

1. The following summaries illustrate selected country experience in land reform over the last three decades. Their inclusion in this policy paper should not be taken as indicative of Bank judgement on what does or does not constitute land reform, nor should the statements be regarded as definitive. Land reform is a complex process in which several socio-economic variables are changed more or less simultaneously. In most cases, the evidence is inadequate to allow identification of causal relationships between reform measures on the one hand and production, income, and social effects on the other, even though it is often feasible to trace correlations, such as that between land distribution and a rise in productivity.

TAIWAN

2. Taiwan's land reform program was implemented in three steps. A reduction of rents in 1949 was followed by the sale of public lands. A land-to-the-tiller program completed the reform in 1953. The proportion of cultivated land under tenancy leases was reduced from 41 to 16 percent, while the proportion of farm families owning all land under their cultivation increased from 33 to 59 percent. On the land remaining under tenancy cultivation, written and secure leases were arranged at much reduced rental rates.

3. Following the reform, the productivity of agriculture has increased, income distribution has become more even, and rural and social stability have been enhanced. Land productivity is highest on holdings below 0.5 hectare. The share of total agricultural income that is consumed has increased only moderately, leaving intact enough income to achieve a fairly high agricultural savings rate.

4. The smooth implementation of the reform program in Taiwan was due to a stable socio-political climate and the many complementary development measures taken before and during the reform. The existence of a thorough cadastral survey, good agricultural research and extension services, a vast expansion of publicly sponsored farm credit during the reform period, and a gradually increasing involvement of tenant farmers in the administration of the program, all contributed to success.

KOREA

5. Land reform in South Korea after the Second World War consisted of a redistribution in 1948 of Japanese property confiscated by the military authorities and between 1950 and 1953 of land in excess of a ceiling of 3 hectares on Korean holdings. The terms of sale were similarly generous towards the buyer in both cases. Some 1.4 million acres (25 percent of the total farmland) were distributed to 1.6 million farmers (approximately 70 percent of all farmers).

6. It has been estimated that before the reform 19 percent of the farmers owned 90 percent of the land, and more than 50 percent of the farmers were landless tenants. Afterwards, 50 percent of the farmers owned all the land on which they worked and 30 percent at least half of it, while only 7 percent remained landless. Considerable socio-political stability has been achieved, together with some income redistribution in favor of poorer rural families and urban workers; but inadequate provision of complementary inputs and unfavorable terms of trade to the agricultural sector, as well as insufficient consolidation of scattered holdings, have reduced the potential production benefits of the reform.

JAPAN

7. The first Japanese land reform program, in 1868, laid the groundwork for Japan's social and economic transformation. The peasantry was freed from bondage, the power of the feudal lords to collect taxes from landowners was broken, and private land ownership was reinforced for the purpose of cash taxation by the central government. Supplementary programs for infrastructure improvement, training and extension, credit services, and promotion of farm chemicals and new crop varieties, were pushed on a large scale. Labor intensity and land productivity rose quickly, with the result that the agricultural sector could provide savings, cheap food, and surplus labor to the industrial sector. The first reform did little, however, to distribute property ownership or reduce income inequality--rather it strengthened the land-owners class.

8. Subsequent to the first reform the tenancy problem grew gradually worse. Large numbers of smallholders lost their property in the agricultural depression at the turn of the century, partly because of heavy land taxes. In the late 1940s a second land reform program was executed. Owners had to sell all land in excess of about one hectare to the government at confiscatory prices. The former tenants were given property rights at an extremely low real cost, which resulted in a thorough restructuring of rural society.

9. The second reform resulted in greater equity, and may also have removed a constraint on the growth of Japanese agriculture. The economic effects were not as enormous as those associated with the first reform. Land productivity did increase after 1947, but some observers regard this as essentially a continuation of a long-term trend (1895-1939) started by the first reform.

10. The second reform worsened, however, the problems of fragmentation and undersized farms. At the time of the reform, the tenancy problem had already been relieved through reduction of excess rural population by the war and absorption into industry. The landlords who were forced to sell excess property were mostly smallholders themselves. Two-thirds of the owners were required to sell less than one hectare, and only six percent more than five hectares. Although the reform increased income equality among farmers, it hampered equalization of rural and urban incomes. Part-time work outside the farm is an outlet, but the farmers concerned are often limited to low-

skilled work. Rural incomes have, therefore, lagged behind, price supports notwithstanding. An attempt to create larger farming units through cooperatives has had little effect. Agricultural policy is now aimed at, among other objectives, an increase of farm income through diversification into horticulture and animal husbandry.

INDIA

11. Land reform in India, pursued since 1950-51, is largely controlled by the individual state governments, with the result that policies and their implementation vary widely. The four major types of reform have been: (i) the abolition of the zamindari^{1/} system; (ii) tenancy reform designed to give the right of purchase to the tenant and improve security of tenure; (iii) ceilings on land ownership and distribution of surplus; and (iv) consolidation of fragmented holdings.

12. By 1961, the intermediary rent and tax collectors, most important of whom were the zamindari, had been abolished. Since tenants continue to pay revenue directly to the government, their economic position has not been greatly improved. The abolition of the zamindari system involved 173 million acres, more than half of the area occupied by holdings. A total of Rs.4.35 billion was paid in compensation, mainly in the form of bonds.

13. Under the tenancy reforms, three million tenants, sub-tenants, and share-croppers had by 1951 acquired ownership under purchase agreements of seven million acres. Security of tenure appears in general to have worsened, however. Landowners have been permitted to resume land above legal ceilings for personal cultivation, and the growth in unreported casual tenancy and share agreements, though inimical to productivity, has allowed landowners to escape the reforms.

14. Under the ceilings legislation, approximately two million acres have been taken over by the government in order to settle tenants and landless laborers. A further 4.2 million acres were formally pledged to the Bhoodan (gift) movement, but most of the donated parcels are still in the hands of the donors. Only about 1 million acres out of all granted land have actually been given to landless laborers.

15. Consolidation of land parcels has been more successful and has resulted in a rationalization of holdings covering 69 million acres. It appears to have contributed to a growth in productivity in the northern states of Punjab, Utter Pradesh, and Haryana.

16. It is presently well recognized in India that the reform measures dealing with security of tenure and acreage ceilings are only partially enforced and that many of the state legislatures are not anxious to have such

^{1/} The zamindari were revenue-collectors during the Moghul period. Under the British, they gradually turned into powerful landlords.

radical land reform. It is difficult to see how even a more radical land reform could accommodate the greatly increased population projected for the future; still, there appears to be scope for some distribution which will also assist agricultural production. One possible improvement would be the elimination of casual tenancies; short-term tenants and share-croppers in India have limited access to credit and inputs because of their doubtful tenure. A large extension of credit at reasonable terms, together with accessible marketing channels to small farms in general, and particularly to tenants with secure leases, are required. Provision of these facilities is as essential as further land distribution for attaining the income equity and productivity objectives of India's land reform, and is likely to present fewer problems.

IRAN

17. Iran's land reform started in 1962. Before the reform, 56 percent of the holdings, covering 62 percent of the area under cultivation, were rented. Tenants were rotated annually, a practice which hampered agricultural investment and caused exploitative use of the soil. The largest estates occupied relatively more fertile lands, and owners were often absentee-landlords who contributed little to agricultural production.

18. Former landowners were partly compensated upon expropriation by cash payment, from 10 to 20 percent of the estimated value of their holdings, with the balance paid in bonds in annual instalments. The beneficiaries were to repay the government the expropriation price plus 10 percent to cover administrative charges. As these payments fell behind, the Central Bank funded the difference. The costs to the government were limited to those incurred in carrying over the acquisition costs to the time of final reimbursement.

19. During the first stage of the reform, land ownership was limited to a maximum of one village per owner. Excess land was expropriated and distributed to the tenants. In the second stage, the limit of one village was reduced further to plots of 20-100 hectares (depending on the nature and location of the land). The landlord had five options for the area in excess of the maximum allowed to him, to wit: (i) leasing to the tenants for 30 years; (ii) selling to the tenants; (iii) purchasing the tenants' rights; (iv) dividing the land with the tenants in the same ratio as the customary crop-sharing; and (v) forming an agricultural unit for joint operation by the owner and the tenants.

20. The third and final stage of the reform, which was practically completed in 1971, aimed at conversion of all 30-year leases into smallholdings. Virtually all of Iran's 50,000 villages have undergone land reform and more than three million families have received land.

21. Although agricultural output increased by a total of 18 percent in the first five years of the reforms, it is believed that the land reform program on balance had adverse short run effects on output. It created uncertainty

which discouraged investment in improvements; there was also considerable interference with the normal flow of irrigation water from streams and storage places still controlled by landlords.

22. The reform favored tenants and sharecroppers insofar as it conferred ownership on them or enhanced their security of tenure. Because they were based on the existing distribution of holdings, the reforms did not assist those who were landless. Continuation of the existing inequities of land distribution was regarded as one of the costs of ensuring a speedy enactment of the reform.

23. The ownership and tenancy reforms have been complemented by rural cooperatives, credit and extension services, and increased supply of quality seeds and fertilizers. Many measures were set up in a somewhat improvised fashion. The early accomplishments of the credit program were striking; total lending by the Agricultural Bank tripled between 1960 and 1965, but this growth levelled off after 1966.

MOROCCO

24. Morocco's land tenure problems in the traditional sector differ from those in the relatively modern sector. Of the 5.3 million hectares of total agricultural land, 3.9 million hectares are in the modern sector. Almost 90 percent of the land in the traditional sector is privately owned, while the remainder is owned collectively according to tribal rights. Of the privately owned land in this sector, approximately 45 percent is farmed under sharecropping arrangements. The average farm size is 1.4 hectares. In contrast, most of the land in the modern sector is cultivated in large units, of which approximately 53 percent is owned by Moroccans and 32 percent by foreigners, while 16 percent is owned and cultivated by the state.

25. Apart from the acquisition of land by the state from foreigners, there has not been as much progress on land reform as is desirable. There are two reasons for this: (a) re-distribution of moderately efficient large farms in the modern sector into small farm units, without adequate implementation of supplementary measures, would reduce sorely needed revenue and foreign exchange; and (b) consolidation of holdings in the traditional sector would solidify farm units of inadequate size. Agricultural policy, therefore, stresses measures for the modernization of agriculture, including the expansion of undersized farm units, rather than re-distribution of large state holdings. The basic problems are that Islamic inheritance law would have to be altered in order to prevent further fragmentation, and decisions would have to be made concerning minimum farm size which requires a choice between an elite of medium farmers or an even distribution of smallholders in sub-economic units.

26. By 1972, about 180,000 hectares had been distributed to 11,000 beneficiaries. Out of the total area of 900,000 hectares that were owned by foreigners in 1956, 300,000 hectares have been transferred to Moroccan owners, often in large blocks, by private sales. The government distributed 31,000 hectares to small farmers and an additional 250,000 hectares, which were recovered by the government between 1963 and 1965, became state farms. Since 1966 some of these farms have been resold to the landless or smallholders in

plots that provide a minimum family income of at least DH 4000 (equaling Us\$792 at the rate of exchange prior to December 1971). The purchasers were required to form cooperatives to run their small plots jointly as viable economic units.

27. The distribution program was carried out with popular approval and met with success. Most cooperatives have achieved satisfactory yields and many have introduced new crops. The size of the reform is very limited, however, as only one percent of the landless and owners of less than two hectares have benefited. It is planned to redistribute another 400,000 hectares between 1974 and 1977. While it is a heavy administrative task, this distribution will still only benefit 15 percent of the increment in poor rural households during this period.

YUGOSLAVIA

28. The first land reform in Yugoslavia was undertaken in 1919. In the south and west, bondage was abolished, and the tenants of the Turkish landowners received ownership rights. In the north, the size of the large estates was reduced, but the former landowners were allowed to retain rather large holdings. The implementation took two decades, and resulted in a transfer of ownership of almost 25 percent of the farmland to more than 33 percent of the peasants.

29. The second land reform started in 1945, when all large estates, all land in excess of 25-35 hectares per farm, and the farm property of Germans and other aliens, were expropriated. Half of the seized land was distributed to the poor and landless, while the other half was retained as state property. The state and collective farms created in the late 1940's along Soviet lines expanded to approximately 25 percent of the total cropland. Collective farms were allowed to disband after 1952, however, and by 1956 they accounted for only about 10 percent of all land under cultivation.

30. Aside from the socialist sector, the private sector of individual owners who cultivate their own land remains important, and vast tracts of mountain pastures are still under traditional, collective forms of usage. In 1953, a ceiling of 10 hectares of arable land or its equivalent was imposed on private holdings. The average holding in the private sector is now only 3.9 hectares. The socialist sector includes state farms, producer cooperatives, and general cooperatives. The kombinats, which resemble the worker-managed industrial firms, form the largest and fastest growing socialist element, whereas the producer cooperatives have declined. The general cooperatives are mainly associations for joint input purchases, equipment use, and output sales, and have expanded to about 40 percent of all smallholdings.

31. The socialist sector is reportedly the most productive. This is related to the location of holdings on the better soils and its priority treatment in the allocation of inputs such as fertilizers, machinery, and expertise. However, the bulk of agricultural output still originates from the large group of small farms, consisting of both the cooperatives and the farms outside the socialist sector. The reforms have resulted in a sizeable redistribution of rural income and an increase in peasant participation in rural decision-making, particularly since the mid-1950s.

KENYA

32. Land reform was initiated in Kenya by the colonial administration in 1954 and expanded by the government after independence in 1963. The reform aimed at solving several problems at the same time. These included (i) adjudication and consolidation of holdings under cultivation by African farmers; (ii) resettlement of African farmers on the large farms previously owned by Europeans; (iii) promotion of cash cropping and dairying, and increased production for the market; and (iv) diversification of export output. More than one million acres of land formerly cultivated by Europeans was opened up to Kenyan smallholders, and the rights to about seven million acres were adjudicated and consolidated.

33. The implementation and results of the reforms have been quite successful, notwithstanding political friction and a lack of qualified personnel. An active extension program has enabled smallholders to increase the production of coffee, pyrethrum, maize, wheat, dairy products, and beef. The economic benefits of the adjudication and consolidation of holdings at a cost of £ 5-50 per family seem to have been greater than the resettlement on large farms at a cost of £ 750 per family. Socially, the reforms have created a class of prosperous smallholders. In particular those that were already relatively well-to-do have profited, while the poorest smallholders and nomads have benefited much less from the reform. It was estimated in 1973 that approximately 25 percent of all smallholdings were less than one hectare and about 50 percent less than two hectares, occupying altogether less than four percent of total arable land. The landless amount to approximately 16 percent of the rural population.

MEXICO

34. Having its roots in the revolution of 1910-15, the agrarian reform in Mexico created village groups (ejidos) with usufruct rights to land. Most of the ejidos were formed in the late 1930s and have been operated on an individual rather than collective basis by the ejidatarios. There were 1.5 million ejidatarios in 1960, holding 43 percent of all cropland. Their holdings averaged nearly 30 hectares, of which about seven hectares were arable. These primary beneficiaries of the reform represented 53 percent of all farmers and 26 percent of the rural labor force. Some three million landless rural workers remain and, despite the considerable concentration of ownership that persists in the private sector, 1976 has been planned as a terminal year for land reform.

35. Total ejido production grew very slowly during the first decade of their establishment. Since then the ejidos have increased output about as fast as has the private sector. Incomes to the ejidatarios are almost certainly better than would have been the case without reform, but there are substantial regional differences in natural resource endowment and extent of public investment in complementary infrastructure. More such investment and a mechanism for selective consolidation of small upland lots will be required to ensure a successful distributional impact for many ejidos.

36. Following the land redistribution during the interwar period, the concentration of land ownership increased again between 1940 and 1960. Since then, the concentration may have fallen back as a result of the distribution of another 35 million hectares during the last decade. Also, the income distribution is still skewed. In 1967-68, 50 percent of the farmers earned only 20 percent of all farm income (including personal income from sources other than agriculture). Among ejidatarios, income is more evenly distributed. While the top 10 percent of private farmers receive 60 percent of all private farm income, the top 20 percent of the ejidatarios account for only 45 percent of all ejido income.

PERU

37. Between the start of land reform in 1963 and 1972, a total of 4.7 million hectares have been expropriated. Over 100,000 families have been settled on 2.8 million hectares of this area. Expropriated lands that have not yet been resettled continue to be operated under direct government supervision until a cooperative or SAIS farm organization (see below) has been formed, to which the land title is then transferred. Despite the priority given by the government, implementation is well behind schedule. The target for the current five year plan is to expropriate 26,200 farm units containing 12.7 million hectares, and to redistribute these to some 332,000 families. In 1972, about three-quarters of the target area still remained to be expropriated and reallocated before the end of the five year plan in 1975.

38. The agrarian reform law of 1964 concentrated on redistribution of inefficiently managed latifundia in the Sierra. Well managed productive units were exempted. The more fundamental reform law of 1969 was the basis for the expropriation of the large, productive and profitable sugar complexes of the north coast.

39. Four different categories of farm organizations can receive redistributed land, but the bulk has been placed in the hands of agro-industrial cooperatives. Only a small number of individual farms have been assigned to former tenants, while in a few cases land has been added to the holdings of Indian communities.

40. A unique form of farm organization, the Sociedades Agricolas de Interes Social (SAIS), is the basic unit of agricultural reform in the Sierra. The SAIS represents an attempt to solve the problem of providing agricultural and social development opportunities to the members of the traditional Indian Communities without jeopardizing the relatively high production and economies of scale attainable on expropriated haciendas. Hacienda production is almost entirely based on extensive grazing of mountain pastures, and early experiences of land distribution in the Sierra indicated a high risk to production if haciendas were taken over as community land or subdivided into small sheep ranches.

41. In any attempt to meet social needs through redistributing land and income in the Sierra, therefore, the government is faced with problems of maintaining or raising productivity levels attainable only through exploitation of scale economies. The SAIS, the proposed solution to this dilemma, accounted in 1972 for 10 percent of the families benefiting from the agrarian reform program. It can be regarded as a second-degree cooperative whose members are social bodies instead of individuals. Membership of each SAIS unit consists of the cooperative of the production unit and of the

communities surrounding it. Each group contributes to the capital of the enterprise on the basis of resources, population, and economic potential; the share of each group is determined by the land reform agency. Management of the SAIS is in the hands of professional employees. Profits are allocated to each member community in relation to its share in the SAIS, and are to be used in community development projects involving schools, roads, power reticulation, and housing. In this manner, surplus manpower is given employment, and the rather meagre profits can be used in developing badly needed physical infrastructure.

42. The debt assumed by each SAIS unit is to be repaid from profits in 20 years following a five year grace period. Debt repayment may become an onerous burden on those units whose profit potential is limited by their physical capacity to expand livestock numbers and by the need to employ high quality technical services. Legally, the full market value of expropriated livestock has to be paid in cash while fixed capital is to be paid for largely in agrarian bonds. Financing the reform is a heavy task for the government.

43. The land reform program alone will not be able to solve the rural unemployment problem. Even if the optimistic five year plan targets are met, employment opportunities in agriculture will increase only from 1.32 million to 1.6 million, while the number seeking work in agriculture will rise from 1.9 million to 2.1 million. There are nearly 800,000 families with insufficient land to provide adequate subsistence which are eligible to benefit through the land reform program. Even if all land which can be expropriated is redistributed, however, about 500,000 families, mostly in the Sierra, will still lack a minimum subsistence land holding.

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POLICY REVIEW COMMITTEE

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PRC/M/74-18

November 15, 1974

BANK POLICIES ON RURAL DEVELOPMENT

NOTICE OF MEETING

There will be a Policy Review Committee meeting on the paper 'Bank Policies on Rural Development' prepared by the Agriculture and Rural Development Department. The meeting will be on Wednesday, November 20, 1974, at 10 a.m. in the President's office. Attached please find a copy of the paper and minutes of the Staff Level meeting, which was held November 1.

Any additional or substitute attendance, other than that indicated below, should be cleared with the President's office (Mr. A. Ljungh, Ext. 3585).

Frank Vibert
Secretary
Policy Review Committee

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INTERNATIONAL BANK FOR RECONSTRUCTION AND DEVELOPMENT
INTERNATIONAL DEVELOPMENT ASSOCIATION

POLICY REVIEW COMMITTEE

PRC/s/M/74-18a

November 8, 1974

RURAL DEVELOPMENT POLICY PAPER

STAFF REVIEW - MINUTES

Attendance:

Messrs. van der Tak (Chairman), Adler, H.A., Ballantine, Baneth, Blaxall, Bruce, Burki, Christoffersen, Crawford, de Azcarate, Donaldson, Dosik, Duloy, Hablutzel, Hasan, Haynes, Hoffman, (Mrs.) Hughes, King, B.B., Leiserson, Merriam, Neylan, Stern, Turnham, Yudelman, Vibert (Secretary)

Others:

Messrs. Berry, Courbois, Gautam, Golan, Koch-Weser, Leduc, Parsons, Simmons, Snoy, Swayze, van Gigch, Voorhoeve, Walton

1. A staff review of the Rural Development Policy Paper was held on Friday, November 1, 1974.
2. The Chairman suggested that the discussion start with the paper's account of the nature and extent of the problem of rural poverty (Chapter I) and, in particular, with policies and programs for alleviating it (Chapter II); and that the Bank Group program for rural development (Chapter III) be taken up later.
 - (i) Rural Poverty and Poverty-Alleviating Programs
3. In discussing the estimates of poverty, some participants suggested that the differences between the nature of rural poverty in different countries should be brought out more clearly and then pursued in Chapters II and III. For instance, the problems of poverty pockets in resource-rich developing countries were not the same as those of widespread poverty in the poorest nations. It was also suggested that the calculations based on average investment of \$80 per capita for rural development had little meaning for those countries in which total investment did not exceed \$20 per head. In fact, as the paper points out, some countries were undertaking rural development programs involving much lower costs. Even so, it was unlikely that countries with

widespread poverty will be able to implement fully the rural development strategy being proposed in this paper. It may, therefore, be useful to define areas of high priority for a rural development program. In defining priority areas, it was proposed that two things should be kept in view. First, the country commitment for poverty redressal; and second, the areas in which the bulk of the population wishes to participate in the process of change.

4. In the discussion of poverty programs, it was suggested that despite reference to the contribution of such social factors as health, nutrition and education, there was still some lack of clarity in the rural development strategy being advocated. In particular, there was need to draw distinction between the rural development projects that encompass a mix of social and economic activities and those that lay emphasis on the supply of input, technology, management, etc., for increasing output of the small farming sector. The paper could also benefit from more discussion of delivery systems considered appropriate for reaching the poor. There was some skepticism about the Bank's expertise in developing institutions capable of carrying out rural development programs. Since the development of these institutions was a crucial part of the strategy, it might be more appropriate for the Bank to concentrate on the activities it has traditionally financed, leaving development of delivery systems to the national governments. It was felt also that the paper should consider the important question of coordinating the Bank effort in rural development with that of other international organizations.

(ii) The Bank Group Program

5. Several participants expressed the feeling that the analysis of Chapters I and II had not been carried through into the analysis of the Bank's future lending program. Identification of factors that produced poverty, the country distribution of target population, and the nature and extent of government commitment were some of the points that need to be taken up in this part of the paper. Specific suggestions included:

- (a) Quantification of targets: One participant suggested that quantification of targets (i.e., 100 million beneficiaries, 50-60 million poor beneficiaries, 5% increase in per capita incomes) should be undertaken with great care. There should be a clearer statement of the concepts used for developing those numbers.
- (b) Lending program: It was suggested that one way of tying up the discussion of Chapters I and II with that of Chapter III might be to analyze the lending program in terms of the target populations and the activity mix in the operations to be funded by the Bank.
- (c) Project cycle: It was felt that the manpower constraints implied in the discussion of the project cycle could be made more explicit by estimating their impact on the FY75-79 operations program, and slippage expected in this program, if suitable changes were not made in the project cycle.

- (d) Learning from experience: One participant suggested that the Bank has a good deal to learn from its own experience in rural development. Consequently, more emphasis should be laid on evaluating project performance.

6. Finally, it was felt by some participants that the paper, although providing evidence of successes achieved by governments and other institutions, should not leave any impression of complacency. While the Bank had come a long way in developing "new style" projects, it had to go some considerable distance before the ideal mix of resource generation and flow on the one hand and program design and implementation on the other could be found.

7. The Chairman said that some of the suggestions made at the staff review had already been taken care of in a revised draft which would be circulated to participants. The paper would be further revised before going forward to PRC Members.

Frank Vibert
Secretary
Policy Review Committee

cc: Those Attending
Vice President - IFC
IBRD Department Directors
Chief Economists
Program Coordinators

Policy Review Committee
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BANK POLICIES ON RURAL DEVELOPMENT

Prepared by:
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SUMMARY AND RECOMMENDATIONS

1. Rural development is a growth strategy for a particular target population--the rural poor. It involves extending the benefits of development to those whose futures lie in the pursuit of a livelihood in rural areas. These include small scale farmers, tenants, and the landless, all of whom presently live in some degree of poverty.
2. A strategy for rural development must be based on a recognition of three points. First, that the rate of transfer of people out of agriculture and related activities into rewarding pursuits has been slow, and, given the relative size of the modern sector in most developing countries, will continue to be slow. Second, that the mass of people in rural areas of developing countries are in varying degrees of relative if not absolute poverty, and that this can only get worse as population expands at unprecedented rates relative to existing available resources, currently used technology, and present institutions and organizations. Third, that there lies in the traditional rural sector a bundle of labor, land and some capital which if mobilized could reduce poverty and enhance the quality of life of rural people. This implies fuller development of existing resources, including the construction of infrastructure such as roads and irrigation works, the introduction of new production technology, and the creation of new institutions and modes of organization.
3. The major concern of rural development is the amelioration of poverty. This means a clear orientation towards increasing production and raising productivity. Rural development recognizes, however, that improved food supplies and nutrition, together with basic services such as health and education, can not only directly improve the physical well-being and quality of life of the rural poor, but also indirectly enhance their productivity and ability to contribute to the national economy. It is concerned with the modernization and monetization of rural society and with its transition from traditional isolation to integration with the national economy.
4. The objectives of rural development are therefore multiple and extend beyond any particular sector. They encompass improved productivity, increased employment and thus higher incomes for target groups, as well as minimum acceptable levels of food, shelter, education, and health. A national program of rural development should, therefore, include a mix of activities, including projects to raise agricultural output, create new employment, improve health and education, expand communications and improve housing. Such a program might be made up of single or multi-sectoral projects, with components implemented concurrently or in phased sequence. The components and phasing must be formulated both to remove constraints and to reinforce favorable dynamics prevailing in the target area.
5. The nature and content of any rural development project will reflect the political, social, and economic circumstances of the particular country and region. Where the scope and need for rural development are not accepted by government leaders, or where resource constraints are binding,

especially the supply of skilled manpower, initial projects may be experimental in nature or restricted in extent. Where particular needs are pressing, such as famine or disease, narrowly focused projects may be appropriate. At all times, however, the promotion of equitable development, including the monetization, modernization and eventual transition of rural society from the traditional to the modern sector, remains the broader goal.

Target Population

6. Using both absolute and relative standards of poverty, the total number of poor in the world is estimated at some 750 million. This is close to 40 percent of the total population of the developing countries. Approximately 85 percent of the 750 million are considered to be in absolute poverty--based on the arbitrary criterion of average annual per capita income equivalent to US\$50 or less. Three-quarters of these are in the developing countries of Asia, reflecting both the low levels of national per capita income and the relative size of the rural sector in these countries. The other 15 percent of the 750 million are judged to be in relative poverty, having incomes above the equivalent of US\$50, but below one-third of the national average per capita income. Most of these are located in the less-poor developing countries, a large fraction being found in Latin America.

7. Of the 40 percent of the population in developing countries considered to be in either absolute or relative poverty, more than 80 percent are estimated to live in rural areas. Agriculture is the principal occupation for four-fifths of the rural poor. These people are found in roughly equal shares in both densely populated zones (over 300 persons per square kilometer) and sparsely populated zones (less than 150 persons per square kilometer). Thus poverty is found in the highly productive irrigated areas of Asia, as well as in the adverse conditions of the Sahel, North East Brazil, the Andean Altiplano, and the dry zones of India. The whole populations of many such areas are seriously affected by national calamities, especially drought and flood. In these situations, the poverty problem is most obvious and urgent.

8. The rural poor include small scale farmers, tenants and sharecroppers, and landless workers and their families. There are over 80 million smallholdings of less than two hectares, many of them comprising several small fragments of land, most of which generate incomes below the absolute poverty level. The tenants, sharecroppers and squatters, who represent another 30 million or more families, are often less well-off. While the largest proportion of workers in agriculture is self-employed, there is also a growing group of landless or near landless workers--especially in Asian countries. These people are dependent on seasonal work and are among the poorest of the rural community.

9. Despite high rates of rural/urban migration, the rural population is still growing at approximately two percent a year. The consequent worsening of the man/land ratio means that increases in output and income must come

primarily from increased yields per acre and cultivation of higher value crops. This will require both access to suitable new technology and the capital to utilize it. This in turn implies the need for new or improved service systems to support a modern agriculture. The new seed-fertilizer technology for wheat, rice and maize provides the first major opportunity for extending science-based agriculture to low income, small scale producers of traditional crops. Further adaptive research and extension are required to ensure an adequate rate of technological change. Special programs are necessary to aid the rural poor to contribute more to an increase in output. These programs must include the organization of abundant labor to provide infrastructure and on-farm improvements.

10. The need for special intervention to raise rural production and incomes applies also to the provision of social and other services such as health and education. Poverty is reflected in poor nutrition, inadequate shelter and low health standards. These affect not only the quality of life but also the productivity of rural people. In particular, there is a need for nutrition and preventive health programs, including improved water supplies and sanitation. Better education is an important element in this and may also provide an opportunity for the rural young to escape from poverty. In order to remedy both quantitative and qualitative educational deficiencies, increased use of "basic education" is considered imperative.

11. Rural areas also have a smaller share of other services, such as domestic water, electricity, waste disposal, and other economic infrastructure, than do urban areas. Even where these services exist, the poor are often excluded from access by reason of inadequate organization or cost. These problems indicate the need for a special effort to provide appropriate social and economic infrastructure for the rural poor, and the importance of integrating these components into rural development projects. It is obvious that without a concerted effort, rural poverty will remain all-pervading.

Policy Framework

12. Experience indicates that a strong commitment to rural development at the national policy level is a requisite for an effective, broad-based impact. In many countries this is lacking. However, most governments are prepared to experiment at the project level and to examine the results of experience. This should provide the basis for some dialogue between these countries and the Bank from which a broader approach may eventually develop.

13. All too often, macro policies are inconsistent with agricultural and rural development. Price policies that favor manufacturing and processing industries, and those which aim to keep food prices low in urban areas, work against rural development. In such cases subsidies on farm inputs may be justified. Fiscal policies also often militate against the rural poor, who are less well organized and less vociferous than other groups. Thus public sector spending is heavily skewed in favor of urban dwellers, and in rural areas the rich have favored treatment. Yet the poor often pay considerably more taxes in proportion to income due to indirect commodity taxes and low direct taxes. In addition there is often a reluctance to charge those benefiting from publicly-financed investments, thus widening the gap between the

few who have access to such investments and those who do not. Land policy has obvious implications for the rural poor given that their incomes depend on the extent to which they control land and its output. In many instances, therefore, land reform is a necessary concomitant of a rural development program.

14. Technology policies aimed at ensuring a flow of new, field-tested technical knowledge relevant to smallholder production are essential for the success of rural development. Often the poorest areas are overlooked by such policies. There is frequently also a failure to treat the subsistence farm as a system. Where technology is available it is frequently not applied due to a lack of extension, inadequate support services, finance constraints and limited marketing facilities. Adaptive research and demonstration on a local basis to facilitate adoption is required in all these areas.

Organization and Planning

15. Ideally, planning and implementation of rural development programs involve adequate regional planning, strong central coordination, effective local level organization, and the participation of the rural people in the planning and implementation processes. Few countries have been able to come even close to this ideal. Regional planning is desirable both because rural development cuts across all sectors and because rural programs need to be framed to meet regional conditions. Such planning necessitates the collection of statistics on a regional rather than a sectoral basis, and the use of regional surveys and resource inventories. Interregional allocations of technical and financial resources must be decided in relation to resource endowments, the domestic and foreign funds available, a balance of equity and growth considerations, and mutually acceptable center/local sharing arrangements. All these elements should be brought together into an internally balanced rural development plan. However, the lack of a comprehensive rural development plan should not be seen as an obstacle to evolving programs on a local level.

16. Strong coordination at the center is increasingly regarded as essential to successful rural development program implementation. This is a reflection both of the political nature of many of the decisions that must be made and of the need to coordinate the activities of ministries or departments organized along sectoral lines. A special office or unit is favored, having responsibility for definition of target groups, coordination of national/regional efforts, and integration of the activities of national sector agencies. It has also to ensure that all sector policies are commensurate with rural development objectives.

17. Coordination at the local level is emphasized because of the growing evidence that multi-sectoral programs can be implemented most effectively through a substantial increase in decentralization. Local control provides the flexibility needed for the proper integration and timing of activities, and modification of programs in response to changing conditions. Community involvement, which is essential to a sustained development process, is greatly facilitated by local rather than centralized control. One particular advantage

is that the perceived problems of the community and those imputed by local officials tend to be less far apart and can be more easily reconciled.

18. Group arrangements such as cooperatives provide an organized basis for handling many of the problems of providing access to services for large numbers of rural people. They allow a measure of involvement through participation, but also provide a vehicle for collective negotiation of credit, input supplies, and delivery of marketable surplus. Even land management can be organized on a cooperative basis, as in Egypt. Group approaches enjoy widespread support by governments, but the performance of cooperatives has been mixed. Despite this they provide an impetus to rural development that is difficult to attain in any other way. In many cases, they build on an established base of mutual aid within rural groups. A major requirement for the successful operation of cooperatives, and for regional and local government, is the provision of trained manpower. Thus training facilities are needed both to prepare full-time staff and to improve the effectiveness of community leaders, school-teachers, religious leaders, and other agents for change.

Program Design and Implementation

19. Experience with rural development, although limited, suggests that the effectiveness of any program is ultimately dependent on the implementation phase. Existing rural development projects can be classified into three approaches: (a) The minimum package approach, as exemplified by the Bank-supported projects in Ethiopia and Korea (seeds). (b) The comprehensive approach, which can be either (i) nationally integrated programs or (ii) area development and settlement schemes. Examples of coordinated national programs are the JCRR in Taiwan and PIDER in Mexico. Area-specific projects can be either single product projects such as tea in Kenya, Tobacco in Tanzania, cotton in Mali, and oil palm in Malaysia, or comprehensive area projects which have more diversified crop and integrated farming systems, such as Comilla in Bangladesh, Lilongwe in Malawi, and Caqueta in Colombia. (c) Sector and other special programs, including rural public works, education and training, and credit schemes.

20. A review of these projects reveals the many difficult issues in rural development planning and project formulation and implementation. Time and again there are problems of lack of knowledge, incomplete understanding, and limited institutional, technical, and financial capabilities and capacities. It is possible, however, to make a few simple affirmatives.

- (a) Given sound preparatory planning, leadership, and the involvement of people in the local community, then the small farmer is by no means an enemy of change. On the contrary, he can become an instrument of change, to the advantage of the nation as well as of himself.
- (b) Material resource requirements for rural development need not be disproportionately large. Although low capital cost per beneficiary is not by itself a criterion of a good rural development project, and although costs must be related to

benefits, low capital costs are an important element in designing projects to reach large numbers in the target groups. In many successful rural development schemes the capital cost per beneficiary appears to be remarkably low by the standards of conventional programs, a figure well under US\$200 being not at all exceptional.

- (c) Rural development schemes benefiting a mass of people can be as productive and economically attractive as schemes of a conventional kind directly benefiting far fewer people.
- (d) With well-designed programs, offering proper incentives to small farmers, development can be much more rapid than is sometimes believed, and the impact on level of living following the expansion of cash income from a subsistence baseline can be dramatic.
- (e) Finally, while much remains to be done, conviction of the need for a change in strategy, and commitment to specific actions and programs towards rural development, have probably never been greater in the developing countries than at the present time. This is an important bridgehead on which new understanding can be built and from which new programs can be launched.

Country Guidelines

21. The following are desirable characteristics of a framework within which to design and implement rural development programs.

- (a) Central leadership and coordination. Effective rural development planning should be given high priority. Steps towards improvement in planning capacity might include establishing a small but expert unit charged with the development of a national program of action. Such a body should provide leadership and should have a coordinating role with respect to project identification and preparation and with the monitoring of ongoing programs. Where nationally integrated rural development programs are desired, such a central unit should also be actively involved in project identification and preparation.
- (b) Decentralization and participation at local level. Provision of an institutional framework at the regional or local level and of good center-local communications and coordination, with appropriate devolution of responsibility to local bodies, are critical. There is no single model for dealing with these problems, but the importance of evolving planning and programming units in both regional/local government institutions and sectoral departments cannot be stressed too strongly. Equally

important is the need to involve local people in planning, decision-making, and implementation.

- (c) Research. Expanded technical and economic research into small farm systems, and into crops and techniques generally appropriate for use by the small farmer, should have high priority. A second type of research which is both important and much neglected is concerned with the dynamics of traditional rural societies as they begin to enter the modern sector.
- (d) Training. An insufficiency of trained manpower is perhaps the most serious obstacle to large scale rural development efforts. An intensified training effort, particularly directed toward the needs of local level institutions, and calling for greater efforts focused on training in the local environments where people work, must also be pursued.
- (e) Intermediaries. The establishment of effective group organization, such as farmers' associations and cooperatives, should have high priority. These provide the best means of lowering the cost of delivering services and marketing output so that larger numbers can be reached.

22. Activities related to rural development planning include the following.

- (a) Identification of target groups. Identification should be in terms of category, number, location, and other attributes, with detailed specification of the relationships between these categories and the proposed project actions.
- (b) Project Design. Several different kinds of projects may be appropriate to reaching rural development objectives:
 - (i) some projects may emphasize specific functional services, such as minimum packages of inputs like fertilizers and seed, and phasing, so that moderate benefits can be introduced progressively, at low cost per beneficiary, in order to cover as wide a cross section of the rural poor as is feasible;
 - (ii) other more comprehensive projects may involve the integration of related economic and social services in order that full advantage is taken of opportunities to build better balanced and more focused efforts;
 - (iii) in some cases sectoral and other special programs may be needed to remove a binding constraint, such as an endemic disease problem, or to meet a special need, such as public works to employ the landless.

In any event, each project must contain that blend of inputs and services necessary to ensure a sustained increase in productivity on the part of the beneficiaries. Particular attention to the appropriate balance between the directly productive and indirectly productive project elements is desirable. This balance should reflect the levels of services proposed for the sector on a national basis, the least-cost means of providing such services, and restrictions on resources that can be used for this purpose.

(c) Implementation. Items requiring specific attention include:

- (i) local level training schemes and use of locally available human resources in order to minimize demands on the rest of the economy;
- (ii) adherence to sectoral and regional planning considerations so as to ensure that proper attention is paid to linkages between sectors and regions;
- (iii) establishment of user charges, graduated according to ability to pay, and provision for adequate savings to be drawn from local communities so that funds are available to extend programs on a broader scale;
- (iv) appropriate local agricultural research to provide a basis for continuing productivity gains from small scale agriculture.
- (v) full use of existing local governmental structures, and/or assistance in strengthening them for greater subsequent use;
- (vi) promotion of institutional structures which enable the beneficiaries to participate in the running of projects, through either project advisory committees or elected local government institutions which are represented on project management authorities; and
- (vii) use of simple monitoring and evaluation systems, both as integral parts of the project management system and as a means for feeding the lessons of experience back into the process of designing future projects.

Changes in Bank Lending

23. Bank activities in rural areas have related mainly to lending for agriculture. The Bank is now the largest single external source of funds for direct investment in agriculture in developing countries. This is a consequence of a purposeful shift in Bank policy over the past decade, as reflected in changes in the lending program. These include a shift in the sectoral pattern, a widening and deepening of lending, and the emergence of "new style" projects. Lending for agriculture has increased from six percent

of total Bank lending between FY48-60 to 16 percent in FY71-72 and 24 percent in FY73-74, at a time when total lending expanded several times.

24. The focus on Bank lending for agriculture was also widening over the period, and by the mid-1960's the Bank was financing storage, marketing, processing, farm credit, fisheries, and forestry projects in addition to the more traditional irrigation and infrastructure projects. A concurrent deepening of lending is reflected in the fact that lending to countries with per capita GNP below US\$150 has increased from 22.5 percent of the total up to 1968 to 38.2 percent over FY69-74. There has also been an increase in the number of projects providing benefits to the rural poor. This has been achieved through "new style" projects characterized by the fact that: (a) they are designed to benefit large numbers of rural poor; (b) they take a comprehensive approach to small scale agriculture and may include components that are not directly productive; and (c) they have a low cost per beneficiary.

25. In short, the Bank's changing philosophy on agricultural development has resulted in: (a) a larger share of total lending to agriculture, within which poverty-oriented projects are getting an increasing share; (b) an increased share of lending going to poor countries; (c) a larger number of people benefiting from Bank projects; and (d) projected net output increases to beneficiaries well above the five percent suggested in the Nairobi Speech.

The Way Ahead

26. Extending this trend depends on the way in which the twin goals of equity and output growth are balanced, and on the resources available in relation to the magnitude of the problem. Whether an emphasis on rural development will divert resources away from food production is a legitimate question since: (a) it implies a heavy investment in the small farmer group which controls only 16 percent of the land; and (b) it is more costly to provide services to large numbers of small farmers than to a smaller number of large farmers. On the other hand, small farmers are often more efficient in terms of on-farm resource use.

27. Rural development does not necessarily mean a diversion of resources away from food production since: (a) most of the rural poor are engaged in agriculture; and (b) those who are not can be employed on public works that create productive facilities for agriculture. In recognition of the prevailing high priority placed on food production, the Bank recognizes amelioration of poverty in rural areas and increased food production as twin goals. Its emphasis on rural lending includes not only those in the poverty target groups, but those with up to five hectares; these two groups combined control 40 percent of the cultivated land in developing countries. Large scale farmers will continue to be assisted when increases in their production are demonstrably necessary to increase domestic food supplies and/or contribute to exports. Adequate cost recovery in the form of government revenue will be an important criterion in such lending.

28. Assessing the requirements for achieving the five percent annual growth of output from small scale farmers is a complex task. It involves not only estimating the financial resources needed, but assessing the problems of transferring technologies and the many manpower and institutional constraints. Many of these parameters are difficult to quantify and available data preclude detailed analyses. Country experience indicates that finance

alone is seldom the limiting factor; frequently technology, institutional, procedural, and manpower factors are more critical. Nonetheless, and bearing these reservations in mind, an approximate indication of the investment needs to achieve the five percent growth goal can be drawn from recent Bank experience. Using the average project cost of US\$80 per capita, given enough similar projects the implied global cost of helping the total 750 million rural poor would be a little over US\$100 billion. However, this estimate is subject to a substantial margin of error because the 25 "new style" projects analyzed do not constitute a very secure base from which to make such projections.

29. The figure of US\$100 billion, when taken over a five year period, is relatively modest when seen in the light of the projected US\$170 billion total investment in developing countries in 1974 alone. However, for low income countries, where the poor are concentrated, investment in 1974 will be nearer US\$25 billion so that the investment required for rural development is proportionately extremely large.

30. Projected Bank lending for agriculture and rural development during FY75-79 is approximately US\$7.2 billion and should involve a total investment in rural areas of about US\$15 billion, given past experience of cost sharing. Assuming a lending program of this magnitude for agriculture and rural development, it is recommended that half should go to rural development so as to provide one-fifth of the annual investment needs for the rural poor during the five year period FY75-79. Such a Bank program should reach a population of some 100 million, 60 million of whom should be in the target group. When viewed against the expected increase of the rural poor in the same period of 70 million, the urgency of measures to reduce population growth becomes obvious.

Deployment of Bank Resources

31. In order to meet the goals of rural development, attention is being given in the Bank to: (a) monitoring progress of economic, sector, and project work; (b) adjusting the project cycle, especially with respect to project preparation work; and (c) modifying the technical assistance program, including training and research.

32. The Bank has an extensive system for monitoring progress on economic, sector, and project work. Recently a detailed system for monitoring of rural development projects has been introduced based on regular "project information briefs." These will be reported quarterly and used as a guide to further modifications to Bank practices and policies.

33. The increased emphasis given to project identification in rural development suggests the need for greater attention to identification in country economic and sector work. Special reconnaissance missions may be useful for this purpose.

34. Project preparation acquires greater importance because of the number and variety of components and the special implementation needs. This creates the need for a longer lead time. Possible measures for providing assistance in preparation include expanded use of reconnaissance missions; creation of project planning units in developing countries and special preparation projects. In recognition of the importance of "implementation" in realizing goals particular attention should be given to planning, monitoring and evaluation systems within project organizations.

35. Relatively minor changes are required in project appraisal procedures, but specific guidelines are necessary for assessing those components for which benefits cannot reliably be estimated. In such cases attention should be given to sectoral policy standards, minimum cost alternatives, avoiding any costs from being obscured, and to appropriate pricing of the services.

36. The kind of technical assistance required to support the proposed Bank lending program for rural development includes training to overcome manpower constraints, attention to public sector organizations, and research and information gathering to provide more adequate understanding and guidelines.

Bank Recommendations

37. Bank lending for the rural sector over the next five years should be directed towards meeting the following targets:

- (a) to help at least 100 million low income people (half of which should be in the target group) become more productive;
- (b) to increase the net output of project beneficiaries to a sustainable annual rate of at least five percent; and
- (c) to allocate US\$3.75 billion over the next five years for this purpose.

38. The Bank should encourage and, where requested, assist technically and financially those governments wishing to devise comprehensive rural development plans. Where governments do not appear interested in developing a strategy of poverty reduction in the rural areas, the Bank should not seek to impose its views; but efforts should be made to identify and prepare rural development projects while engaging in a dialogue on possible changes in development strategies and policies. Where governments are interested in experimental rural development programs or projects, the Bank should support them.

39. Bank economic, sector, and regional planning missions should identify both the target groups in the rural areas and the key technical, policy, organizational, management, and manpower constraints which inhibit the amelioration of poverty in the rural areas. Such reports should be used as vehicles for dialogue with governments with a view to removing constraints through such actions as:

- (a) special missions to identify the institutional causes of low absorptive capacities in public sectors, paying particular attention to civil service procedures and conditions of service which militate against efficiency in the planning and implementation of suitable projects and programs;
- (b) projects to provide increased training of indigenous personnel such as "corps of development managers," regional and project planners, cooperative managers, and accountants; and
- (c) provision for training specialists in larger projects.

40. In cooperation with the UNDP and FAO the Bank, through the EDI, should support the establishment of a number of regional training institutes whose initial purpose would be to train staff who will return to their own countries and establish national courses for development managers and project planners.

41. Within the lending program, there should be increasing effort to develop projects which:

- (a) reach large numbers of low income groups;
- (b) are low in cost per person reached relative to benefits;
- (c) provide a rate of economic return at least equal to the opportunity cost of capital;
- (d) provide a balance between productive and welfare components, consistent with minimum cost standards and public savings;
- (e) involve local participation in decision-making; and
- (f) incorporate rural works for the landless as a part of an integrated rural development plan .

42. Within Bank project work there should be:

- (a) continued experimentation with the design of projects and the development of low cost delivery systems for all facets of rural development (such experimentation should include the evaluation of low cost minimum packages, area development projects, and public works and other special programs); and
- (b) multi-sectoral projects designed within sectoral and regional contexts rather than within a purely project context. Putting projects in these contexts provides guidelines for minimum national standards.

43. There is need for more resources to be allocated at the earlier stages of project identification, preparation, and supervision/evaluation; these should make possible some staff economies at the appraisal stage.

44. There should be greater emphasis on the ongoing evaluation of projects as part of internal management control systems; the scope of supervision missions should accordingly be broadened to include more evaluation of project impact. This would necessitate additional staff.

45. In designing rural development projects, account should be taken of the possibility of including family planning elements where desirable.

I. THE NATURE AND EXTENT OF THE PROBLEM

A. Toward an Operational Strategy

1.1 The multiple objectives of development include sustained increase in per capita output and incomes, expansion of gainful employment, and greater equity in the distribution of the benefits from growth. This implies alleviation of poverty and human misery by increasing the productivity of the poor and providing them greater access to goods and services. The following analysis indicates that a high proportion of the poor--judged by both absolute and relative measures--lives in rural areas. Hence rural development must constitute a major part of an overall development strategy if a large segment of those in greatest need are to benefit.

1.2 Past strategies in most developing countries have tended to emphasize economic growth without specific consideration of the manner in which the gains from growth were to be distributed. The assumption has been that increased growth per se would lead to a reduction in poverty through the spread effects from an expanding economy. Accordingly, the emphasis has been on increasing growth, with a corresponding concentration of effort on the "high growth" modern sectors of the economy to the virtual exclusion of the traditional sector--where the smallholders, tenants, and landless make up the bulk of the rural poor. Although, in the long-run, economic development for the growing rural population will be dependent on expansion of the modern sector and on non-agricultural pursuits, too strong an emphasis on the modern sector alone neglects the growth potential of the rural areas. Failure to recognize and act on this has been a major cause of slow rural growth rates and increasing rural poverty. At the other extreme, a few governments preoccupied with promoting social equity in the rural areas have discouraged investment in growth to the point of economic stagnation. With rapidly growing populations, per capita incomes in the rural areas have declined even though the range of distribution of incomes is much narrower now than it has been.

1.3 Thus, a strategy for rural development must balance the twin objectives of raising growth rates and distributing the fruits of growth more fairly. In the medium-term this implies a growing interaction between the modern and traditional sectors, especially with regard to increased trade both in farm produce and in technical inputs and services. For this reason modern sector and macro-economic policies cannot be ignored. Thus, while the main thrust of this paper is concerned with ways and means of tackling problems of rural poverty directly -- because of its relative neglect in the past -- the Bank should, in addition, continue to devote its resources to helping the rural poor indirectly, through projects designed to increase output, exports and growth generally.

1.4 Part of the strategy of rural development proposed in this paper is to focus directly on making the rural poor more productive. This requires the identification of target groups of potential beneficiaries and the design of policies, programs and projects to benefit them. The notion of target

groups lies at the root of the delineation of rural development as a separable and distinct development strategy for the rural areas and provides a focus for project identification and design. Target groups are best defined in the context of the individual country. However, a basic universal standard for identifying target groups would be the income necessary to cover minimum nutritional requirements, together with an allowance for necessary non-food expenses. In addition, we suggest that an income equal to or less than one-third the national average would be an appropriate additional criterion to allow for extreme relative poverty. Target groups identified by low incomes, absolute or relative, include smallholders, tenants and the landless; each separate group may need a special program of its own to handle the specific problems it faces.

1.5 The operational goals of rural development extend beyond any particular sector: they include improved productivity, and thus higher incomes for the target groups, as well as minimum acceptable levels of food, shelter, education and health services. Fulfillment of these objectives calls for an expansion of goods and services available to the rural poor and institutions and policies that will enable them to benefit fully from the whole range of economic and social services. In order that this development be self-sustaining, special concern is attached to the full participation of target group members in the organization of the program.

1.6 A program of rural development must, therefore, embrace a wide range and mix of activities, including projects to raise agricultural output, to improve health and education, to expand communications and to improve housing. The mix of activities will vary with the requirements of a region and the priorities assigned to components within a program at particular times and stage of development. The program may be based on a series of sequential projects -- first health, then education, then agricultural development; or it may attempt a broad-based multi-sectoral approach whereby a series of activities are to be undertaken almost simultaneously. In all cases the constituent elements should conform to a logic that is internal to the program, in that they are internally complementary and reinforcing.

1.7 As will be stressed later, most of the low income groups in the rural areas depend heavily on agriculture for the livelihood. Thus, it is axiomatic that many of the programs intended to raise rural incomes will center on agricultural development. Agricultural development specifically intended to aid low income rural householders then becomes part of the process of rural development. Similarly, since the landless are among the lowest income groups public works programs that generate employment in the rural areas are rural development programs. The same general principle applies to health and education, when these services focus on the rural poor. In these instances, however, the effect of the programs may be to increase the capacity of the poor to become more productive rather than to increase output directly.

1.8 Approaches to rural development will also be influenced by country circumstances. Thus, countries with surplus revenues -- such as the oil and mineral rich nations -- may be in a position to invest heavily in social overhead as well as in directly productive activities, where economic dualism

prevails, a rural development program may be an effective means of redistributing income through increasing the share of the budget allocated for services to low income groups. Elsewhere economic circumstances may dictate that the primary emphasis be on increasing short-run output to generate increased income - which can then be the basis for increased savings and further investment in development. The nature and content or mix of activities in any rural development program will vary depending on the political, social and economic circumstances that prevail in given countries or regions. There is no universal formula that prescribes the activity mix or the most effective sequence of activities to raise the incomes of the rural poor.

1.9 In conclusion, an operational concept of rural development is that of a program (or a project) intended to provide a sustained increase in the output and level of living of a significant proportion -- if not all -- of the rural poor in a given area. In some instances this may require emphasis on indirectly productive operations, but, in the main, the focus will be on those activities that either raise incomes directly or, at a minimum, provide the potential to be more productive. The implementation of such a strategy requires adequate trained manpower and efficient institutions which can prepare, plan, and execute programs to assist the rural poor to become more productive. The strategy must also be one which can reach the very large numbers of the rural poor and so must involve their participation in its design and operation.

B. The Measurement of Rural Poverty

(i) The Extent of Rural Poverty

1.10 There is no uniquely correct way of measuring the extent of poverty or of rural poverty. In the President's Nairobi Speech, emphasis was given to programs for increasing the productivity of "that approximately 40 percent of the population of our developing member countries who have neither been able to contribute significantly to national economic growth, nor to share equitably in economic progress". Our illustrative calculations build from this baseline, taking into account absolute poverty -- defined by income levels below which minimum adequate standards of nutrition, shelter and personal amenities cannot be maintained, and relative poverty -- reflecting extreme differences in levels of living between the top and bottom strata of a society. The latter often afflicts countries higher on the income scale to a greater extent than it does the poorer countries.

1.11 The extent and regional concentration of absolute poverty can be illustrated by adopting the arbitrary standard that a person is in absolute poverty when he or she has an average annual income equivalent to US\$50 or less. ^{1/} On this basis, an analysis of all countries with populations of more than one million reveals that:

^{1/} It would be preferable to use "household" or "family" in place of the per capita measure used in this analysis, but data are lacking on the distribution of household or family incomes.

- (a) approximately 85 percent of all absolute poverty is in the rural areas;
- (b) in total there are presently some 550 million people suffering from absolute poverty in the rural areas of the developing world in the mid-1970's;
- (c) about three-quarters of this total are in the developing countries of Asia with almost two-thirds of the number found in only four countries - India, Indonesia, Bangladesh and Pakistan;
- (d) in contrast, the developing countries of Latin America and the Caribbean account for only about four percent of the total; and
- (e) the 53 countries with per capita incomes above US\$150, taken together, account for only eight percent of absolute poverty in rural areas.

Thus, much rural poverty is a direct reflection of low levels of national per capita income and the size of the rural sector in these economies. (See Tables 1 to 3; figures quoted in the text are rough projections from the 1969 estimates shown in the tables).

1.12 To provide a quantitative illustration of relative poverty, calculations were made of the total number of people with per capita incomes below one-third of the average per capita income of a particular country, ^{1/} (See Table 2). By this standard of relative poverty:

- (a) the relatively poor make up 18 percent of the total population of the countries in question (in contrast to 34 percent under the US\$50 absolute standard); but
- (b) a much larger fraction of the relatively poor (27 percent of the total) come from the countries of the Latin American region, and by this criterion over 30 percent of the people of Latin America are poor.

1.13 If the estimates of the poor measured by the absolute standard given, are added to the number of those whose per capita incomes exceed US\$50 but fall below one-third of the national average for the countries in which they live, then approximately 750 million or 40 percent of the total population of the developing countries must be considered to be living in absolute or relative poverty. Of this total, almost 70 percent is accounted for by the developing countries of Asia; 19 percent is accounted for by developing Africa; and 13 percent by Latin America and the Caribbean. The fraction of rural

^{1/} A ratio which corresponds very roughly to the "poverty line" at which income supplementation through welfare pavements begins in many developing countries.

population counted as absolute poor varies from over 40 percent in rural Asia to under 20 percent in the developing countries of Latin America and the Caribbean. Allowing for both relative and absolute poverty, however, the proportions fall between 37 and 47 percent of the rural populations of the various regions.

1.14 The data presented above indicates the geographic spread and magnitude of poverty. An estimated 600 million of the poor--or more than 80 percent of all poor--live in the rural areas. These 600 million rural poor constitute 40 percent of all the people in the rural areas. Most significantly nearly 550 million people living in the rural areas had incomes that are the equivalent of US\$50 or less.

1.15 These estimates also suggest that rural poverty is more severe and intractable in some countries than in others. The most difficult circumstances are those in which extensive rural poverty is combined with low levels of mobilizable resources. Countries in this situation include all the South Asian nations, many of the larger African countries such as Ethiopia, Sudan, Tanzania, and a few Western Hemisphere countries like Haiti and Bolivia. Rural development is the major development problem facing these nations now and for the foreseeable future. At the other end of the scale are countries with pockets of rural poverty, varying in extent and intensity, but with resources adequate to deal with the problem provided that the political commitment is made. Among this group are Iran, Argentina, Malaysia and Yugoslavia. In an intermediate category are those countries with relatively extensive rural poverty and relatively considerable resources to deal with it. This group includes oil-rich Indonesia, Nigeria and Algeria, middle-income countries such as Brazil, Colombia and Mexico, and moderately poor countries such as Thailand, Korea and the Philippines.

(ii) Characteristics of the Rural Poor

1.16 There is little detailed information on the levels and distribution of income within rural areas and little analysis of the anatomy of rural poverty. In most cases, however, the poor are found side by side with the prosperous. While they are sometimes restricted by a limited endowment of natural resources, they are more frequently constrained by a lack of access to technology and services, and the institutions which would sustain a higher level of productivity. In many cases entrenched vested interests operate to ensure not only that the benefits of productive activity are distributed inequitably, but that the poor are denied access to the inputs, services and organization which would allow them to increase their productivity. Thus the socio/economic system operating in the rural areas is often hostile to the objectives of rural development, serving to reinforce rural poverty and to frustrate upward mobility on the part of the poor. Clearly this is not always the case; for example, the isolated community, characterized by a uniformity of poverty and ignorance and with ultimate rights to land exercised by a tribal or clan council of elders, is also common. The important point is that devising effective programs calls first for a clear understanding of the system through which poverty is produced and perpetuated.

1.17 Dependence on agriculture for a livelihood. Labor force surveys in Africa and Asia show that agricultural employment is the principal occupation for 75 to 85 percent of the rural population; with the partial exception of some relatively advanced countries, and areas close to cities, almost everyone has some connection with agriculture. There is a correspondingly thin scatter of jobs in rural industry, commerce, transport and services (including educational and administrative services). Activity data for the rural poor are rare. What little there are serve to show that agriculture is even more important as a source of income for this group than for the rural population in general. A detailed evaluation of relatively commercialized and developed rural Malaysia, for example, confirms that agriculture is most significant for the poor than for others; agriculture is the principal source of livelihood for 82 percent of the poor householders, compared with only 50 percent of rural households not classified as poor. In the more remote regions of most developing countries almost every family either rears animals or raises crops as a main activity. However, although agriculture provides most work and income in rural areas, non-agricultural work is an important supplementary income source, so that a lack of productive off-farm opportunities during slack seasons may greatly exacerbate poverty due to low productivity on-farm work.

1.18 Independence of climate and population density. A calculation based on a country by country, regional breakdown of population shows about equal shares of the rural poor--40 percent in each case--in both the more densely populated zones (300 or more persons per square kilometer) and the less densely populated zones (150 or less persons per square kilometer). Thus, poverty persists in sparsely populated areas where land is infertile and climatic conditions are adverse, as in parts of the Sahel zones of Africa, the Andean Altiplano, or the dry zones of India. On the other hand, poverty is also widespread in fertile, highly productive, irrigated lands in India, Bangladesh and Indonesia where density of population is great and where many holdings are less than one-third of a hectare in size, with income limited accordingly.

1.19 Compounding effects of national calamities. There are times--typically after flood or drought has ruined the harvest--when virtually the entire population of a large area is seriously affected. One important example of a region where such a situation is common is the so-called "drought prone areas" of India, which cover about 600,000 square kilometers and have a population of approximately 66 million. The bulk of this population is engaged in a perennial struggle to meet subsistence needs in a generally harsh environment. Within this broad zone, drought has occurred in three or four years out of every ten - with good and bad years tending to cluster together. The succession of drought years has had severe effects on the harvest and has resulted in absolute poverty for more than 50 million people or three-quarters of the total population of the zone. A similarly extreme situation exists in the drought prone areas of North East Brazil, affecting more than 20 million people. Elsewhere severe floods (partly occasioned by typhoons) contribute to perennial poverty. Such floods occur every two or three years in Bangladesh and in parts of the Philippines, and their effect is to diminish the already low incomes that prevail in those areas.

1.20 Proportion operating small and fragmented holdings. Incomes at the farm level are determined by a host of factors that include the quantity and quality of inputs such as land, labor and water, the technology used, the prices received for outputs and the prices paid for inputs. Thus, a one hectare irrigated farm using high-yielding varieties of rice and fertilizer can generate double the income of the same hectare farmed under traditional methods; one hectare devoted to tea (at prevailing market prices) can yield an income seven times as great as when it is used for maize. The acreage required to generate the same level of income will also vary with ecological conditions. Thus the recent Kenya Agricultural Sector Survey indicated that, for rainfed agriculture, the farm size needed to produce approximately US\$40 per annum per capita increased progressively from 2.6 hectare to 6.4 hectare to 16.4 hectares according to ecological zones; between 90 and 135 hectares were needed to generate the same level of income in range areas bordering the true Sahel. But while the use of inputs varies widely, land remains the most important factor of production determining levels of output and income; studies indicate that most of the smallholdings in Asia, Africa and Latin America are used for traditional low-yielding subsistence production. These studies also indicate that very few farms of less than two hectares of arable land, producing traditional crops, generate incomes in excess of the poverty line. According to the 1960 World Census of Agriculture, there are 80 million smallholdings of under two hectares of land. 1/

1.21 Tenants, sharecroppers and squatters. There are instances -- especially in the more developed regions -- where large holdings are leased under fixed rentals and where the farm operators have relatively high incomes. However, most renters of land, tenants, and sharecroppers in the least developed countries share their output with landowners and often operate under insecure tenancies. Other things being equal, tenants' incomes will be even lower than those of the operator-owners, and the amount of land required for an income above the poverty line is correspondingly increased. The largest numbers of low income persons in these categories are in Asia (26 million or 89 percent of the total). 2/

1.22 Landless and other rural workers. Most workers in agriculture are self-employed. There is, however, a large and growing group of landless and near landless workers - with a heavy concentration in those Asian countries with the largest concentrations of the poor (see Table 4). Most of the landless work irregularly, often on a seasonal basis with many working only when there are peak labor requirements. Wage rates are extremely low, often less than the equivalent of 50 cents a day. Not all farm workers are so badly off; there are comparatively few plantation workers in relatively advanced countries and workers in enclaves in poorer countries whose incomes would place them above the poverty level. In the main, however, agricultural workers and landless whose employment is governed by the seasons are among the poorest of the agricultural community.

1/ Land Reform, World Bank Paper - Rural Development Series, July 1974, Table 6, Annex 1.

2/ Ibid., Table 10.

C. The Dynamics of Rural Poverty

(i) Rural Population and Agricultural Production

1.23 Despite high rates of rural/urban migration, the rural population is now growing at approximately two percent a year. ^{1/} In the past, in most countries, increased rural population could be accommodated by expanding the acreage under cultivation. This may continue to happen in countries which have an ample supply of land that can be brought into production at relatively low cost, but, in the main, the opportunities for such low cost expansion have substantially diminished. With a worsening man land ratio, increases in output, and thus farm income, must necessarily come from a widespread increase in yields per acre cultivated and the cultivation of higher value crops.

1.24 It is the requirement for raising yields per acre that places the poor farmer at a disadvantage under present programs and encourages the view that poverty will increase unless there is a reorientation in development strategy in many countries. To raise the output and incomes of the bulk of the rural poor will require that they have access to a suitable technology and to the capital to utilize that technology. At present -- for the reasons discussed at length in the recent Bank policy papers on Agricultural Credit ^{2/} and Land Reform -- the public and private institutions that provide the goods and services to promote technological change tend to bypass the poor farmer, typically operating a holding of two hectares or less, and to ignore the needs of the landless laborer.

1.25 The new seed-fertilizer technology for wheat, rice and maize has provided the first major opportunity to spread a high-yielding technology among low income, small-scale producers of traditional crops. Although considerable adaptive research and breeding is required, this technology can lead to substantial increases in output in many areas, even where population is very dense and where there are large numbers of small-scale, low income producers, such as in Bangladesh and Java. However, as long as the institutions that provide the inputs for technological change continue to be biased against the small producer, it is inevitable that small-scale, low income producers will become increasingly impoverished as they have to share their output among increased numbers. A special effort must be made to aid the rural poor to contribute more to an enlarged increase in output. This can be done only by special programs. These programs may have to include the organization of abundant labor to provide infrastructure and on-farm improvements as is done in Mainland China.

^{1/} Except in the southern core of Latin America where population growth rates are low.

^{2/} See Agricultural Credit, World Bank Paper - Rural Development Series, August 1974.

1.26 There are opportunities for considerably expanding employment within agriculture, for both farmers and landless labor. Indeed, if Asia were to have the same labor intensity per hectare as Taiwan, then all of the agricultural labor force in Asia would be fully employed. Differences in resources, technology and organization prevent such densities being realized, though, there are possibilities for removing some of these critical constraints. Without such action there will continue to be widespread underemployment in agriculture, massive migration to overcrowded urban areas, and increasing poverty and destitution in many countries.

(ii) Health and Education

1.27 Health. The logic regarding special intervention to raise the agricultural incomes of the rural poor also extends to the provision of social and other services such as health, including nutrition and family planning, and education. These not only improve the quality of life but also indirectly affect human productivity. Thus the objectives of rural development include the provision of minimum standards of food, clothing, shelter, health and education. An income of less than US\$50 per capita implies inadequacies of nutrition, shelter, health standards and other components of a basic living level. As a consequence, we observe in rural areas high levels of morbidity and mortality--especially infant mortality; physical and mental lethargy and inability to sustain hard work on a regular basis; limited ability to recognize or to respond to problems and challenges; lack of awareness, inactive and poor motivation toward improvement and learning; and, often, hostility toward outside influence or advice (and sometimes toward potential achievers on the inside who threaten the cohesion of the group). Some of these reactions, particularly those more psychological than physiological, are associated as much with the deprivation of relative poverty as with those of absolute poverty. ^{1/} A link between rural poverty and food intake has been established for a number of countries. (See Table 5.) Nutritional deficiencies affect all age groups, but the toll is greatest among the very young. In most low-income countries children under five years of age, although they generally constitute less than 20 percent of the population, account for more than 60 percent of all deaths. Malnutrition is the largest single contributor to child mortality in these countries.

1.28 One of the important elements reinforcing rural poverty is that those most needing medical or health care are precisely those who are too poor or too remote from any facility to obtain it. (See Table 6.) Since almost everywhere ^{1/} the medical doctor remains the lynch-pin in the system of public health care, the absence of doctors generally means the absence of adequate medical facilities. It is estimated that more than 80 percent of the rural population is completely out of touch with official health services.

^{1/} For a fuller discussion of the serious effects of malnutrition see Health Policy Paper, World Bank Report No. 554, October 17, 1974, Section C.

^{2/} Mainland China being the most noteworthy exception; Tanzania is also developing its rural health services with heavy emphasis on the use of medical auxiliaries rather than doctors.

1.29 Another factor that exacerbates the health problems of the rural poor is neglect of preventive services. Approximately 70 to 80 percent of public health expenditures is usually allocated to curative services, even though it is generally recognized that preventive health programs, primarily environment oriented, are critical to a successful attack on the disease problems which underlie the prevailing high rates of morbidity and mortality. Through improved water supply and sanitation, the prevalence of a whole host of diseases can be diminished.

1.30 Education. Although it may take time, access to education can well provide some chance for the rural young to escape from poverty. There are, however, two important considerations which militate against the rural poor receiving satisfactory education. The first is the relative shortage of facilities and the poor quality of education in the rural areas; the second is the relatively high cost of education to the poor in terms of fees, books and other materials.

1.31 There has been a significant increase in educational opportunity in rural areas, but this has been unevenly distributed and has generally lagged behind educational expansion in urban areas, particularly on the post-elementary levels of education. A comparison of UNESCO statistics for the primary level shows that the ratio of complete schools to the total number of schools by area is significantly less in rural than in urban areas. (See Table 7.) On the basis of an intensive overview of the general situation, the judgment of one expert was that, "in a country with an overall primary school participation rate of, say 50 percent, the chances are that in some of the poorer rural areas as many as 90 percent or more of all young people (especially girls) are reaching maturity without knowing how to read or write". ^{1/} Thus it is probable that unless the situation changes greatly, millions of children in rural areas will remain illiterate. One reason is that, despite what may be substantial public expenditures on educational facilities, charges for education, though nominal, are often well beyond the means of the rural poor. Thus, in many countries education for large numbers of rural poor children ends after two years of primary school, even where a school is available for use.

1.32 Not only are the rural areas discriminated against in the provision of education services, but the type of education often is not appropriate to the needs of rural dwellers. It is increasingly recognized that to remedy both the quantitative and qualitative deficiencies of education in rural areas more widespread use of systems of "basic education" will be required. ^{2/}

(iii) Other Services

1.33 Rural areas tend also to be provided with a lower proportion of other services--such as domestic water supply, electricity, waste disposal

^{1/} P. H. Coombs (with R.C. Prosser and M. Ahmed), "New Paths to Learning for Rural Children and Youth", International Council for Educational Development, October, 1973.

^{2/} See Education Sector Working Paper, World Bank Report No. 561, October 25, 1974.

and other economic infrastructure--than do the urban areas. The relative scarcity of these services means that they are not available in the areas where most of the poor live and thus the poor simply do not have access to them. Even where such services are available, the poor tend to benefit less from them than do other groups. This arises because, even when services are subsidized, there is often a requirement of some payment toward the cost; despite the subsidy, the personal contribution may serve as an effective barrier to use by the poverty stricken. This phenomenon extends to all kinds of social services.

1.34 The analysis above indicates that a special effort must be made to provide appropriate social and economic services for the rural poor. This effort should focus on meeting the needs of the lowest income groups--the smallholders, tenants, landless--in the rural areas. To this end not only must services be geared to rural requirements but special pricing arrangements must be maintained so that the poor will have access to services which can assist them to break out of the otherwise self-reinforcing cycle of poverty. The analysis also indicates the importance of integrating economic with social services in rural development projects, for poor health and lack of education are important causes of continuing low productivity and resistance to change. 1/

1.35 The amelioration of widespread and pervasive rural poverty will require a maximum effort from both within and outside the rural sector. The thrust here is a direct attack on poverty in the rural areas, although, as has been emphasized in the Bank paper on Land Reform, an expanding non-rural sector is essential to increasing employment opportunities for the rural poor. This is especially the case in the more populous countries of Asia where man land ratios are already unfavorable. Furthermore, other indirect measures may well be essential to the amelioration of the problem. By way of illustration, on the basis of demographic trends alone the number of rural poor could rise by some 70 million between 1975 and 1979. This number will probably exceed that of the beneficiaries likely to be assisted under the proposed program of lending by the Bank Group for rural development. (See paragraph 3.24.) Thus the proposed ambitious program will, in effect, cater to no more

1/ One specific study, recently undertaken for the Bank among low income agricultural workers in Indonesia, stressed the self-reinforcing impact of poverty and a deficient diet on production. This report comments as follows:

"Once infestation or anemia occurs, the environmental, economic and nutritional factors are likely to enhance the debilitating effects of the disease resulting in a vicious circle. An anemic individual will tend to work less, and thus earn less income if he is on a piece-work or an incentive basis. This in turn pre-disposes him to a poorer nutritional status (less food), aggravating further the anemia, and increasing susceptibility to infection. Increased absenteeism and lowered productivity will therefore result, and he is trapped in a series of events in which he can neither improve his income, his nutrition nor his health."

than the increase in population. The need for population control is obvious. ^{1/} At the same time, there is likely to be some stimulus to family planning associated with a more favorable environment as higher levels of living result from rural development programs. This is a further reason for adopting such programs.

1/ See "Population Planning - Sector Working Paper", in World Bank Operations - Sectoral Programs and Policies, Baltimore and London: The Johns Hopkins University Press, 1972, pp. 291-369. See also Population Policies and Economic Development, World Bank Report No. 481, July 12, 1974.

II. POLICIES AND PROGRAMS FOR RURAL DEVELOPMENT

2.1 National commitment to policies and programs for rural development is a recent phenomenon in many countries. In others such commitment has long been reflected in national policies. The success stories of Japan and Taiwan in this respect are well known. The achievements of Yugoslavia and Egypt are perhaps less renowned. The earlier efforts of India, Iran and Mexico are now history. In addition there have been any number of pilot projects-- Comilla in Bangladesh, Puebla in Mexico, the Special Rural Development Projects in Kenya, among others. Bank support for activities in this area is relatively new and sufficient time has not yet elapsed for proper evaluation of the more recent efforts. Also, due to the diversity of rural situations, country experiences often provide insights relevant only to particular country circumstances. At this stage, therefore, it is important to emphasize the incompleteness of our understanding relative to the complexity and scale of the problems to be tackled. Consequently, any conclusions derived remain tentative and preliminary; they are likely to be considerably modified as more is learned about the process of change in the rural sector.

A. The Policy Framework

(i) Need for Commitment and Planning

2.2 A strong commitment to rural development policies at the national level is a requisite for an effective broad-based impact on the problems of rural poverty. Judging from available indicators, it would appear that only about 40 percent of the Bank's client countries have such a commitment. Thus, there has yet to be a firm reorientation in policy in more than half the Bank's client countries. In some of them, present policies and institutional structures are so far from favorable to rural development that a policy shift could only be attained as part of a major political change. This is a key problem in situations demanding extensive land reform; it applies even more so where government itself is dominated by special interests unsympathetic to the objectives of rural development. In most other countries, governments are prepared to experiment at the project level. However, some hold the view that rural development is technically difficult or economically unsound in terms of slower growth in output and exports, and this stands in the way of a stronger commitment. Whatever the reasons, it is evident that while the Bank and others can try to influence change in attitudes, unless more governments commit themselves firmly to devising strategies and policies to raise the standard of living of the rural poor, there will be little significant improvement in the lot of millions of people.

2.3 There are various ways in which rural development objectives can be fulfilled once there is firm commitment. The choice among these, and the sequence in which they are taken up, will reflect social, cultural and political factors as well as narrower technical considerations. Thus far, however,

while numerous ad hoc rural development projects and activities with significant impact on the rural poor have been introduced, the great majority of countries still operate without fully articulated policies, programs or plans for rural development. Similarly, macro policies are often inconsistent with agricultural and rural development. We now turn to a consideration of these policies.

(ii) Price Policy

2.4 The relationship between input and output prices must be such as to provide both a fair return on the resources employed and incentives for increasing productivity. This is a necessary although not a sufficient condition for stimulating development in the rural areas. Bank analysis indicates that all too often government policies discriminate against development, particularly agricultural development, in the rural areas. Designed to provide assistance to manufacturing and processing industries or to raise government revenue, such policies result in raising the costs of agricultural inputs relative to output prices, making innovation unrewarding and highly risky.

2.5 Many governments justify low food prices on the grounds of keeping down the cost of living in urban areas. In some cases the farmer is compensated by subsidies on inputs or credit. Frequently, however, the subsidies have undesirable distorting effects upon the economy, are costly to implement, and often are available only to those in contact with and enjoying the confidence of the organization through which they are supplied. Thus, typically, the small farmer is excluded. In general, therefore, it is more beneficial, or at least less costly, to provide incentives by guaranteeing minimum prices than to subsidize inputs. And it is better to subsidize specific inputs in order to transfer specific technologies rather than to have general subsidies such as subsidized interest rates. ^{1/} While remunerative prices for outputs relative to inputs for small farmers will often mean handsome returns for larger farmers, excessive rents can, in principle at least, be syphoned off through a progressive tax system. Thus pricing policy is intimately connected with fiscal policy.

(iii) Fiscal Policy

2.6 Fiscal policies in many countries lack consistency of approach. They have tended to develop piecemeal in response both to particularly urgent revenue needs and to powerful pressure groups. As such they militate against the rural poor who are either unrepresented or inadequately represented in the councils of government. For instance, in most developing countries the distribution of public sector expenditure is heavily skewed in favor of urban dwellers; and within rural areas the relatively rich receive favored treatment. These inequalities are apparent across a broad spectrum of services.

^{1/} See Agricultural Credit, op. cit., for an analysis of interest rates.

2.7 Through high levels of indirect commodity taxation and low effective rates of income or property tax, the poor often pay considerably more in proportion to income than do the rich. In the rural areas, the failure to extract a reasonable contribution from the richer members of the community is most obvious in the case of taxes based on property ownership--especially land ownership. A properly constructed tax on agricultural land is probably most desirable to mobilize resources for public purposes, since such taxes can function without destroying incentives related to agricultural output. Yet few countries appear to have effective land taxes of any sort. Where they have there is more often than not widespread evasion through nominal transfers of parcels of land to relatives and by misclassification of land potential. The figures shown in Table 8 confirm the low proportion of receipts from land taxes, especially when compared with export taxes, which are regressive but easy to collect.

2.8 A related and greatly significant aspect of fiscal policy is the complex of issues falling under the general heading of cost recovery. In most countries there is an inability or lack of will to impose charges on those benefiting from publicly financed investments or current services on the grounds that the poor cannot afford to pay. Seldom, however, is any attempt made to impose progressive charges which subsidize the poor by recovering proportionately more from the rich. Failure to impose adequate charges in turn severely limits the rate at which investments can be undertaken or services provided in the rural areas, even though the social returns from these investments are high.

(iv) Land Policy

2.9 Land reform has obvious implications for the rural poor, for whom subsistence depends for the most part on the extent to which they control land and the output from that land. The recent Bank paper on Land Reform stressed the necessity of viewing land reform in the context of the multiple objectives of rural development. On the other hand considerable income growth can be achieved (a) by smallholders in densely populated areas without land reform, where the tenancy ratio is low, the distribution of land not excessively skewed, and the private marketing system effectively reaches the small as well as the big farmers; and (b) by settlement scheme participants where there are vast tracts of land which can be exploited productively through such settlement schemes. But where the incidence of onerous tenancy is high, the distribution of land extremely skewed, the rural oligarchy controls credit and marketing institutions, appropriating for itself the bulk of input supplies and even the income generated by rural works, land reform must precede any massive input of resources into small farms or rural works.

(v) Technology Policy

2.10 A constant flow of new, field-tested technical knowledge relevant to smallholder production is a precondition for the continuing success of most rural development programs. Many of the poor live in harsh environments where investments would produce little income growth until technological discoveries

create reliable new opportunities. Major improvements in production technologies and product mixes must be evolved for arid lands, some mountain regions, areas of low quality soils where shifting cultivation is practiced, and rain forest areas. Failing this, migration may be the only solution.

2.11 Inappropriate research programs and inadequate adaptive research and extension have in many cases been a major factor in limiting the effect of programs on the incomes of poor farmers. One common problem emerging is the failure to treat the subsistence farm as a system of cultivation, requiring a comprehensive approach to on-farm technological improvement. Another problem is the lack of attention to factors especially important to the small farmer. These include risk-reducing innovations, such as better pest and weather resistant crops; more intensive research into the so-called poor man's crops, including sorghum, millet, cassava, pulses and upland rice; and better advice on simple improvements in crop husbandry, and soil and fertility conservation. Also, although there has been more research on small farm equipment than is generally supposed, the efforts have not been coordinated nor the results subjected to simple production engineering for manufacture. One answer to this, being pioneered by the International Rice Research Institute in the Philippines and other groups, involves dissemination of research results and prototype specifications for local manufacture.

(vi) Commitment, Planning and Resource Requirements

2.12 The commitment of resources to rural development and the extent to which promotion of rural development programs is reflected in national economic policy depends, inter alia, both on the nature and severity of the problem and on the resources which the nation can allocate to it. As noted in Chapter I, where rural poverty is restricted to small pockets and resources are available, individual countries may follow very different policies with regard to rural development. For instance, the fifth five-year plan of Iran, covering the period 1972/73 through 1977/78, drawn up before the recent three-fold increase in oil prices, projected investment outlays for the agricultural sector equivalent to some US\$900 million per year. The rural population of Iran is approximately 18 million. Of these some eight million could be counted among the target group of rural poor, as defined in Chapter I. It follows that if half of the total investment outlay projected for agriculture were to be directed toward Iran's rural poor, annual investment per capita among that group could be over US\$50 per year. By contrast, in Bangladesh over 90 percent of the population lives in rural areas and at least 40 million of these rural people must be counted among the poor. A feasible investment outlay for agriculture was assessed by a recent Bank economic mission at the equivalent of approximately US\$300 million per year over the mid-1970's. Applying the same arithmetic, in Bangladesh less than US\$4 per capita available annually to help improve the productivity of the rural poor - about one-fifteenth of the amount available in Iran. While rural poverty is far from negligible in Iran, it clearly is not the dominant development concern that it must be for Bangladesh. At the same time, the resources available to Iran for dealing with the problem allow for a much wider latitude in approach to rural poverty and permit a much faster pace of implementation. It is obvious that planning, program formulation, and implementation will vary considerably from one case to the other.

B. Organization and Planning

2.13 There is a growing consensus that the effective planning and implementation of rural development programs requires the following elements:

- (a) a national plan or program of action for rural development, together with supporting national and regional policies and adequate center/local financing arrangements;
- (b) a strong organization at the national level to coordinate vertically organized, central government sectoral departments;
- (c) effective machinery at the regional/local level to coordinate the sectoral activities of national departments operating in the region and regional/local departments; and
- (d) participation by the rural poor in the planning and implementation processes through local government, project advisory committees, and cooperative types of organization.

These elements are discussed separately in the following sections.

(i) Rural Development Plan

2.14 Few countries have developed an overall plan for rural development. It is no easy task to do this for several reasons: (a) by definition rural development cuts across all sectors; (b) rural programs, more than most other kinds, ideally should flow from national and regional planning; (c) the kinds of supportive policies discussed in the preceding section involve fundamental political considerations; and (d) the information base is so poor.

2.15 Yet the advantages of a coordinated effort, focused on a national plan or program for rural development, are almost self-evident. Basic questions such as the financial, technical and administrative efforts to be allocated to the program, the areas for major concentration, the phasing and sequencing of activities, the linkages among sector programs, and the developmental impacts aimed for, can seldom be addressed effectively in a piecemeal fashion. At the present time effort tends to be fragmented and dispersed because there is no clear idea of the overall size of the problem, the location and density of specific target groups, or the developmental potential in the areas where rural poverty is concentrated. To obtain the benefits of planning, however, calls for great determination in the face of very real difficulties. At the level of central government, the concerns of rural development tend to cut across the conventional boundaries of department organization and responsibility. At the other extreme, regional and local planning involve acceptance of the delegation of some central authority for program design and implementation to staff in touch with local requirements and able to assess local potential. Finally, it is increasingly recognized that to create a basis for self-sustaining development in rural areas requires that local resources-- financial and human--be mobilized within a planning framework involving the

active participation and assistance of local people. "Self-sustenance" implies involvement, as distinct from simply reaching the low income rural population through development programs. This, too, calls for major new efforts in the many countries where the administrative system has been highly centralized. In view of the difficulties, partial planning, for particular areas or regions, may be more realistic and effective in some circumstances.

(ii) Coordination at the Center

2.16 There is some experience--although no consensus--emerging on approaches to the organizational problems of rural development planning. There appear, for instance, to be advantages in creating a special unit or office, located directly under the president or prime minister to coordinate national planning and program development for rural development. The experience is that such units are most useful when they coordinate efforts rather than themselves undertaking the specialized work of other agencies. Coordination is particularly important with regard to: (a) national/regional efforts to overcome the current lack of data and improve the information base generally; (b) the activities of the major sector agencies. (The success of a rural program or project initiated by one department or agency often depends on complementary actions taken by another department. Experience in any number of countries suggests that lack of adequate preparation, including attention to those linkages, is an important cause of failure or disappointing results.) Finally, (c) there is the very important and difficult task to ensure that national and sector policies are in line with the overall objectives of rural development.

(iii) Coordination at the Local Level

2.17 Experience indicates that the planning and implementation of rural development activities calls for a substantial measure of decentralization in program management, involving the strengthening of local government and other development institutions. The adjustments needed vary significantly from country to country. Unless the functional aspects of rural development projects are completely delegated to some level of regional and/or local government--an unrealistic and probably undesirable situation--problems typically arise with regard to overlapping functions of central and local government departments. An institutional arrangement--perhaps through regional planning units or coordinating committees--must be found to resolve issues and, in the last resort, provide adjudication machinery. Where national investment priorities are concerned, provision has to be made to ensure that the central planning authority is brought into the picture.

2.18 The advantage in planning and administering development from local levels are particularly great where there is a complex, multi-sectoral mix of activities that requires proper integration and timing of activities. At the same time, local level management provides the needed flexibility to modify programs as conditions become better understood or as circumstances change.

More generally, the combination of authority, responsibility and accountability focused at the local level leads to much more active promotional efforts than otherwise. This is particularly true in the more backward and isolated regions which are generally neglected under a highly centralized system. In mainland China, reliance on decentralized local level management is a cornerstone of the economic system. And there is a clear trend in this direction in a number of other countries - in Algeria, Tanzania, Kenya and India for example. In general, however, (apart from use of the special project authority - often separate from the existing local authority), progress toward decentralization is still modest.

2.19 At the present time, the proportion of expenditure on development which is allocated as a result of local decisions is fairly small - perhaps in the range of 10 to 20 percent. Budget authority continues to rest with the central authority, with a major part of the funds allocated on a departmental basis. Funds which provincial authorities can allocate out of their own revenues for rural development are generally hopelessly inadequate or insignificant. Even where there is a considerable measure of local autonomy in spending, reliance on central transfers is very great. Central governments usually curtail local powers to raise additional revenue directly from local sources, although there are some arguments favoring such local resource mobilization to supplement central government allocations. For one thing, total resources for investment may be increased. For another, local contributions would strengthen the basis for local participation in program concept and design and, more generally, would increase fiscal responsibility at local level. Some countries, Indonesia for example, are experimenting successfully with schemes to increase local level contributions, in this case using a matching grant system as inducement.

(iv) Importance of Local Participation

2.20 Community involvement in the selection, design, construction and implementation of rural development programs has often been the first step in the acceptance of change leading to the adoption of new techniques of production. The manner in which early participation is to be achieved, and balanced with the need for overall guidance and control from the center, is a problem which can only be resolved within each country. There is some evidence, however, such as that at Comilla in Bangladesh, that a strengthened local authority is better able to secure effective participation than are officials answerable to far away central governments. It appears that Tanzania has gone further in its attempts to deal with these problems than have most other governments. For example, preparation of regional development budgets now begins with proposals from a system of local committees, composed of villagers and low level officials. These are then filtered through higher level district and regional committees, again composed of a mixed group of officials and party members, before presentation to the central government. Agreement must be reached at each level before final proposals are passed through to the next higher level. A somewhat similar system of decentralized planning and decision-making is practiced in Malaysia and one is being developed in Indonesia. Country experience shows that one major

problem of participation is that the rural people have perceptions of needs and possibilities for action which are generally different from those of "rational" officials. A reasonable balance in this relationship is hard to strike. At one extreme, local politicians may completely dominate local officials, with the possibility of perverse results. At the other extreme, also common, officials may make the final decisions and recommendations.

2.21 Cooperatives and similar institutional arrangements have obvious potential advantages with respect to a number of the problems that raise major administrative difficulties in reaching the rural poor. On one side, cooperatives provide some measure of participation through the involvement of their members. On the other, they perform the functions of a financial intermediary and make it possible to provide credit to larger numbers than can be done through official credit agencies. Moreover, members can be held jointly responsible for repayment, for acceptance of input supplies or other produce purchased from outside and for delivery of marketed surplus to the appropriate agencies (public or private). In more advanced systems, cultivation is arranged on a cooperative basis, in some cases with the application of more or less uniform cultivation practices to land and crops that remain the responsibility and property of the individual cultivators. The cooperative can thus, in principle, reduce the need for government servants or personnel of government-supported agencies to deal with the individuals and families that comprise the target groups.

2.22 Almost all governments support cooperative development for the rural areas in one form or another. An examination of the experience indicates that the performance of cooperatives has been mixed. In some, the problem has been that the skills--particularly entrepreneurial and trading skills--that are required of the managers have been underestimated. With inefficiencies and losses, the cooperative may well become a high - rather than low cost purveyor of services for its members. In some places these difficulties have been considerably accentuated by active and effective opposition to the cooperative by private traders, landlords and others to whom organization among low-income families is not advantageous. Sometimes such groups capture much of the benefit by working from within; for example, when membership of a cooperative is a condition for access to subsidized credit. Dishonesty among the officials has also been a major problem.

2.23 But experience with cooperatives has been by no means all bad, and mass participation provides an impetus to rural development programs that it is hard to attain in any other way. Moreover, in most societies, there is a well established informal system of mutual aid upon which to build. The work of non-government agencies furnishes some of the more successful examples in fostering cooperation, usually working outside the framework of officialdom, often in quite modest circumstances. The Bank should explore ways and means of working more closely with non-government agencies, especially where they have gained useful local experience and have experimented with pilot projects.

(v) Manpower and Institutional Constraints

2.24 The shortage of skilled staff to implement rural development programs should be a major consideration in their design. In many countries, particularly in Africa, the scarcities of skills extend through all levels: experienced and junior staff, technical and administrative. Even when the stock of trained manpower is more adequate, the number of personnel serving the rural areas is often low in comparison with urban areas. This may be due to rural development being assigned low priority or to an absolute paucity of financial resources. Typically, however, the salary scales and allowances of people working at the bottom of the development hierarchy in the rural areas are low, their status is low, and their promotion prospects uncertain. In addition, the lack of amenities in rural locations deters well trained persons from staying there. Moreover, in many countries civil services practice does not respect and reward specialization. Therefore, the turnover of rural staff is very high; and officers appointed to supervise rural development are frequently unmotivated generalists in the very early or the very last stages of their careers.

2.25 The remedies for this situation are obvious but seldom instituted. Staff working in the rural areas should be given better pay and allowances. Distinguished rural service should be given special recognition. Promotion prospects for specialized field staff should be improved. But competitive pay and career prospects must be regarded as complementary to the development of the motivation and commitment to service that accompany true professionalism. Manpower can often be used more effectively than it is at present. In particular, where good managers and higher level staff are scarce, lower level staff must be utilized much more effectively. The need for formally trained manpower is determined largely by the way in which the delivery of services is organized. Thus, many agricultural credit programs, following conventional forms of credit administration based on complex criteria of creditworthiness of the applicant, involve the processing of complicated forms and thus require large amounts of highly trained manpower. Modification of such procedures could free this manpower for other tasks.

2.26 If decentralization is to be effective, regional and local government, development authorities, and cooperative-type organizations must be provided with the trained manpower to fulfill obligations. The available evidence indicates that present systems of training are weak especially with regard to the handling of relationships with the local population. Recruitment must be localized to strengthen the links between development services and the community, and training exercises for agricultural extension agents, health workers and cooperative staff must be relevant to the actual needs and priorities of particular local situations. More consideration also should be given to the possibility of training community opinion leaders, such as primary school teachers, religious leaders and village cooperative secretaries as agents of change. The number of people which need to be trained is so large that the only practical way is to adopt a multiplier approach by training the trainers. This could be done through the establishment of internationally financed regional training institutes. These would prepare experienced staff to return to their countries and set up courses to train development managers, regional and project planners, cooperative staff, agricultural extension agents and other specialists.

C. Implementing Rural Development

2.27 Because experience with rural development projects is limited, and conditions vary widely from one rural area to another, generalization about project design is fraught with the twin dangers of being either too specific or too trite. Nevertheless, an attempt has been made to distill some lessons of experience by examining a cross section of projects in which alleviating poverty in the rural areas was a major objective. ^{1/} In this respect it is notable that rural development schemes do not usually aim to provide benefits to the rural poor exclusively. There are several reasons for this. Often, the rural development objective is subordinate to the objective of increasing agricultural output (or marketed output). Even where this is not the case, a program aimed at providing advice or extension to the small farmer will rarely exclude the medium sized farmer, if by including him sizeable increases in output can be obtained.

2.28 Moreover, it may frequently be desirable to design a program so that all sections of a rural community benefit to some degree from it. Often this can ensure its effectiveness with respect to the target groups whose need for the program is its main justification. Involving the community implies the provision of some element of general interest. And in many countries, avoidance of opposition from powerful and influential sections of the rural community is essential if the program is not to be subverted from within. Program design must take into consideration the existing rural social system if lasting benefits for the poor are to be achieved. Thus, in cases where economic and social inequality is initially high, it is normally optimistic to expect that more than 50 percent of the project benefits can be directed toward the target groups; often the percentage will be considerably below this. But, in all cases, project design should reflect the particular needs and conditions in the particular developing country situation.

2.29 At one extreme, some countries are giving emphasis to the provision of a package of minimum requirements to as large a group as resources permit. We describe this as the minimum package approach to rural development. At the other extreme are the more comprehensive programs which include social as well as productive elements. Partly because of the heavy financial and human resources required by such programs, however, most experience with them relates to specific area or regional schemes (e.g., settlement schemes) rather than to nation-wide programs. We refer to this as the comprehensive approach. Finally, there are a variety of supportive programs which provide benefits to

^{1/} Some insights are also provided on this subject by the African Rural Development Study (ARDS) and the preliminary conclusions of a study of rural public works programs supported by the Bank. See Uma Lele, "The Design of Rural Development: An Analysis of Programs and Projects in Africa" Studies in Employment and Rural Development No. 1, Employment and Rural Development Division, Development Economics Department, IBRD. The concluding chapter of this study, "Summary and Conclusions", is attached to the present paper hereto as Annex A.

the rural poor. These usually need to be integrated with some broader effort if full potential is to be realized. A rural works program intended to help the landless laborer is one example of such an approach. A national credit scheme for smallholders would be another. Most sector-specific programs fit into this category, including those related to education, health, transport improvements, village power and water supplies for the rural poor. Such programs are described as sector or special programs in the detailed discussion. It is worth emphasizing, however, that most experience with rural development stems from various ad hoc or piece-meal approaches, and not from the application of an overall rural development plan. Thus, the classification of project activities serves mainly as a basis for organized discussion of issues, and the examples used do not necessarily reflect intention or conscious design on the part of the originators of the programs.

(i) The Minimum Package Approach

2.30 Minimum package programs aim to provide generally modest but broad-based improvements in levels of living through increased agricultural output. Special attention is given to the sequencing of operations in the light of the development needs and requirements of the target groups on one side, and financial and staffing constraints on the other. The great advantages of minimum package approaches are their promise of low-cost, extensive coverage with comparatively simple objectives and operating procedures. The importance of sequencing is also worth attention. An initial emphasis on a broad-based increase in productivity, through a minimum level of institutional development, may be the most effective way of ensuring mass participation in a subsequent more complex type of program.

2.31 An illustration of the approach in operation is the Minimum Package Program (MPP) established in Ethiopia in 1971, which is supported by IDA. Designed eventually, to cover the entire agricultural population of small farmers in Ethiopia, MPP provides extension, production credit, cooperative development, and feeder roads in 10,000 farm family units or blocks. These blocks typically extend five kilometers on each side of a 75 kilometer stretch of all-weather road. Services are organized through specialized credit agencies and the Ministry of Agriculture, with no regional or local government participation. The experience of those working with the project suggests some important conditions for the success of this approach:

- (a) a first class technical package (under the soil and rainfall conditions of Ethiopia's highlands, the application of fertilizers has produced such yield increases as to convince farmers of their usefulness without much persuasion by extension staff);
- (b) an intact social structure of rural life, with certain people commanding general respect, those people being prepared to act as model farmers without remuneration;
- (c) a land tenure system which does not discourage production above subsistence level; and

- (d) a loose system of credit supervision with satisfactory repayment rates enforced through firm and visible government credit discipline.

2.32 It follows that a different approach will be necessary where the technical package itself is less than overwhelmingly superior to existing practice and where the initial requirements for raising productivity are more complex--for example, where the rural poor are stratified by access to land, farm type, skill level and occupation. This partly explains why there are few examples of this type of national program, despite its considerable advantage for countries with limited resources and massive rural poverty. Social and economic stratification in many South Asian countries, for example, would seem to preclude wide spread application of the minimum package approach.

2.33 One Asian example of the minimum package approach, however, is furnished by a recent Bank seed improvement project for Korea, under which some 500,000 farmers are to be assisted with improved varieties of paddy, barley, wheat, soybeans, and potato to raise incomes by a modest but significant 10 percent over a five year period. The program also includes both provision for research to improve the quality of seeds and a system of seed distribution through the national cooperative organization to individual farmers. Credit and extension services, provided mainly through cooperative societies (to which 90 percent of Korean farmers belong), are already adequate. Project cost, at 1973 prices, works out to less than US\$50 per family.

2.34 Under adverse conditions, provision of minimum package facilities tends to result in relatively few direct beneficiaries among the rural poor. There may, however, be favorable indirect effects stemming from minimum package programs addressed to small farmers who are not themselves sufficiently poor to be classified among the target groups on the basis of low income. For example, as small farmers become more prosperous, there is a tendency for them to make more extensive use of hired labor - drawn from the poorest groups. Expanding demands for trading and transport services also tend to improve the market for hired labor. Clearly, projects for which such indirect effects on the rural poor are a major consideration also merit special attention, particularly in otherwise unfavorable situations such as those where the poor have little or no direct access to land.

(ii) The Comprehensive Approach

(a) Coordinated National Programs

2.35 While most schemes under this category are specifically designed for a particular area, some countries have pursued concerted programs of rural development directed at a wide spectrum of the rural population. These have been characterized by careful definition of the needs and resources of the target population; detailed planning of preparation and implementation; phasing of multi-sectoral components; and extensive adjustments or complete restructuring of related institutions. Some of these programs, for example, those in Japan, Republic of China (Taiwan) and Korea, have met with notable success. In other countries, such as Pakistan and Mexico, the programs are as yet in an early stage.

2.26 The success of the Taiwan experience is reflected by the fact that during the period from 1950-1970, output from the agricultural sector grew at five percent per year. In addition the greatest increases were registered on the 890,000 farms with less than one hectare of cultivated land. These represent two-thirds of all farms and one-third of the cultivated area. The farm income of this group exceeded \$300 in 1970. The Taiwanese experience is characterized by the rapid adoption of new technology by a large number of small farmers, with most of the increase coming from improved yields, derived from the use of improved inputs and the expansion of irrigation.

2.37 It is generally agreed that this success would not have been achieved without the organization of farmers into associations. Farmers are organized into a federated three tiered system of multipurpose organizations. At the base are the small agricultural units made up of several families, who are collectively represented in the 328 Township Farmers' Associations. Above these there are 20 County Associations and the apex organizations. Although multipurpose, the farmers' associations have become an important source of institutional credit, and this appears to have been one of the major factors responsible for the acceleration of agricultural development. The organization of the farmers was accomplished under the aegis of an autonomous central development agency known as the Joint Commission on Rural Reconstruction (JCRR).

2.38 In contrast to the Taiwan experience, the Mexican "Integrated Rural Development Program" (PIDER) is very new and thus has no spectacular achievements to report. It is of particular interest, however, because of the detailed planning and institutional adjustments that have been made. The primary objective of the program is to provide resources and services in selected rural areas in order to increase permanent and temporary employment; raise rural living standards by introducing directly productive activities; and improve basic social infrastructure and production services. The criteria for selection of the regions chosen for the program are that each must be economically depressed, with potential for expansion of agricultural, mining, or industrial production; must have at least one growth point for development; and it must have fairly high levels of unemployment and underemployment. This program reflects Mexican endeavors to improve the planning and implementation of systems for the distribution of investment and services. It also is indicative of efforts to decentralize budgeting and resource distribution at the state level, and to encourage local and state participation in the decision-making process.

2.39 Finally, there is one other example of a national approach which on grounds of general importance merits separate and detailed discussion-- that of Mainland China. Application to other countries and regions is, however, a subject for considerable debate. The Chinese achievement itself is no longer in question. But it appears to have been based on broad acceptance of community and nation-inspired developmental goals over individualist or personal goals. Perhaps better put, the individual in China appears to satisfy personal goals and ambitions through contribution to the development of the nation and community - almost a reversal of the situation in most countries. While elements of the Chinese experience may be transferable, or be capable of adaptation elsewhere, many nations may not be ready for the transformation of attitudes and values that adoption of the approach would appear to call for.

(b) Area Development Schemes

2.40 An emphasis on area development is common in many countries, for agricultural as well as rural development projects. Basically, arguments in its favor stem from consideration of the often complex nature of the target group situation, which calls for specific programs locally prepared and thus tailored to local conditions. Technical considerations related to specific requirements for agricultural improvement also tend often to favor placing development schemes in an area framework. Even when the focus is on the promotion of a single product, the very nature of modern agriculture may require a large number of inputs to be put together by private or public effort: improved seed varieties or animal breeds, irrigation facilities, fertilizers and chemicals, energy and equipment, credit, extension, storage, marketing and transport services, and price incentives. One type of comprehensive, limited area approach is illustrated by a variety of single product projects, such as the promotion of tea in Kenya, groundnuts or tobacco in Tanzania, cotton in Mali and Tanzania, coffee in Papua New Guinea, and oil palm in Malaysia.

2.41 The special advantage of comprehensive area development projects, however, is the opportunity to focus directly on the needs of the rural poor through diversified crop and integrated farming systems. The development of these activities can then be linked with training and social services, and possibly, with rural works programs. A closer examination of some successful experiences suggests that area or regional rural development programs can encompass a great variety of objectives, organizational forms and possible responses. At one extreme, the primary objective of some of the most successful schemes is not so much to help the poor farmer or settler as to generate additional output for disposal in the marketplace. Thus, some schemes place a heavy emphasis on one or two major crops. They also provide services to growers in the form of a good technical package and credit and marketing arrangements, associated with relatively close control of farm operations and supervision of credit. Typically, such schemes operate through a well funded and staffed special authority outside the existing local civil service structure, often with little community or other direct local participation. Under such schemes arrangements may be made to mobilize resources for schools or medical facilities, and settlement may include provision of basic amenities, like water supplies. While the impact on productivity may be an important influence, these services are typically supplied in an ad hoc way, without much consideration for wider programs of development. The Gezira settlement scheme in the Sudan had many of these features. Begun in the 1920's, by 1970 it had accounted for nearly two million acres of irrigated land, directly benefiting 75,000 farm families.

2.42 Settlement schemes have a number of special advantages. They provide an opportunity to break through modes of thought and action that are often problems in traditional, closely integrated and inward-looking rural communities. They also afford an escape from communities where power is concentrated in the hands of a few large landowners who are opposed to measures designed to reduce their special status and likely to erode the low cost labor situation. There may also be an opportunity to select well motivated settlers

and, especially where new crops are involved, the package of technical advice and services made available will carry greater weight and authority than otherwise.

2.43 An example to be contrasted with Gezira, in terms of concern with community involvement and application in the very different circumstances of long established settlement, is provided by the Comilla projects (Bangladesh). This series of pilot schemes designed by the Pakistan Academy of Rural Development during the period 1958-71 demonstrated a potential for substantially raising within ten years the incomes of small farmers in a given but fairly large area. It has also provided models for improved local organization and administration (at modest cost and with a limited number of professional staff), including training systems. Large numbers of people, many of them at village level, were trained in cooperative organization, pump irrigation, taxation, conciliation court procedures, Muslim family law, and literacy. A rural public works program, growing out of Comilla, achieved an impressive record of road building and repair, canal excavation and construction of flood embankments, serving over 4.6 million acres of farmland. An irrigation program, adopted throughout the province in 1968, had by 1972-73 placed 32,900 low-lift pumps and tubewells to irrigate an estimated 1.3 million acres. The Academy was also responsible for establishing a village cooperative credit system, with emphasis on self-help through thrift among workers. Associated in part with the credit system and farmer extension services, fertilizer use quadrupled in the area mostly affected while incomes among village farmers more than doubled. Another important innovation was a system for coordinating the activities of the various government departments in a local development center (the Thana Center).

2.44 The Comilla project was fortunate in enjoying exceptionally innovative and imaginative local leadership. The successes achieved are particularly impressive given the limited resources available, and an environment with many unfavorable factors. A distinctive feature was the careful phasing of program development, based both on pre-testing and use of experience gained under pilot or trial schemes and on the flexible evolution of program design as further knowledge and experience were gained. Any rural development program that emphasizes local participation and involvement in "bottom-up" programs probably must operate along lines similar to those pioneered at Comilla. While such schemes can be successful, the Comilla experience illustrates the critical importance of leadership and commitment to program goals.

2.45 A model of another type is provided by the Puebla project, developed for a relatively homogenous area with some 50,000 small farmers in Mexico. The project, begun as recently as 1967, is much less authoritarian than Gezira, but much more technically agricultural in orientation than Comilla. The Puebla approach has stressed the provision of new technical packages for smallholder farmers based on local adaptive research, mostly for maize, with much of the initial work associated with identifying problems with soil, seed, disease, and cultivation practices, and training technicians to work in small farm development. The scheme also includes credit and marketing facilities. For participating farmers, the increase in maize yields (net of climatic effect) averaged 9.5 percent a year over the period 1968-72, raising farm

family incomes by approximately US\$110. Total project cost over the six year period to 1974 was approximately US\$1 million or US\$135 per credit-receiving farmer. The Puebla project has not, however, been very successful in integrating its activities into the fabric of regular governmental services. Banks must still be prodded to lend to small farmers; and the Puebla research and extension functions are largely outside regular government channels. Organizations which articulate local farmers' opinions and concerns have not emerged and are therefore not tied into higher levels of the service system. Significantly, while the achievement is already considerable, only 25 percent of those in the maize growing area have responded to the project to date.

2.46 A final example, which combines some of the features already discussed, is the Lilongwe Land Development Program (LLDP) begun in 1967 in Malawi. It is the focal point in a large-scale area development approach to rural transformation. Presently covering an area of 1.15 million acres and with a population of 550,000, most of whom are small farmers, the program was organized as a special department of the Ministry of Agriculture. Access to the services and staff of other departments, including staff specially seconded to the program, has been a feature of LLDP. As a consequence, the program enjoys the high level of cooperation and coordination among departments that should (but often not) flow from integration of activities in a national policy framework. The program has concerned itself with a wide variety of activities and functions, most notably with physical planning of sub-regional centers for markets and services; provision of regional infrastructure - roads, bridges, water supplies, health clinics, and service buildings; consolidation of land holdings; community organizations and village committees for local participation in decision-making and planning; and credit schemes - initially, unsecured loans to individuals, but with progressive adaptation to group credit systems based on shared responsibility for repayments. Considerable importance is also given to agricultural extension and to the training of extension workers. (The program has trained all its field staff.) Program targets were set in relation to a 13 year development period, and a full assessment is difficult to make at this stage. It is anticipated that by 1980 net farm income in the project areas will increase 25 percent in relation to the initial situation, accompanied by roughly doubled yields of maize, smaller increases for other crops, and improvements in animal husbandry.

2.47 The Lessons of Experience. There are perhaps three major potential dangers with such area development schemes:

- (a) as already mentioned, the schemes may concentrate a disproportionate share of resources in providing benefits to a group that is relatively small in relation to the overall size of the national rural target group;
- (b) the schemes tend to suffer from overly ambitious and complex program design, calling for exceptional leadership that cannot always be made available on a sustained basis; and
- (c) they may distort priorities in the allocation of resources among sectors.

2.48 Recognition of the need for quality staff and management in such schemes is often accommodated through the provision of foreign technical and financial assistance. Donor agencies have tended to favor provision of high density, high quality manpower (be it local or foreign), and often of new institutional arrangement, as a condition for launching such projects. But high powered management, with and often without foreign backing, is sometimes overly successful in appropriating a disproportionately large amount of available resources for "showpiece" or "enclave" projects. Technical feasibility and economic viability, together with weak central planning and control over resource allocation, may lead to the adoption of project objectives that are unnecessarily ambitious. Sometimes a doubling or tripling of income may be feasible and economically viable but not, in the light of overall country circumstances, an appropriate target. There is a need to look closely at schemes during the design stage to see whether a modest objective--perhaps an increase in incomes by 50 percent over a ten year period--might not enable significant economies to be made, particularly in the use of high level staff.

2.49 In some cases, however, particularly irrigation/land improvement projects, the problem lies less with the objectives than with the failure to provide the needed reforms in the structure of land holdings. Thus, a project that results in a doubling of the carrying capacity of the land may be utilized to increase the density of settlement - so providing modest benefits to a wider group of participants. The combination of land reform and land improvement--potentially an attractive approach to rural development in conditions of land scarcity--needs to be more vigorously pursued.

2.50 The comparative affluence in management and finance enjoyed under many of these projects during the implementation period often does not survive the transfer of functions to the local administrative system. First, the indigenous regional administrations may not have the capability to carry out the necessary policy and coordinating functions at the regional headquarters. This capability is critical in administering complex integrated programs when they involve activities of a number of departments and local governmental agencies, for instance, agriculture, transportation and health. Second, institutions to handle the commercial aspects of the programs, such as agricultural credit and input and output marketing, either do not exist--since the programs have handled these functions--or do not yet have the administrative capability to manage the activities on a large enough scale. Third, the local organizations and local administrative units developed under the programs may not correspond to the existing local governmental institutions, raising difficult questions related to maintenance and expansion of the various local services.

2.51 These problems cannot be resolved quickly and so are not entirely avoidable if more rapid progress is to be made. Experimentation with decentralization and with the working of new administrative structures and procedures must begin somewhere. If the improvement of the system is to await its functioning everywhere, it may not improve anywhere within an acceptable period of time. In fact, a demonstration of the efficiency of new structures and procedures in a few pilot areas is often the only way to convince

traditionalists of the feasibility, as well as the need, of improving the general system. This being said, however, greater efforts must be made to design area development schemes on the basis of realistic assessments of the quality and number of the officials and technicians likely to be made available in the long term. This approach to area development should help to foster greater concern for training activities (the importance of which was dealt with in paragraphs 2.25 and 2.26), a particular weakness of programs that rely heavily on expatriate manpower. ^{1/}

2.52 Balancing Economic and Social Components. A special aspect of the resource allocation problem in multi-sectoral activities concerns the balance of outlays between sectors. As indicated in Chapter I, projects aimed at the rural poor are likely to contain a mix of elements - directly productive components as well as social services and amenities such as health, water supplies, basic education, and village electrification. In principle, these elements should conform to a logic that is internal to the project or program as a whole so that the components are mutually reinforcing or integrated. The principle, however, is more easily stated than observed, and in practice a good deal of judgment regarding inclusion of such items is called for. For one thing, the indirectly productive impact of such services as better health care and environmental sanitation are inherently difficult to measure, and the base of good research studies is lacking. Further, the fact that benefits from social services are intangible (or at any rate hard to measure or spread over long periods) sometimes leads to their being undervalued relative to those for which measurement is relatively straightforward. Traditional economic criteria tend in practice to favor those programs for which benefits are more assured or more tangible.

2.53 There are three other general points worth making about the inclusion of social services and amenities in rural development programs. First, there is evidence that rural people rate selected social or amenity services-- particularly health and access to water--very highly indeed, sometimes above productive benefits, as a quick means of improving the quality of life. Participation fostered through community involvement in the design, construction, and use of such facilities may be the first step in the acceptance of proposals for change relating to production techniques and methods. Second, the need to conform to the internal logic of a well-considered and carefully structured rural development program may result in the better design of such services than would be the case under a non-integrated or sector program. Sector programs often reflect inappropriate standards and result in elaborate and costly services, poorly structured in terms of the overall priority needs of rural communities. Third, it is worth recalling that the allocation of resources among sectors (as among regions) is likely to reflect a balance of considerations, and economic criteria may not necessarily be the most important. Concentration of resources in more productive areas may increase inter-regional inequality, particularly where migration from the less favored regions is not

^{1/} A conclusion that applies to most of the project reviewed under ARDS.
See Annex A.

feasible. A relatively strong emphasis on inter-regional balance and equity may be justified where the poorer regions contain a heavy concentration of the rural poor (for example, in Northeast Brazil) or for countries with access to an unusually generous flow of resources (like Algeria).

(iii) Sector and Special Programs

2.54 The types of activity described under this heading are usually organized on a nation-wide basis. They may or may not be tailored to meet the specific needs of the rural poor. In practical terms, it is usually impossible to confine the benefits to a particular class of beneficiaries, even were it desirable to do so. Thus, roads built under a works program are available for the benefit of all users. Schools and health facilities in rural areas can hardly turn away potential users on the grounds that they are too rich to qualify. The most important feature of these programs, however, is that they generally do not in themselves constitute a basis for self-sustaining general productivity and income increases. Rather, they are complementary to or components of programs with this objective.

2.55 Rural Public Works. 1/ The special attraction of rural works schemes is that they are addressed directly to the needs of one major group among the rural poor--landless and near-landless labor--that it is otherwise difficult to help with direct assistance. In addition, a substantial proportion workers from farm families also find themselves idle or severely under-employed during the off-peak season in many farming situations. Thus, rural works may supply immediate benefits both to small farmers and to landless laborers through additional employment. In general, however, the indirect employment and income increases probably exceed the direct benefits to target groups. Sustained increases in employment must come primarily from the induced demand for labor in productive activities arising from the additional infrastructure created in public works programs, and most of the opportunity for such employment growth is in more intensive land cultivation. Such an increase in productive activity, however, requires complementary inputs and supportive policies and programs. The rate of induced employment generation may be quite sensitive to public policies, such as those related to farm mechanization or intensive cropping. There is also evidence that when investments are carefully selected and designed, and when implementation is properly supervised, such schemes result in the creation of useful assets in rural communities at low social opportunity costs. Programs may also receive wide support if the assets created also benefit (and are seen to benefit) non-target groups in the local community. However, since the owners of assets, especially land, typically will obtain greater absolute benefits from the created infrastructure, especially if land ownership is skewed, the public recovery of part of the land-owners' benefits should have high priority. The services of some created assets can be priced, but in other cases the only resort is to land and income taxes.

1/ This section draws heavily on a draft report of the Bank-supported Harvard Study: "An International Comparative Study of the Performance of Employment-Creating Public Works Programs." The study involved visits to 16 countries and consideration of approximately 30 different schemes and programs.

2.56 Because of their obvious advantages rural works programs have been receiving increasing attention on the part of concerned governments. However, in practice, experience with rural works programs has been mixed. An analysis of past and on-going rural public works projects indicates the following weaknesses:

- (a) poor project selection and design, leading to high cost investment and low efficiency in terms of income supplements for the needy, which in turn invites the criticism that alternative employment could be found more productively in other types of rural development;
- (b) difficulties in providing experienced supervision with the resulting danger that discipline deteriorates and the program takes on a "make-work" character;
- (c) the labor component of total cost being typically not as great as is often expected;
- (d) the tendency of some programs to extend into the peak periods of demand for agricultural labor and become year-round programs;
- (e) the problem that when self-help elements are involved, it is usually the really poor who must, in the main, provide their labor "free", i.e. do not receive any cash rewards and hence do not benefit directly; in general, experience points to the need to pay cash wages or provide food aid plus cash, equivalent to opportunity wages, for all labor employment; and
- (f) the temptation on the part of some governments to introduce public works programs as substitutes for more fundamental reforms and policies which encourage both production and employment.

2.57 One general conclusion is that if public works are to be exploited in full, they need to be part of a larger employment and development strategy and used in coordination with other programs and activities. Basic decisions on issues such as target groups, wages, taxation, program location, and project type would then be made in conjunction with national or regional development planning. Public works activities should also be coordinated with specific development schemes. Public works, particularly because they are decentralized in implementation, provide an excellent opportunity to begin local level planning but this potential remains in general unrealized. Works operations are particularly well-suited to (a) construction and maintenance of short feeder roads, involving relatively low design standards; and (b) the rehabilitation of minor irrigation and drainage works, particularly field works, canal relining, and the like. Somewhat more ambitious programs may involve construction of community buildings, simple health centers and schools.

2.58 Education and Training. 1/ A major share of public sector outlays, with impact on the rural poor as an important justification, relate to education. Here attention is focused on minimum learning needs for all members of the rural society. This basic education 2/ includes functional literacy and numeracy, knowledge and skills required for earning a living, operating a household (including family health, child care, nutrition and sanitation), and civic participation. Thus defined, basic education is the lowest common educational denominator necessary to achieve an acceptable rate and distribution of development.

2.59 In many countries basic education can be partly contained within the primary school system, but, major constraints to its provision to the rural poor have been time and cost. There is, therefore, considerable interest in schemes for providing non-formal and more cost-effective education and training to adults and adolescents. Many of the scheme surveyed as a part of a recent Bank-sponsored study indicated typically small-scale operations promoted by a wide variety of different agencies and often not integrated into a national education system or development plan. 3/ The study drew particular attention to:

- (a) the need for the horizontal integration of rural education programs both with other education activities and with other development activities in the same geographic area, and vertical integration with organizations and services at higher levels to provide support and backstopping services;
- (b) the need for the decentralization of planning and management so that education activities can be effectively adapted to local needs and conditions; and
- (c) the need for greater equity to avoid widening the socio-economic gaps in rural areas. Worthy of particular note is the neglect of training for women despite acknowledgement of the importance of roles in both decision-making and farm work.

1/ Training is dealt with a paragraphs 2.24 to 2.26 above. See also the Education Sector Working Paper, op. cit.

2/ This has been defined as the threshold level of learning required for effective participation in productive life as well as in social and political processes. See "New Paths to Learning for Rural Children and Youth," op. cit.

3/ Attaching Rural Poverty: How Non-Formal Education Can Help, by P.H. Coombs with M. Ahmed. Prepared for the World Bank by the International Council for Educational Development and published by the Johns Hopkins University Press, 1974.

2.60 To meet the needs of rural development, primary education must be improved, particularly to reduce wastage, lower costs, and raise quality. Other possibilities invite further experimentation, including adjustments with regard to age of entering school, length of cycle, size of class, simplification of curricula, use of mass media, and adaptation of indigenous learning systems. A number of other actions might also be taken to spread basic education more effectively to the rural poor:

- (a) schooling should be integrated with employment and development; this may be through skill training of those who have left the schools, or by means of a program such as that of Botswana where practical skill training directly related to the creation of new self-employment opportunities is given in the schools;
- (b) rural education should be functional in serving specific target groups and in meeting identified needs;
- (c) rural education programs should be designed as part of a total education delivery system; they can themselves become the focus of coordinated action through the use of multipurpose centers to serve other activities such as cooperatives and health services; this is being done in Tanzania at both district and village levels through the establishment of Rural Training Centers and Community Education Centers;
- (d) rural education projects should be integrated with other development activities and linked wherever possible to the provision of other appropriate inputs and services; this has been effectively demonstrated in a number of integrated rural development projects such as the Comilla project in Bangladesh and the PACCA project in Afghanistan; this may also be achieved through the design of functional literacy programs; and
- (e) the provision of basic education and training should be designed flexibly to make use of existing facilities and resources, and to use mobile units in order to remain replicable in terms of costs and management requirements.

2.61 Credit. Credit schemes provide illustrations of the difficulties encountered with sectoral programs. The recent paper on Agricultural Credit draws attention to a number of common deficiencies and problems with respect to lending to small farmers. ^{1/} In particular, large farmers have been the main beneficiaries of institutional credit. Commonly, 60 to 80 percent of small farmers in a given country have virtually no access to institutional credit. Moreover, the available supply of credit to all farmers is heavily

^{1/} Agricultural Credit, op. cit.

skewed in favor of short term credit, and this skewness is even more pronounced in the distribution of whatever credit is available for small farmers. Although not always essential, conditions under which credit is needed and can be used effectively are characterized by:

- (a) clear opportunities for economic gain from adoption of new production technology or other improvements;
- (b) widespread recognition and acceptance of such opportunities on the part of the farmer, along with access to training in the necessary skills; and
- (c) delivery systems which provide ready and timely availability of inputs required, and market outlets for farm production.

2.62 For small farmers, it is essential to provide a comprehensive package if the potential for increased productivity is to be translated into commercial reality. There appears to be scope for the use of institutional credit to replace or augment credit from traditional sources in order to alleviate monopoly situations which cause excessively high interest rates; to overcome inelasticities in the supply of credit which become apparent when new opportunities emerge; to ease the seasonal financial problems of rural households; and, most importantly, to encourage small subsistence farmers to raise their output and enter the commercial sector. Furthermore, land reform, if pursued widely, could sharply increase the credit needs of former tenants previously supplied by landlords. In this general context several recent experiments warrant further examination, including the "pass-book" scheme in Pakistan, the Cooperative Production Credit Scheme in Kenya, and the Masagana 99 program in the Philippines.

2.63 Other Sector Programs. Other specific sector programs--for example those concerned with provision of feeder roads, village electrification, water supplies, health facilities and the promotion of rural industry--may also be important means of conveying benefits to the rural poor. The major issues involved with these have been covered earlier - namely, the need to integrate such programs with both programs of rural development and particular projects, and the problem of appropriate design standards, suited to rural conditions. The latter is a serious problem for a number of these services and, in some cases pending further technical development, extension of facilities to villages will remain prohibitively expensive. One reason for neglect of the small-scale system suitable for the rural areas is the convenience and lower unit cost of preparing and appraising project feasibility for larger scale undertakings better suited to the urban environment or, in the case of transport, for inter-urban connections. Here too, however, recent research indicates some promising new approaches calculated to reduce these difficulties in the future.

2.64 The promotion of rural industry in the context of rural development merits special attention. In many countries, existing village crafts are in the process of rapidly disappearing, while modernization of agriculture creates a demand for new inputs and consumer goods which largely could be produced locally. If these two trends can be combined, through relevant planning and support measures, the outcome might be local modernized industrial structures geared to serving rural areas and with linkages to national industry as well. Such rural industry could provide employment, increase incomes, slow rural-urban migration, increase the supply of goods and services to farmers at lower costs, and generally stimulate further rural and regional development.

2.65 Development of rural industry at an early stage of agricultural development may, in the long run, permit a more rational spatial distribution of industrial and economic activity than might otherwise occur. Much of rural industry is likely to be located in market towns, which are generally a more desirable form of urbanization than the expansion of already very large urban centers. Modernization of agriculture creates a demand which has great potential for pulling certain categories of industry into rural towns. These industries are, in general small, and their interaction with medium and large enterprises is, in the long run, essential. Consequently, some urban-based industry can be decentralized, with little or no economic sacrifice, in order to achieve better interaction and more balanced distribution of industrial activity. At the same time, with an industrial base to provide for continuing expansion and development, such regional centers can serve to attract and retain professional and technical skills that otherwise most often concentrate in the major cities.

2.66 As well as the linkages with agriculture itself, there are other important cross-sectoral requirements for rural industry. Thus, at some stage it is essential for the villages to have access to electricity for productive purposes. It is equally essential to develop a capacity to design and manufacture simple producer goods appropriate for small scale village industry. There is often still a large reservoir of potential skills--technical and entrepreneurial--in the rural areas. Without special efforts, however, to upgrade these skills, to improve tools, to diversify production, to open up markets, and change the outlook of the rural artisans, this important asset of the rural communities threatens to disappear. In many circumstances, the mechanization of agriculture requires small pumps and motors (up to 20 to 25 horsepower), tractor drivers, tubewell operators, tractor and small motor mechanics, and people skilled in the servicing and repair of mechanical equipment. Rural homes need basic furniture and improved kitchen utensils. These and a variety of other requirements are either not fulfilled or are met from the cities. It would seem natural to upgrade the skills and organization of village blacksmiths, carpenters, shoemakers, weavers, and potters, so that they could assume new manufacturing and service roles in modernizing rural communities. This kind of support should be part of an integrated plan to modernize and develop rural communities.

2.67 Thus, in the same way that extension services are considered essential for introduction of new technology and development of agriculture, industrial extension should also be seen as a necessary element in developing rural industry. Essential characteristics of such an industrial extension service are mobility and relevance to rural industries in meeting actual local demands. An important aspect of any such program must be the development and support of the existing industrial structure in order to capitalize on the base of technical and entrepreneurial skills in the informal sector which today exists in villages, market towns, and urban centers. Development of rural industries requires a nationally supported program to provide inputs like credit, raw materials and equipment, electricity, training for technical and managerial skills, research-development-engineering efforts, etc. Provision of such a package is, in principle, facilitated by linking efforts with a rural development program. Indeed, the general lack of rural development planning cannot be more clearly illustrated than by the weakness of current efforts to promote rural industry.

(iv) Conclusions

2.68 The variety of programs and approaches that have been examined confirms that no single package or formula is likely to be either necessary or sufficient to ensure effective rural development. On the contrary, it is evident that the activity mix most likely to work is best characterized as the one that is designed and tailored to fit a particular and probably unique set of conditions and country circumstances. A number of other general conclusions are listed below in summary form.

2.69 The experience of rural development programs and projects appears to confirm:

- (a) that it is possible to reach large numbers of the rural poor at moderate cost, with reasonable expectations of acceptable economic returns;
- (b) that the achievement of this result involves political commitment to a strategy for rural development and to the general policies necessary to support such a strategy;
- (c) that low cost delivery systems for supplying inputs on credit terms, for providing extension and marketing services, and for organizing communal activities are of crucial importance in reaching large numbers of the rural poor; greater use of special financial intermediaries, cooperatives, community groups and farmers' associations should be explored;
- (d) the importance of balancing overall, central control with decentralized regional and project planning; rural development projects require a degree of flexibility in design and in responding to the lessons of experience, but flexibility must be within the limits of national or regional minimum standards and maximum costs;

- (e) that greater efforts should be made to integrate project management into existing and, if necessary, reformed central and local government organizations and procedures;
- (f) the importance of involving the rural poor in the planning and implementation of rural development programs;
- (g) the need for increased training at the local level, particularly for development managers, regional and project planners, cooperative staff, and extension agents;
- (h) the importance of making equitable and adequate provision for the recovery of costs in order to provide funds for additional rural development projects in other areas;
- (i) the need to build simple monitoring systems into project management control structures;
- (j) the importance of devising technical packages appropriate to the requirements of small farmers, based on adaptive, national research; and
- (k) the need to improve knowledge of national resources and provide an improved flow of disaggregated information, as a basis for realistic national, regional, and rural project planning.
- (l) that although increases in output can be achieved using existing technology, increases in productivity will require new technology suitable for use by small farmers.

III. THE BANK'S PROGRAM FOR RURAL DEVELOPMENT

A. Past Trends

3.1 The major thrust of Bank activities in rural areas has been in lending for agricultural development. The Bank is now the largest single external source of funds for direct investment for agricultural development in the developing countries. This is the consequence of a purposeful shift of emphasis in Bank policy over the past decade. It reflects, first, a change in the Bank's perception of development and its underlying processes and, second, an awareness of the growing pressures on the agriculture and rural sectors in developing countries. In an operational context these shifts have been characterized by changes in the pattern of lending, including changes in its sectoral distribution, by a widening and deepening of the lending programs, and by the emergence of "new style" projects.

(1) Changing Lending Patterns

3.2 Sectoral Changes. In the early years of Bank operations the emphasis was on non-agricultural development. Between FY48 and FY60 only 17 percent of total Bank projects and six percent of total Bank investment was for agriculture. In the ensuing years it became apparent that greater agricultural output was not only a necessary condition for the expansion of most economies, but was perhaps the only way to achieve growth in many areas. There was a corresponding increase in the share of lending for agriculture. (See Figure 1.) This share increased further following the creation of IDA, with the increase in lending to the poorest countries, many of which were heavily dependent on agriculture. As a result, lending for agriculture rose from 12 percent of all lending in FY61-65 to as much as 24 percent in FY73-74. (See Table 9.)

3.3 Widening of Lending. In the early years of Bank operations the emphasis was on the transfer of capital and the development of capital-intensive projects, notably in irrigation. From FY47 to FY70, 48 percent of total Bank investment in agriculture was in irrigation. Between 1961 and 1965 the irrigation proportion rose to 79 percent. Since then, although investment in irrigation has increased absolutely, the proportion has fallen to about 30 percent in the years since FY70. (See Table 13.) The Bank will continue to invest in irrigation. However, the growing appreciation that agricultural development involves a whole complex of interdependent components has led to a substantial widening of patterns of lending for agriculture--including investments to ensure that irrigation water is used effectively at the farm level. By the mid-1960's the Bank was financing a wider range of activities--agricultural and livestock credit, storage, marketing, processing, fisheries, and forestry development. Much more emphasis was given to the promotion of technological change at the farm level through the financing of programs to enable farmers to acquire improved seed, fertilizers, and equipment. The Bank has also recognized the importance of agricultural research in supporting both individual projects and international research institutions.

In addition, individual projects are becoming more comprehensive and now include not only several agricultural elements but also non-agricultural components such as rural roads, health, training, and water supply.

3.4 Deepening of Lending. In recent years the Bank has responded to an increasing awareness that agricultural growth does not necessarily diminish rural poverty. As a result the Bank has been attempting to "deepen" its lending in the rural sector as part of a program intended to aid lower income producers to become more productive. To this end, the poorer countries have been receiving a greater proportion of Bank funds, and project effort has increased the probability that more lower income groups are being reached. Between FY54-68 US\$138.8 million, or 22.5 percent of lending for agriculture, was for countries with per capita GNP lower than US\$150; during FY69-74 this rose to US\$1,356 million, or 38.2 percent of the total lending for agriculture. (See Table 14.) Second, there is some correlation between size of holding and income. Between FY68-72 the percentage of agricultural projects wherein the participating farmers owned under five hectares rose from 17 percent to 67 percent. This further indicates that Bank lending is increasingly directed toward lower income members of the community. Finally, there has been an increase in lending for projects that are directly focused in some respect on providing benefits to the rural poor. (See Table 15.) The number of such projects increased from five in FY68 to 28 in FY74, involving an increase of lending from nearly US\$29 million to almost US\$438 million. From approximately 16 percent of all lending for agriculture and rural development in FY68, these projects accounted for close to 45 percent of a much larger total in FY74. ^{1/}

(ii) The Emergence of "New Style" Projects

3.5 The changes in emphasis that have taken place over time and the focus on reduction of poverty has necessitated the introduction of what might be termed "new style" projects. These have been designed to encompass some, though not all, of what appear to be the ideal characteristics for rural development described in Chapter II. The main elements of these projects are:

- (a) that they are designed to benefit large numbers of the rural poor, while earning an economic rate of return at least equal to the opportunity cost of capital;

^{1/} A word of caution is in order regarding these figures. Until recently a large number of projects did not describe the beneficiary group with any detail, and an attempt to determine the intentions of the project at several years distance from time of preparation is difficult. The large increase in FY74 relative to earlier years owes something to better definition of project objectives, although in our judgment, the underlying change is still a considerable one.

- (b) that they are comprehensive in their approach to small scale agriculture and provide for a balance between directly productive and other components (where inclusion of the latter is appropriate); and
- (c) that they have a low enough cost per beneficiary so that they could be extended to other areas, given the availability of additional resources.

3.6 The "new style" projects have included a variety of approaches designed to fulfill these goals. Such projects are intended to reach large numbers through area development, settlement, irrigation, and land improvement schemes. Most of the projects have an agricultural base and involve technological change--frequently the introduction of water, credit, improved seed, and fertilizer. Many of the projects also include some diversification in agricultural production. The area projects also often have some social components--health services, basic education, and water supplies. Whenever possible, cost per beneficiary has been held down through evolving low cost delivery systems and working through intermediaries that can absorb some of the overhead costs--notably farmers' associations, cooperatives, and other groups. Much remains to be done in this regard.

3.7 The expansion of new style projects has led to a substantial change in the nature of lending for agriculture. An analysis of the appraisal reports for 56 agricultural loans approved in FY74 shows that:

- (a) out of 38 projects for which information is available there are an expected 11.8 million beneficiaries; this does not include estimates of beneficiaries who are not farm operators, such as farm laborers and others whose incomes might have risen because of a project;
- (b) the average income per beneficiary before projects was US\$69; the range of beneficiaries' incomes was from US\$22 to US\$1,460;
- (c) the projects taken as a whole, which involve a total investment of US\$2 billion, are expected to lead to an average increase in income of 7.3 percent per annum over the development period (an average of eight years); and
- (d) the average cost per beneficiary is US\$160 per capita; but five projects accounted for eight million of the 12 million beneficiaries at a cost per beneficiary of only US\$17 per capita. (The increase in income expected from these five projects is, however, also much lower than the average increase for the projects taken as a group.)

3.8 Thus, the change in the Bank's philosophy on agricultural development over the years is reflected in the pattern of lending for agriculture. This change can be summarized as follows:

- (a) the share of agriculture in total lending has, over the years, increased considerably, and within agriculture poverty-oriented projects now have a larger share;
- (b) the share of the poor countries in lending for both agriculture and poverty-oriented projects has increased significantly;
- (c) the number of people benefitting from the Bank operations in agriculture is increasing; and
- (d) based on information extracted from appraisal reports, the incomes of the beneficiaries, including many rural poor, are estimated to increase at a rate above that (five percent) suggested in the Nairobi declaration. But it must be remembered that this increase is for Bank financed projects and that the share of Bank Group financed projects in total investment in agriculture and rural development in developing countries is relatively small.

B. The Way Ahead

3.9 The extent to which direct programs can be mounted to improve the lot of the rural poor in general, and "new style" projects pursued in particular, will be determined by:

- (a) the extent to which the twin goals of equity and output maximization can be reconciled; and
- (b) the extent of the resources available in relation to the magnitude of the problem.

3.10 Aspects of each of these are analyzed in turn.

(i) Reconciling Goals

3.11 An important consideration for the Bank and member governments is whether greater emphasis on rural development will divert resources away from food production. The possibility of such diversion arises for various reasons.

- (a) Heavy investment in projects for those with the lowest incomes could lead to a concentration of effort on a group which commands a small proportion of the basic resource for food production--the land. If the poor smallholders are considered to control less than two hectares of land per family, then collectively they would control only about 16 percent of the arable land in a sample of 52 developing countries.

- (b) A second consideration is that it is more costly to provide services to large numbers of small farmers than to a smaller number of large farmers. Bank experience indicates that the costs of providing credit to small farmers can run 14 percentage points or more above those for large farmers. Similarly, large numbers of small farmers need more extension workers, and so there may be a diversion of scarce resources away from larger producers in addition to incurring a higher cost to expand these services. On the other hand, small farmers are often more efficient, in terms of on-farm resource use, than are large farmers.

3.12 Rural development does not necessarily imply a diversion of resources away from food production. Most of the rural poor are engaged in agricultural production so that steps taken to aid them to become more productive will add to agricultural output. Indeed, in many countries the distribution of land and income is such that raising the agricultural output of the low income groups in the rural sector is the only way in which it is possible to increase both production and consumption of food in these areas. This applies also to the landless where public works can lead to the creation of productive facilities and to the generation of income to purchase food. Nevertheless, even where changes can be made very rapidly, the total increase in food production of the lowest income groups may not be adequate because of the narrow land base controlled by these groups. In the meantime food production is of high priority--not least for the rural and urban poor whose needs are the greatest.

3.13 Bank policy recognizes the twin goals of increasing food production and the alleviation of poverty in the rural areas. Bank policy is to aid all agricultural producers but to emphasize deepening of lending--assisting small scale farmers, including the low income target groups. Large scale farmers are to be aided directly only when increases in their production can be demonstrated to be necessary to increase food supplies and contribute to the balance of payments, and where these increases have a beneficial impact on government revenues. Emphasis on small farmers includes not only those in the target groups, but also those with up to five hectares--who collectively account for 40 percent of the land under cultivation in developing countries. In this way a Bank policy of assisting agricultural development, with emphasis on smaller farms and rural development to help the rural poor, will contribute both to raising food output and alleviating poverty.

(ii) Resource Requirements

3.14 The Nairobi Speech set the ambitious target of raising the annual rate of growth of output of small farmers to five percent by 1985 ^{1/}. Achieving such a target requires that demand increase sufficiently (through

^{1/} As defined in Chapter I, the target income group has been changed from the acreage basis in the Nairobi Speech to an absolute and relative income basis. However, the five percent target rate of growth and the analysis which follows refer to all small scale farmers and not just the target income groups.

both export opportunities and growth in the consuming sectors of the economy) to maintain producer prices; that institutional and organizational constraints be removed or lessened in effect; and that resources be mobilized to assist small farmers. Country experience, as discussed in Chapter II, and the Bank's own experience in implementing projects, confirm that, in many instances, finance alone is not the limiting factor in bringing about a sustained increase in output among small scale producers; frequently technological, organizational, procedural and manpower factors limit the effective use of additional investment. Nonetheless, it is possible to give some approximate indication of the order of magnitude of investment needs.

3.15 Estimates of investment needs were obtained through two different approaches yielding broadly similar results. The first drew directly upon Bank experience and extrapolated from it. The second was based on construction of a simple model to permit some analysis of the sensitivity of the results to crucial parameters and policies.

3.16 As is shown in Table 12, there was a subset of 25 agricultural projects (single and multi-sector) approved in FY74, of which at least 50 percent of the direct beneficiaries are likely to be poor farm families. Including those outside the target group, these projects are expected to benefit farm families accounting for some 11 million people. With total project costs of almost US\$900 million, average project cost is under US\$80 per capita. (A substantial number of those outside the target group, measured on the basis of the poverty standards described in Chapter I, would nevertheless be small farmers, as these are described in the President's Nairobi Speech.) As a result of the projects, net output per farm family is projected to increase by more than five percent per annum over an eight year development period, beginning from a level of annual income that averages approximately US\$60 per capita. There is no reason to suppose that income growth would be proportionately different for the target and non-target groups. On this basis, given enough similar projects and a program for effecting them, the implied global cost of helping a total of rural poor projected at 700 million by the end of the 1970s, would be a little over US\$100 billion. ^{1/}

3.17 The parameters of the model include the capital/output ratio, the depreciation rate of capital, the population growth rate of small farm households, the time-lag before investment becomes productive, and the share of the benefits from investment which accrue to small farmers. The accumulated capital cost by 1985 obtained from the model was approximately US\$70 billion, somewhat less than the figure resulting from the first approach above, although of a similar order of magnitude. The main reason for the difference is that the model's calculations were based upon bringing the growth rate up to five percent gradually over the period, in contrast to achieving that rate more rapidly as implied in Bank project experience. To maintain the rate of growth beyond 1985, however, annual investment expenditures of approximately US\$20 billion would be needed.

^{1/} This implies an average capital/output ratio of approximately 3:1, which appears reasonable.

3.18 The estimates above are, however, subject to a substantial margin of error because:

- (a) the mix of investment opportunities during the next decade could vary significantly from that in 1974 (though a provisional analysis of Bank projects in FY75 indicates a pattern similar to 1974);
- (b) indirect beneficiaries, such as landless laborers, are not included in the project appraisal estimates;
- (c) better project design could reduce costs and increase benefits;
- (d) greater government commitment, more appropriate government policies, and better rural, regional, and project planning could also result in significant economies and higher benefits;
- (e) the cost estimates do not necessarily include all those costs which are external to the projects but essential for broader programs of rural development; and
- (f) because output may increase faster in future than consumer demand, farm-gate prices may decline and hence the net benefits may be lower.

3.19 The model yielded two other important insights: (a) sensitivity of the total cost of such programs to variations in the share of benefits accruing to the target group is considerable; and (b) the cumulative investment cost would be lower for a lower rate of growth of population among the target groups. For example, both a population growth rate of one percent per annum with an annual per capita production increase of four percent, and population growth at three percent per annum with a per capita production increase of two percent, imply an overall production growth rate of five percent. Use of the model indicated that the cumulative investment cost would be US\$5 billion lower in the first of these cases, that is, for the lower rate of growth of population. This result is strongly suggestive. A lower rate of growth of population is associated with lower costs of achieving a target production increase; it directly allows a higher rate of growth of production per capita; and the effect provides the possibility of a self-sustaining process to the extent that the higher growth rates of per capita production provide the preconditions for a lower birth rate.

3.20 On some counts, US\$100 billion would seem a remarkably modest total cost for providing the impetus toward sustainable increases in productivity and real income for the rural poor. Thus, estimates ^{1/} of income, savings, and investments in the developing countries, including the oil and mineral rich nations, indicate that total investment in developing countries in 1974

^{1/} These were based on World Economic Indicators, Sec.M74-665, IBRD, September 24, 1974.

would be approximately US\$170 billion. Allowing for phasing over, say, a ten year period, US\$10 billion per annum for rural development would account for only six percent of this total. But, for the low income developing countries (those with per capita incomes below US\$200 at 1967/69 prices), the picture is very different. Among this group of countries, investment in 1974 would be of the order of US\$25 billion. For this group the investment requirements for rural development are large relative to the availability of resources, since these countries account for more than 60 percent of the rural poor. The regional breakdown is shown in Table 14.

(iii) The Lending Program

3.21 There are many demands on the Bank's resources and many constraints on lending for agricultural and rural development. Nonetheless the compelling financial and human needs of the rural sector justify an ambitious five year target. Under the Bank's lending program for FY69-73, US\$3.4 billion was allocated to agricultural development, some 20 percent of total lending over this period. The preliminary FY74-78 program allocates 26 percent of total lending to agricultural development, i.e., US\$6.5 billion (at constant FY74 prices). Dropping FY74 and adding FY79 would increase this figure to approximately US\$7.2 billion for the five year period FY75-79. Based on past experience of cost sharing, this would involve a total investment of approximately US\$15 billion in the rural sectors of the developing countries.

3.22 Assuming a program of US\$7.2 billion for agricultural and rural development, the question then becomes one of the allocation of resources within the rural sector. The past trends in lending, and more particularly the experience in FY74, indicate that it is possible to design "new-style" projects that can fulfill many of the desired objectives of Bank policy. Close to half of the loans in FY74 are "new style" and indications are that a high proportion of all projects in FY75 will be also. While there is limited information on the projects in the latter part of the five year period, there is every reason to anticipate that a high proportion of "new style" projects can be maintained during FY76-79.

3.23 It is recommended that the Bank aim to double the FY74 level of lending for rural development during the period FY75 to FY79. This would imply a total Bank Group investment rising from US\$0.5 billion in FY75 to US\$1.0 billion in FY79, at 1974 prices. Taken over the five year period, this would represent one-half of the Bank's total projected lending for agricultural and rural development. Allowing for local contributions and other funds, the proposed lending program would support a total annual investment program of approximately US\$2 billion by FY79. This is some 20 percent of the rough estimate of the annual requirement for financing the target income increase of five percent per annum for the rural poor discussed in paragraphs 3.16-3.19 above. The proposed lending program would test the absorptive capacity of many developing countries, especially the poorest countries most in need of external resources. Substantial new efforts to mobilize local resources would be needed, together with organizational changes to utilize existing resources more effectively as discussed in Chapter II. The role of the Bank in bringing about such changes is discussed in the next section.

In some countries, however, to effect such changes will require a greater degree of political and social commitment to the general objectives of rural development than has been the case up to the present.

3.24 An analysis of the projected lending program for agriculture (based on the aggregate of the country lending program projections) shows some differences between the regional distribution of lending and the regional distribution of the rural poor. In particular, the concentration of rural poor in the South Asia region considerably exceeds the share of this region in total projected Bank lending for agriculture. If the proposed program of lending for rural development were distributed among regions according to the regional concentrations of rural poverty, four of six regions would need to devote 50 percent or less of their agricultural lending to rural development. In one other region, East Asia and Pacific, the share of rural development would be 54 percent of agricultural lending. For the South Asia region, however, the requirement for rural development lending would exceed the present prospective regional total of lending for agriculture by 21 percent. The South Asia region, moreover, accounts for 75 percent of the 360 million rural poor that are from the resource poor, low income group of countries. Table 15 shows the details of these calculations.

3.25 The South Asian problem is quantitatively by far the most severe and, in view of the poverty of the countries involved, probably the most intractable. Most other regions, in the light of their past experience, should be able to achieve a regional lending target for rural development projects based on the regional distribution of rural poverty. In some regions, it may be possible to increase lending for rural development beyond these levels, particularly where political commitment and national objectives are especially favorable. It is also likely that rural development projects will play a considerably greater role in South Asia than in the past. For one thing, the previous emphasis on agricultural credit operations (which accounted for more than 50 percent of all agricultural lending for South Asia in the FY69-73 period), which were not primarily oriented toward target groups of rural poor, was greatly reduced in the FY74 program, and the reduced emphasis is confirmed by estimated totals of agricultural lending Bank-wide by type of project as projected for the FY75-79 period. In particular, as compared with FY69-73, the FY75-79 share of area development projects (which include area-based rural development projects) increases from six percent to 30 percent, the increase being matched by declines in the relative importance of credit operations, irrigation projects, and livestock projects.

3.26 Should additional resources become available, the claims of the agricultural sector in general, but especially the need for additional resources for agriculture and rural development in South Asia, seem persuasive. Some adjustment to increase lending for rural development in South Asia above the levels implied by the current lending projections in the region should be contemplated. Questions concerning the technical and other assistance conducive to this goal which the Bank can supply, together with internal staffing implications, are taken up in the final section of this Chapter.

3.27 The proposed program is unlikely to be attained without continuing major efforts on the part of the Bank staff to support and further develop innovative approaches to project design and implementation. It is difficult to foresee the forms these innovations might take, but a number of the kinds of changes that will be needed are already embodied in recent projects. Many of these might be suitable for application on a wider scale. For example, the recent IDA credit to Upper Volta for agricultural development established a Rural Development Fund. Its purpose was, in part, to deal with the uncertainties of government finance, particularly after the termination of the project implementation period, and to mobilize additional local resources. A model for capitalizing effectively on the benefits of new agricultural research is provided by the recent Korea Seeds project which finances the establishment of a modern seeds industry in that country, including the capacity to undertake continuing research into a range of crops. The result should be broad based income increases for a large group of farmers at very low cost. This is an example of a national minimum package program. Also in Asia, the Keratong Land Settlement project in Malaysia includes the financing of project towns in the settlement area and thus provides an example of a linked or integrated approach to rural development that includes recognition of the impact on regional urban settlement. In this project there is a positive attempt to provide for the conditions and facilities calculated as necessary to attract skilled persons away from the largest cities and to reduce the migration of the unskilled, partly educated rural youth toward the same cities. In East Africa, the Kigoma project in Western Tanzania is an example of the use of a regional government authority for project management. The broad range of skills and expertise thus available enables a wide range of services to be financed under the cover of a regional development plan of operations, in which the project is itself the core part. This project is also providing finance for the preparation of other rural development programs in the context of improved regional and rural planning.

3.28 Another feature of growing significance is the support for ongoing domestic programs of rural development, where there is sufficient experience or commitment on the part of government, and scope for design improvement and increased program effectiveness. One example would be the Mauritius Rural Development project supporting the rural works program there. There are a number of others at late stages of preparation and appraisal: a project supporting Government's drought-prone areas programs for India; support for the Mexican Government's PIDER program of rural development; and provision of services and facilities for improved training of local officials in program formulation and implementation relating to the INPRES program of rural works in Indonesia. Many of these are nation-wide programs, or have the potential to become nation-wide programs. There will be increasing importance attached to support of a range of project activities under the umbrella of an overall strategy or rural development plan. A series of projects relating to Nigeria presently being prepared for Board consideration provides one example of this approach. The size of the Mexican PIDER program referred to above implies that it is, in effect, a series of projects that can be packaged as one, because of the common philosophy and set of objectives to which they relate.

3.29 It is likely that the proposed program will also require greater efforts to prepare multi-sectoral, integrated programs, involving not only a mix of directly productive and social elements, but also a greater range of productive components than is now the case. In particular, it is highly desirable in some areas to prepare integrated rural industry projects, involving as possible components rural electrification, training, and credit as well as agricultural elements. Such efforts might fit particularly well into the later phases of the multi-stage type of project activity that will be called for in the more sophisticated environment. There will also have to be a greater emphasis on helping the landless through industrial and training types of projects, as well as single or multi-sector efforts focused on training and education more particularly designed for rural people. Multi-sectoral integrated approaches are especially suitable for provision of rural health, family planning, and other social services. For example, the Bank will introduce selected elements of reformed health services into rural development projects and will link control operations for specific diseases (such as river blindness and sleeping sickness) with rural development programs.

3.30 In addition to innovation and experiments with new approaches, however, there is a continuing need for the weight of Bank experience in more conventional types of activities to be brought to bear on the concentrations of rural poverty--through schemes of general land improvement, irrigation, clearance for settlement or drainage, credit programs, and programs addressed to the needs of more specialized groups such as fishermen and herdsmen. Support for such activities will be further extended into the most challenging and difficult agro-ecological areas, such as those of the Sahel and the mountainous areas of Latin America. This will involve more national research and pilot testing of technology and special institutional arrangements in particular target areas. According to country needs and circumstances, therefore, in the terminology of Chapter II, there will continue to be a mix of minimum package, area development, national comprehensive, and public works programs in the rural areas.

3.31 Two rather different points relevant to the proposed lending program for rural development might usefully be made in conclusion. First, recalling the conclusions in Chapter II, the difficulties and uncertainties of the rural development process have been stressed. If the past provides any guide in this area, it surely suggests that innovation and experimentation, necessary though these clearly are, will almost certainly be accompanied by some failure as well as, hopefully, by a considerable measure of success. A great many of the "new style" projects, and the innovative ideas they embody, have yet to be tested through a period of full development. One step that will help to minimize the risks is the provision of adequate facilities for monitoring and evaluation of the project experience, so that the lessons of experience can be learnt. The second point is that the Bank program--ambitious as it is--will scarcely cater over the five year period to the increase in numbers of rural poor resulting from population growth. The latter could amount to 70 millions, while the rural poor benefiting from these programs will probably not exceed 60 millions. (Total beneficiaries--including those outside the target groups-- can be estimated at 100 millions.) This conclusion underlines the tremendous urgency for greater efforts to reduce population growth rates.

C. Deployment of Bank Resources

3.32 What more is necessary to ensure that the manner in which the Bank Group processes projects is conducive to meeting goals and broader policy objectives? Recent actions have included providing guidelines with respect to elements of Bank policies and procedures which might be considered constraints on designing, processing, and implementing rural development projects; assisting governments with in-depth research; increasing resources for agriculture and rural development; and improving control and monitoring procedures.

(i) Monitoring Progress

3.33 The Bank now has an extensive system for monitoring the progress of economic, sector, and project work. More recently, a monitoring system for rural development projects was introduced. The objectives are to help influence the design of projects at the earlier stages in order to increase their impact on the productivity and quality of life of the rural poor, and to follow the progress of projects through the pipeline. This monitoring will be achieved by the filing of regular "project information briefs" (PIBs) on all projects in the lending program, and will result in a system of quarterly progress reports. On the basis of these reports, modifications necessary to facilitate the implementation of the Bank program will be made in Bank policies and procedures.

3.34 It is important to spell out at an early stage in project identification the basic project rationale together with a broad project profile. This should indicate: number of farmers and other target groups, their income classes, the projected impact on productivity, cost of the project and its replicability, and breakdown into directly productive and non-productive investment. This would focus the project preparation process in the face of institutional constraints at the local and national levels, define the scope of the project, and establish appropriate component cut-off points.

(ii) The Project Cycle

(a) Project Identification

3.35 Internal monitoring of the kind outlined above should provide a useful series of reference points for reviewing progress in meeting the goals and objectives. But, for the system to provide a more positive stimulus to obtaining these goals, other action is required.

3.36 First, an intensive back-up effort is needed at the country economic and sector work level in order to both provide guidance and support for project planning strategies and tactics, and to facilitate more systematic consideration of rural development criteria in the selection and design of projects in the lending program. Agriculture and rural development sector work is essentially of two kinds: that which is needed to support country economic work and that which facilitates project identification. It is with the latter, which has to be given higher priority, that we are concerned here.

3.37 Rural sector studies need to be oriented toward (i) identifying target zones and populations; (ii) assessing technology constraints and the potential for small farms; (iii) examining infrastructure requirements; (iv) evaluating the capacity of existing service systems and their potential; (v) reviewing the administrative arrangements and capability for the rural sector; and (vi) vetting national policies relating to rural development. Preliminary guidelines to encourage such an approach are under review with the object of providing fresh guidelines with regard to the manner in which agriculture and rural development sector work can best be carried out.

3.38 It is not feasible to present a fully quantitative picture of sector work because some sector work is done on other kinds of missions--reconnaissance, appraisal and supervision. Thus, it is difficult to find a numeraire to measure the output of varied sector work activities. Table 17 gives a breakdown of the FY75 sector work by regions as indicated from sector, sub-sector, and some special missions. This shows a program of 14 agriculture and rural development sector reviews, five sub-sector reviews, and six special missions. The work program for the next four years is being developed. In addition to the Bank Group programs, FAO plans to have "Country Perspective Studies" in Malaysia, Burma, and the Sahelian countries of West Africa. Work is just ending on Iraq, Iran, Pakistan, and Bangladesh. The ILO is also planning rural development accounting studies under its World Employment Program. The Bank and FAO are now actively coordinating their sector work and have established informal cooperative arrangements with the ILO in order to avoid duplication.

3.39 Early experience suggests the usefulness of a new type of activity known as rural reconnaissance missions, to supplement agricultural sector studies, especially in the integration of agriculture and other sector work, and the evaluation of government rural development programs. Such reconnaissance missions may be restricted to one region or one area of a country, as opposed to studying the rural sector as a whole, but have a purview broader than a project mission. These missions are particularly useful in assessing new government proposals for rural development which are larger than a project but provide the administrative context in which rural development may be implemented. Their function thus falls between that of a typical Bank project and a sector mission.

3.40 A fully articulated program for project identification should be developed. This would include both sector and sub-sector review missions and rural reconnaissance missions. The articulation of such a program to identify and prepare an adequate pipeline of projects is likely to call for more, rather than less, resources to be devoted to these activities.

(b) Project Preparation

3.41 Because the number and variety of components in rural development projects make their design a complex and time-consuming task, a relatively

long lead time is required for project preparation. Since there are likely to be continuing constraints on increasing the Bank's manpower resources (including consultants), there is a need to examine the feasibility of re-allocating staff and rearranging the time spent on the various phases of the project cycle. Identification and preparation require time and this is especially important for rural development projects because of their complexity.

3.42 The identification and preparation of rural development projects is not well organized in many developing countries. Consequently, additional assistance is required and could take one or more of the following forms:

- (a) technical assistance to establish or strengthen the kinds of planning and programming units referred to in paragraph 3.44 below;
- (b) expand the project preparation capacities of the Cooperative Programs with FAO, WHO, and UNIDO;
- (c) introduce a special type of project, which might be termed rural preparation, the purpose of which would be to design rural development projects in detail prior to the appraisal of the actual projects themselves; this activity is analogous to the "engineering credits" used in the first phase of some transportation projects;
- (d) make more use of pilot projects, but on a scale of sufficient magnitude to test larger scale expansion.

3.43 The extent to which the Bank Group needs to shift and/or increase its resources for rural development work will depend in part upon the degree to which member governments develop project planning and programming units in departments and agencies concerned with agriculture and rural development. Experience confirms the great importance of establishing decentralized planning units with project preparation sections. In the case of rural development programs, such units are best situated in the planning units of regional or local governments, where such exist. Such an approach is in keeping with the rural development tenet of building on local initiative. It also has the advantage not only of strengthening local planning capacity but of having a direct bearing on the future implementation and implementability of projects. Where there is not regional or local government, and where nationally integrated programs are desired, preparation should be undertaken by a central office for rural development coordination, such as that outlined in Chapter II, or in a Ministry of Planning and Development.

(c) Project Appraisal Methods

3.44 Rural development projects, with their particular emphasis on distributional as well as productivity aspects, tend to be more complicated than typical agricultural projects. This is particularly true for those multi-sectoral projects which have benefits which cannot easily be quantified

in monetary terms. The adequacy of the traditional cost-benefit methodology used in the Bank to deal with rural development projects is sometimes questioned. However, experience thus far has been that all the rural development projects approved to date have shown adequate rates of return when the quantifiable benefits and costs are assessed in the usual manner. In some projects, the rates of return have also been satisfactory when the costs of those project elements for which the benefits cannot be quantified have been included along with other costs. It does not follow, however, that this will necessarily always be the case in the future. It is important, therefore, to consider more closely the non-quantifiable benefits and income distribution aspects of rural development projects.

3.45 With respect to project elements for which the benefits cannot be quantified, if social service components, such as health clinics and training programs, are considered essential for reaching production targets, then the costs of these elements should be included in total costs. If, however, the social service elements are not considered essential for achieving production goals, in calculating the rate of return for the project they should be excluded. In either case, how does one assess whether the levels of services proposed are justified? In the first place, reference must be made to sector or national policies, which should preferably establish minimum standards criteria (e.g., so many health clinics of a certain standard per head of population, maybe stratified by population density). Second, one should make certain that, within the national or regional minimum standards, the discounted total cost is the minimum among alternative ways of providing the services; the process of selecting the least cost alternative should be made explicit so as to ensure that realistic alternatives have been considered. Such an approach is accepted practice in public utility and other projects where "administered" prices are charged or benefits cannot be quantified.^{1/} Third, care should be taken that the social profitability of one component is not obscuring the negative social profitability of another component. This implies separate evaluation of project components. Fourth, where charges are made for services but the prices are "administered" ones, the marginal social costs should be estimated. Should it appear that the services are to be provided at less than their social cost, the implied subsidy must be justified in terms of government social objectives (including special pricing arrangements for the rural poor) and public savings. For example, are the subsidies going only to those who need them, and are costs being recovered sufficiently to provide funds for projects in other areas?)

3.46 Other points of importance in the appraisal of rural development projects are:

- (a) although the number of beneficiaries is important, the benefits of additional employment are taken into account in the rate of return calculations; employment in different project components should not be added together as there are important qualitative differences;

^{1/} See the Economic Evaluation of Public Utility Projects, July 1974.

- (b) indirect benefits can be important in rural development projects, but it does not follow that a project in which such benefits can be measured is necessarily superior to one in which they cannot; hence care must be exercised in evaluating the importance of indirect benefits;
- (c) where indirect benefits accrue to the non-target population, the fiscal arrangements appropriate to ensure that a reasonable share of the benefits accrue to the government should be assured; ^{1/} and
- (d) where substantial recurrent costs arise from capital expenditures, care must be exercised to see that the ordinary budget is not over-burdened.

(d) Project Implementation

3.47 Because our knowledge and experience of how best to help the rural poor to raise their productivity and improve the quality of their lives is limited, it is necessary to:

- (a) build a degree of flexibility into projects so that modifications can be made as experience is gained; and
- (b) in order to (i) control and monitor the extent of deviations from expectations, and (ii) learn the lessons of experience, evaluation systems must be devised. But such systems can be expensive and governments are naturally reluctant to tie up scarce human and financial resources in what might be regarded as sophisticated and esoteric monitoring systems. If such systems are viewed merely as something which aid agencies require, then the real point is missed. It is that evaluation systems should be an integral element of the internal management control system. If they are introduced for this purpose, they can also serve the supervision functions of governments and assistance agencies and aid in learning the lessons of experience.

(iii) Technical Assistance

(a) Training

3.48 Because the chronic shortage of indigenous supervisory and managerial staff is a major constraint in most developing countries, the training of "development managers" is of top priority. Much of this must be done "on-the-job," but it usually has to be supplemented by more formal training. The traditional way of providing on-the-job training is to provide technical assistance and insist on counterparts being supplied. Some technical

^{1/} See Land Reform, op. cit., p.11

assistance experts are better than others in training counterparts, but in general the record is disappointing. There are many reasons for this, including a shortage of adequate counterparts and the fact that the experts are often fully and wrongly engaged in executive functions. Consequently, it is important--at least in the larger projects--to make provision for proper training courses for counterpart personnel. Increasingly Bank projects are doing this and it is a trend to be strongly supported. Any increase in the supply of local expertise would also help to free scarce technical assistance for new projects.

(b) Public Sector Organization

3.49 Much more attention needs to be paid to public sector organization, procedures, and personnel management and to the manner in which project organizations should be fitted into improved public sector systems. There has been an understandable tendency on the part of the Bank Group and other donors to establish project entities outside of the cumbersome civil service structures in many developing countries. In this way highly privileged enclaves have been created to the detriment of longer-run improvement in public sector efficiency. Multi-sectoral rural development projects in particular depend critically on inter-agency cooperation and coordination. Hence those responsible for preparing such projects must identify the real public sector institutional constraints and seek practical solutions. Institutional constraints may be so persuasive, however, that general reforms may be required before particular projects can be implemented.

3.50 Reference was made earlier to the importance of strengthening local project planning capacities. Experience to date would also seem to indicate that there are few links between the preparation and implementation phases, and that "project managers" are appointed too late. It would not be an easy task to organize, but it would appear desirable for "project managers" to be appointed fairly early in the preparation stage so that they can be involved in the design of the projects they will manage. Not only would this help to reduce the growing delays between approval of projects and commencement of implementation, but it might improve the design of projects and should raise the quality of management.

(c) Research and Information

3.51 A recurring consideration in this paper has been the inadequacy of information concerning the circumstances of the rural poor and the means through which a broad scale acceleration of rural development can be achieved. This, together with the magnitude and inherent complexity of the problem, suggests high priority be given to research and information gathering relevant to the processes of rural development. The scale of Bank efforts in this area can never amount to more than a fraction of the total national and international resources required. Therefore, in addition to doing research itself, its contribution should take the form of assistance to member countries in undertaking research and analysis to provide firmer foundations for rural development programs and projects.

3.52 The first need is for more insight into the general characteristics of target groups and the dynamics of traditional societies as they begin to modernize. In some cases this is simply a need for information on how many people there are, where they are, and perhaps who they are. But once program design is under way, there is also a need to know about their skills, resource ownership, incomes, nutrition and health status, family structure, and general socio-economic environment. Such information has to be collected by survey and, to be adequate for project planning, must be current. Some information is available on a global basis in the FAO World Census of Agriculture and, on a country basis, from national censuses and surveys. The Bank is currently working with FAO to speed up analysis of the World Agricultural Census with respect to the small farm sector. The Bank should undertake and encourage more information gathering, especially as a precursor to rural development program planning.

3.53 Second, the importance of improving our knowledge of the micro-dynamics in rural areas for the design of projects, and increasing our understanding of micro-level responses to macro-policy in order to improve program formulation, suggests the need for research in these areas. To this end, the Bank is currently working with several external agencies on a study of "The Analytics of Change in Rural Communities." This has the following aims: (a) designing and evaluating key features of integrated rural development projects; (b) analyzing the effects on rural communities of different development policy instruments; (c) helping to identify those features of successful projects which can be replicated in other rural areas; and more generally, (d) providing an efficient feedback system to enhance the value of project experience in updating our understanding.

3.54 Third, it is important to have more information about the resources available for exploitation by the rural poor and others. To this end, the Bank should encourage others, and itself, to finance resource inventory and evaluation work based on various kinds of field surveys; the use of ERTS imagery and aerial photography; national income, production and employment statistics disaggregated to the regional and local levels; and sectoral and regional studies to discover additional growth centers and rural-urban linkages. Indonesia provides examples of these kinds of studies. ^{1/}

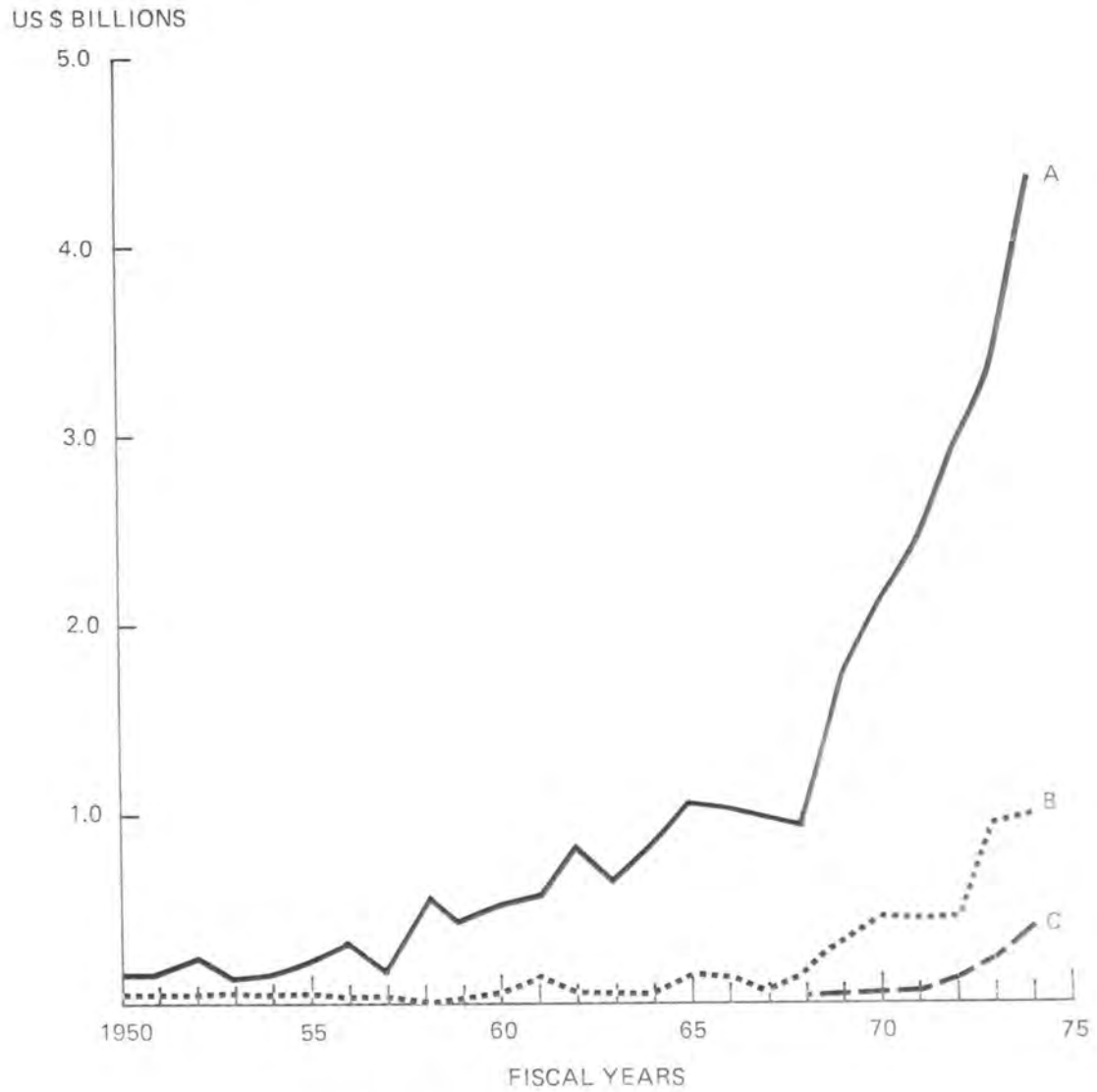
3.55 Fourth, it is very important to step up technical agricultural research to adapt known technologies to national and local situations. Such adaptive research includes varietal trials and plant breeding, experiments with fertilizer and water requirements for high-yielding varieties, development of improved cultural practices, especially for food crops and designing farming systems for smallholdings. Research also needs to be undertaken to

^{1/} Examples of regional planning studies are those of the southern half of Sumatera, Eastern Indonesia, and Suluwezi, being carried out with the assistance of the Bank, the Federal Republic of Germany, and the Canadian International Development Agency. "A Framework for Regional Planning in Indonesia," 502-IND is the report of the first Bank Regional Planning mission. Also the Bank and CIDA are currently considering financing a "National Resource Inventory and Evaluation Project" in Indonesia.

collate and synthesize all the work which has been carried out into "appropriate technologies" and to make recommendations for the production engineering of such machinery and equipment for local manufacture. The Bank should, therefore, support projects for strengthening existing and establishing new, national research institutions, working in harmony with the ten international research centers financed by the Consultative Group for International Agricultural Research, as well as the expansion of the international centers.

3.56 To foster a concerted attack in all the above areas, consideration should be given to the provision of additional research funds. These might be available for use in conjunction with those from other international and national agencies, for the purpose of encouraging collaborative research efforts, and could be additional to those provided through the Research Committee for the support of research within the Bank. Finally, the whole spectrum of activities referred to above should be thoroughly reviewed to assess whether the Bank is focusing adequately on the research needed to support its commitment to rural development.

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10	- World Bank Lending for Agriculture by Sub-Sector, 1968-1974
11	- World Bank Lending for Agriculture by National Income Groups
12	- IBRD/IDA Lending for Agriculture and Rural Development, FY68-74
13	- Relative Share of Agriculture and Rural Development in Total Bank Lending, FY68-74
14	- Rural Poverty by Region and Country Income Level, 1974 Estimates
15	- A Comparison of the Distribution of Rural Poor by Region and Prospective Bank Lending FY75-79
16	- FY75 Agriculture and Rural Development Sector Work

Table 1: ESTIMATES OF TOTAL AND RURAL POVERTY AMONG DEVELOPING COUNTRIES, 1969

<u>Region</u>	<u>Population 1969</u>	<u>Population in Poverty</u>		<u>Rural Population in Poverty</u>	
		<u>Below US\$50</u> <u>Per Capita</u>	<u>Below US\$75</u> <u>Per Capita</u>	<u>Below US\$50</u> <u>Per Capita</u>	<u>Below US\$75</u> <u>Per Capita</u>
		----- (millions) -----			
Developing Africa	360	115	165	105	140
Developing America	260	30	50	20	30
Developing Asia	1,080	415	620	355	525
Developing countries total	<u>1,700</u>	<u>560</u>	<u>835</u>	<u>480</u>	<u>695</u>
Four Asian countries ^{1/}	765	350	510	295	435
Other countries	935	210	325	185	260
Share of 4 Asian countries ^{1/}		----- (Shares) -----			
	45	63	61	62	63
Share of dc Asia	64	74	74	74	76
Share of dc Africa	21	21	20	22	20
Share of dc America	15	5	6	4	4
Combined share, relative to total population	<u>100</u>	<u>33</u>	<u>49</u>	<u>28</u>	<u>41</u>

^{1/} Bangladesh, India, Indonesia, Pakistan.

Sources: See notes to Table 1.

Notes for Table 1:

1. A calculation of poverty for a majority of developing countries, as defined in Table 1, was made for the study, "Redistribution with Growth", by Chenery, Ahluwalia, Bell, Duloy and Jolly, Oxford University Press, 1974, IBRD and IDS, Sussex. To these data were added rough estimates for countries excluded in that study, using the same data sources in respect of population and per capita income, but with national income distribution based on experience in countries for which data were available.

2. To obtain rural poverty, data for the share of urban in total population were obtained from "World Urbanization 1950-1970", Kingsley Davis, Population Monograph No. 9, University of California, Berkley, 1972. An assumed ratio of urban to rural income was applied, together with rough estimates for urban income distribution. With these assumptions, data for rural poverty were obtained after deducting estimates for urban poverty from total poverty.

Table 2: ESTIMATES OF RELATIVE POVERTY AMONG DEVELOPING COUNTRIES, 1969

<u>Region</u>	<u>Population 1969</u>	<u>Population in Poverty</u>	
		<u>Income Below one-Third of Average Income</u>	<u>Income Below One-Third of Average Income, OR Below US\$50 per Capita</u>
		----- (millions) -----	
Developing Africa	360	75	125
Developing America	260	80	80
Developing Asia	1,080	145	440
Developing countries total	<u>1,700</u>	<u>300</u>	<u>645</u>
		----- (shares) -----	
Share of dc Asia	64	48	68
Share of dc Africa	21	25	19
Share of dc America	15	27	13
Combined share, relative to total population	<u>100</u>	<u>18</u>	<u>38</u>

Sources: See notes to Table 1.

Table 3: RURAL POPULATION AND RURAL POVERTY AMONG DEVELOPING COUNTRIES

Region	Rural Population 1969	Rural Population in Poverty			The Share of the Rural Poor in Rural Population		
		Below US\$ 50 Per Capita	Below US\$ 75 Per Capita	Income Below One-Third of Average Income, OR Below US\$ 50 per Capita	Below US\$ 50 Per Capita	Below US\$ 75 Per Capita	Income Below One-Third of Average Income, OR Below US\$ 50 per Capita
		(millions)			(percentages)		
Developing Africa	280	105	140	115	38	50	41
Developing America	120	20	30	45	17	25	38
Developing Asia	855	355	525	370	42	61	43
Developing countries total	<u>1,255</u>	<u>480</u>	<u>695</u>	<u>530</u>	<u>38</u>	<u>55</u>	<u>42</u>
Four Asian countries ^{a/}	625	295	435	295	47	70	47
Other countries	630	185	260	235	29	41	37
		(percentages)					
Share of four Asian countries ^{a/}	50	62	63	56			
Share of dc Asia	68	74	76	70			
Share of dc Africa	22	22	20	22			
Share of dc America	10	4	4	8			
	<u>100</u>	<u>100</u>	<u>100</u>	<u>100</u>			

^{a/} Bangladesh, India, Indonesia, Pakistan

Sources: See notes to Table 1

Table 4: LANDLESS FARM WORKERS IN SELECTED COUNTRIES ^{1/}

	Number of Land- less Workers '000	Landless Workers as % of Active Population in Agriculture %	Active Agricultural Population as % of Total Active Popula- tion %
<u>Asia</u>			
India ^{2/}	47,300	32	68
Indonesia	5,673	20	70
Pakistan ^{3/}	8,013	29	70
Total	<u>60,986</u>	<u>30</u>	<u>68</u>
<u>Middle East & North Africa</u>			
Algeria	1,099	60	56
Egypt	1,865	38	55
Iran	903	25	46
Morocco	484	19	61
Tunisia	210	20	46
Total	<u>4,561</u>	<u>33</u>	<u>58</u>
<u>Latin America & Caribbean</u>			
Costa Rica	122	53	45
Dominican Republic	179	25	61
Honduras	138	27	67
Jamaica	72	41	27
Mexico (1970)	2,499	49	39
Nicaragua (1971)	101	43	47
Argentina	694	51	15
Chile (1971)	378	66	28
Colombia	1,158	42	45
Ecuador	391	39	54
Peru	557	30	46
Uruguay	99	55	17
Brazil	3,237	26	44
Venezuela	287	33	26
Total	<u>9,912</u>	<u>35</u>	<u>39</u>
GRAND TOTAL:	<u>75,459</u>		

^{1/} Except for India, data presented here are estimated from ILO Year Book of Labor Statistics, 1971, pp. 43-294, and 1972, pp. 44-301. Unless otherwise indicated, data refer to latest year available in 1960's and thus do not reflect recent reform actions on the one hand, and changes in the work force, on the other.

^{2/} Agricultural laborers as shown in India, Ministry of Agriculture, Directorate of Economics and Statistics, Indian Agriculture in Brief (11th ed., 1971) p.14.

^{3/} Includes population now belonging to Bangladesh.

Table 5: NUTRITION LEVELS BY INCOME CLASS

	Percentage of Families	Calorie Intake Cals (per capita)	Protein Intake Grams (per capita)	
			Total	Animal
<u>LATIN AMERICA</u>				
Brazil (1960/61)				
Annual family income (new cruzeiros per year)				
Rural areas:				
under 100	7.94	1.755	50.0	(13.2)
100-249	27.30	2.267	64.9	(21.7)
250-499	29.68	2.577	75.9	
500-1,199	24.56	3.144	95.1	(39.1)
1,200 and over	10.52	3.674	116.6	(32.5)
Total average		2.083	80.5	(31.0)
Colombia (1956-62)				
"very poor" rural		1.535	30	(9)
"middle class" rural		1.538	34	(15)
"middle class" urban		3.138	52	(22)
		2.133	60	(31)
Mexico (1950/59)				
"very poor" rural		1.788	45	
"middle class" rural		1.803	51	
"middle class" urban		2.275	57	
		2.331	64	
Peru (1951-58)				
Mountain area		1.794	47	
Coastal areas		2.205	64	
<u>ASIA</u>				
Ceylon				
rural (1961-66)		1.864	44	(8.3)
Upper class Colombo (1957)		3.271	84	
Iran				
Landowners		2.658	71	
Urban wage earners		2.132	65	
Peasants		1.842	60	
India (1958)				
Maharashtra State				
Expenditure per capita (rupees)				
Urban and rural area:				
0-11	21.3	1.340	37.9	(2.1)
11-18	19.9	2.020	56.6	(2.6)
18-34	20.7	2.485	69.0	(6.6)
34 and over	39.1	3.340	85.7	(11.9)
Total average		2.100	59.7	(4.6)
<u>AFRICA</u>				
Madagascar (1962)				
Income ('000 fr. per family/yr.)				
1-20	34.7	2.154	47.3	(5.5)
20-40	27.7	2.292	54.1	(6.7)
40-80	11.0	2.256	53.6	(9.4)
80-130	3.8	2.359	61.2	(15.2)
130-190	1.5	2.350	59.1	(15.2)
190-390	0.8	2.342	64.6	(21.8)
390-590	0.3	2.456	65.4	(23.6)
Other classes	0.2			
UAR (1965)				
Low Income class		2.204	71	(15.0)
Middle Income class		2.818	84	(18.0)
Higher Income class		3.130	98	(37.0)
Indonesia (1965-67)				
Income per person				
Rural areas:				
less than 20	8.2	1.782		
20-32	16.2	2.157		
32-53	30.8	2.525		
53-102	32.4	2.825		
102-200	10.9	3.215		
200 and over	1.5	3.150		
Total average		2.609		

Data cited in "The Employment Problem in Less Developed Countries (A Review of Evidence)" by David Turnham, Development Centre Studies, Employment Series No. 1, Paris, 1971.

Table 6: DISTRIBUTION OF MEDICAL DOCTORS BETWEEN RURAL AND URBAN AREAS

<u>Country</u>	<u>Year</u>	<u>Population/Medical Doctor</u>		<u>Urban Superiority in Doctors per Unit of Population</u>
		<u>Urban</u>	<u>Rural</u>	
Honduras	1968	1,190	7,140	6:1
Jamaica <u>1/</u>	1968	840	5,510	6.6:1
Philippines	1971	1,500	10,000	6.7:1
Senegal <u>1/</u>	1968	4,270	44,300	10.4:1
Panama	1969	930	3,000	3.2:1
Colombia	1970	1,000	6,400	6.4:1
Ghana <u>1/</u>	1968	4,340	4,360	9.5:1
Iran	1969/70	2,275	9,940	4.4:1
Haiti <u>1/</u>	1968	1,350	33,300	24.7:1
Kenya	1969	880	50,000	56.8:1
Tunisia <u>1/</u>	1968	2,912	10,056	3.5:1
Pakistan	1970	3,700	24,200	6.5:1
Thailand <u>1/</u>	1968	800	25,000	31.2:1

1/ Urban - Capital city only.
Rural - All other rural and urban.

Source: Cited in Bank Health Paper.

Table 7: PRIMARY SCHOOL AVAILABILITY IN RURAL AND URBAN AREAS

Percentage of the total number of primary schools in each category (rural and urban) which offer a complete number of grades

	<u>Number of Countries</u>	<u>Complete Urban Schools as a % of Total Urban Schools</u>	<u>Complete Rural Schools as a % of Total Rural Schools</u>
(a) <u>Countries by GNP Per Capita</u>			
Up to \$120 (excluding India)	9	53	36
India		57	49
\$121 - 250	7	72	32
\$251 - 750	16	77	62
\$751 - 1,500	2	89	56
Over \$1,500	6	100	99
(b) <u>By Major Regions</u>			
Africa	16	79	54
Asia (excluding India)	9	94	66
India		57	49
South and Central America	10	88	34
Europe	5	98	99

Source: Based on data in the 1972 Unesco Statistical Yearbook.

Table 8: THE PATTERN OF AGRICULTURAL TAXATION

Share of Total Tax Receipts Produced by Agricultural Taxes	Number of Countries having a given type of Tax				Total Direct Agricultural Taxes
	Personal	Export	Land	Other	
Less than 4 per cent	9	27	26	3	15
5 to 9 per cent	4	13	18	0	20
10 to 20 per cent	4	16	4	0	23
Over 20 per cent	2	2	0	0	11
	—	—	—	—	—
Number of countries in sample	19	58	48	3	69
	==	==	==	==	==

Source: Richard M. Bird, Taxing Agricultural Land in Developing Countries (Cambridge, Mass.: Harvard University Press, 1974), p.32.

Table 9: WORLD BANK LENDING FOR AGRICULTURE BY NUMBER
OF PROJECTS AND AMOUNT LENT 1948 - 1974

	(1) Number of Agricultural Projects	(2) Amount lent for Agriculture in US\$ millions	(3) Amount lent per project (2)/(1)	(4) Average Amount lent per year in US\$ millions	Agricultural Projects as a % of Total IBRD/IDA Proj.	Lending for Agriculture as a % of Total lending
1948-1960	33	175.9	5.3	13.5	17	6
1961-1965	33	484.4	14.7	96.9	16	12
1966-1970	93	1,207.6	13.0	241.5	23	17
1971-1972	72	855.4	12.1	427.8	26	16
1973-1974	98	1,893.6	19.3	946.8	30	24

Table 10: WORLD BANK LENDING FOR AGRICULTURE BY SUB-SECTOR

	US\$ millions										
	General Agric.	Agric. Credit	Area Develop.	Irri- gation	Livestock	Agric. Indus.	Non-Food Crops	Research	Fisheries	Forestry	Total
1948-1960	\$43.9 %25	20.2 11	10.0 6	85.1 48	7.0 4	4.7 3	-- --	-- --	-- --	5.0 3	175.9
1961-1965	\$-- %--	45.0 9	9.7 2	383.8 79	35.3 7	-- --	2.8 1	-- --	7.8 2	-- --	484.4 100
1966-1970	\$15.0 % 1	183.2 15	100.4 8	513.2 43	252.4 21	19.2 2	86.8 7	-- --	21.0 2	16.4 1	1,207.6 100
1971-1972	\$13.5 % 1	255.8 30	51.6 6	201.3 24	176.7 21	39.6 5	95.4 11	12.7 1	8.9 1	-- --	855.5 100
1973-1974	\$24.0 % 1	240.3 13	272.6 14	621.9 33	314.9 17	204.0 11	167.3 9	-- --	28.6 1	20.0 1	1,893.6 100

Table 11: WORLD BANK LENDING FOR AGRICULTURE BY NATIONAL INCOME GROUPS

Per Capita GNP Borrowing Countries	FY64-68				FY69-74			
	Agriculture IBRD & IDA		As % of AGRICULTURE		Agriculture IBRD & IDA		As % of AGRICULTURE	
	Number of Proj.	Amount (US\$m)	Number %	Amount %	Number of Proj.	Amount (US\$m)	Number %	Amount %
Less than \$150	9	138.8	20.5	22.5	101	1356.0	43.7	38.2
\$151-\$375	18	173.8	40.9	28.2	78	1069.7	33.8	30.1
\$376-\$700	13	251.2	29.6	40.8	30	782.1	13.0	22.1
Over \$700	4	52.0	9.0	8.5	22	341.8	9.5	9.6
TOTAL	44	615.8	100.0	100.0	231	3549.6	100.0	100.0

Source: World Bank Atlas 1973.

Table 12: IBRD/IDA LENDING FOR AGRICULTURE
AND RURAL DEVELOPMENT, FY68-74 ^{a/}

	<u>FY68</u>	<u>FY69</u>	<u>FY70</u>	<u>FY71</u>	<u>FY72</u>	<u>FY73</u>	<u>FY74</u>	<u>TOTAL</u>
<u>AGRICULTURE TOTAL</u>								
No. of Projects	8	24	22	25	22	27	28	156
Loans (US\$ M)	143.4	315.5	332.7	349.2	291.4	681.9	518.3	2,632.4
<u>RURAL DEVELOPMENT</u> ^{b/}								
<u>Multi-Sector</u> ^{c/}								
No. of Projects	1	-	-	1	1	1	6	10
Loans (US\$ M)	14.0	-	-	8.1	2.2	21.0	59.5	104.8
<u>Single Sector</u>								
<u>Agriculture</u>								
No. of Loans	4	3	6	9	11	16	19	68
Loans (US\$ M)	15.1	51.8	53.1	58.5	119.2	225.8	390.3	913.8
<u>Roads</u>								
No. of Loans	-	-	2	-	2	-	-	4
Loans (US\$ M)	-	-	25.6	-	23.5	-	-	49.1
<u>Education</u>								
No. of Loans	-	-	1	1	-	2	3	7
Loans (US\$ M)	-	-	1.5	3.3	-	9.0	23.8	37.6
<u>Total Single Sector</u>								
No. of Projects	4	3	9	10	13	18	22	79
Loans (US\$ M)	15.1	51.8	80.2	61.8	142.7	234.8	414.1	1,000.5
<u>Total Rural Development</u>								
No. of Projects	5	3	9	11	14	19	28	89
Loans (US\$ M)	29.1	51.8	80.2	69.9	144.9	255.8	437.6	1,069.3
<u>TOTAL AGRICULTURE & RURAL DEVT.</u>								
No. of Projects	13	27	31	36	36	46	56	245
Loans (US\$ M)	172.5	367.3	412.9	419.1	436.3	937.7	955.9	3,701.7
<u>OTHER BANK/IDA</u>								
Loans (US\$ M)	781.0	1,416.7	1,873.1	2,061.3	2,529.6	2,470.0	3,357.7	14,479.7
<u>GRAND TOTAL</u>								
Loans (US\$ M)	953.5	1,784.3	2,286.0	2,480.4	2,965.9	3,407.7	4,313.6	18,191.4

a/ Data refer to the original commitment and no cancellations and refundings are taken into account.

b/ Projects for which there is an expectation that 50 percent or more of primary (direct) benefits would accrue to the rural poor.

c/ Projects involving two or more sectoral components with the dominant sectoral component constituting less than 75 percent of the net project cost (i.e., cost excluding contingencies and components which are not integral part of the project). In all multi-sectoral projects designated as rural development projects, agriculture is the predominant sector and the P&B Department has classified them all under agriculture. Basically small farmers.

Table 13: RELATIVE SHARE OF AGRICULTURE AND RURAL
DEVELOPMENT IN TOTAL BANK LENDING, FY68-74

	<u>FY68</u>	<u>FY69</u>	<u>FY70</u>	<u>FY71</u>	<u>FY72</u>	<u>FY73</u>	<u>FY74</u>	<u>TOTAL</u>
Multi-Sectoral RDP as % of Total Agric. & RDP Lending:								
No. of Proj. (%)	7.7	-	-	2.8	2.8	2.2	10.7	4.1
Loans (%)	8.1	-	-	1.9	0.5	2.2	6.2	2.8
Agricultural and Multisectoral RDP as % of Total Agric. & RDP Lending:								
No. of Proj. (%)	38.5	11.1	19.4	27.8	33.4	37.0	44.6	31.9
Loans (%)	16.7	14.1	12.9	15.9	27.8	26.3	47.0	27.5
Total RDP as % of Total Agric. & RDP Lending:								
No. of Proj. (%)	38.5	11.1	29.0	30.6	38.9	41.3	50.0	36.3
Loans (%)	16.9	14.1	19.4	16.7	33.2	27.3	45.8	28.9
Total RDP as % of Total Lending:								
	3.0	2.9	3.5	2.8	4.9	7.5	11.0	6.1
Total Agric. Lending as % of Total IBRD/ IDA Lending:								
	18.1	20.6	18.1	16.9	14.7	27.5	22.2	20.3

Table 14: RURAL POVERTY BY REGION AND COUNTRY INCOME LEVEL,
1974 ESTIMATES

<u>Region</u>	<u>Countries with Incomes up to \$200 per Capita</u>	<u>Other Developing Countries 1/</u>	<u>Total</u>
East Africa	60	-	60
West Africa	15	35	50
South Asia	270	-	270
East Asia	10	105	115
EMENA	5	30	35
LAC	<u>-</u>	<u>50</u>	<u>50</u>
Total	360	220	580

1/ Includes some countries with low income per capita, but with large external receipts through oil(e.g., Indonesia, Nigeria).

Table 15: A COMPARISON OF THE DISTRIBUTION OF THE RURAL POOR
BY REGION AND PROSPECTIVE BANK LENDING, FY75-79

	(1)	(2)	(3)	(4)	(5)	(6)
	Distribution of Rural Poor, 1974	Distribution of Projected Lending for Agricultural Projects, FY75-79	Allocation of FY75/79 Agricultural Lending Objective Implied by (2)	Allocation of FY75/79 Lending for Rural Development Implied by (1)	Percentage of (4) to (3)	Percentage of Rural Development Lending to Agricultural Lending, FY69/74, by Region
			----- \$ Million, 1974 Prices -----			
East Africa	10.3	11.1	800	400	50	64
West Africa	8.6	10.2	750	300	40	50
East Asia & Pacific	19.8	18.3	1,300	700	54	53
South Asia	46.6	19.3	1,400	1,700	121	19
EMENA	6.0	18.2	1,300	200	15	14
LAC	<u>8.6</u>	<u>22.9</u>	<u>1,650</u>	<u>300</u>	<u>18</u>	<u>10</u>
Total	99.9	100.0	7,200	3,600	50	29

Col. (1) from Table 14.

Col. (2) from Policy Planning Department calculations.

Col. (3) and (4) overall totals as described in text paragraph.

Col. (6) from records and estimates of the Agricultural Department, CPS.

Table 16: FY75 AGRICULTURE AND RURAL DEVELOPMENT SECTOR WORK ^{a/}

<u>Region</u>	<u>Sector</u>	<u>Sub-Sector</u>	<u>Other</u>
East Asia and Pacific	- <u>b/</u>	1 <u>h/</u>	1 <u>k/</u>
South Asia	3 <u>c/</u>	-	-
Eastern Africa	2 <u>d/</u>	-	-
Western Africa	4 <u>e/</u>	2 <u>i/</u>	1
Europe, Middle East & North Africa	1 <u>f/</u>	2 <u>j/</u>	4 <u>l/</u>
Latin America and Caribbean	<u>4</u> <u>g/</u> <u>14</u>	- <u>5</u>	- <u>6</u>

- a/ Does not include sector work undertaken in conjunction with appraisal and supervision missions.
- b/ Sector work on Indonesia, Malaysia and the Philippines will be carried out by staff attached to Economic Missions.
- c/ Nepal, Burma and possibly Pakistan.
- d/ Sudan and Zambia. Lesotho, Swaziland and Madagascar in FY76.
- e/ Dahomey, Ivory Coast, Cameroon and Senegal.
- f/ Afghanistan.
- g/ El Salvador, Guatemala, Nicaragua and Costa Rica -- all jointly with USAID and IDA.
- h/ Malaysia - Smallholder sector review.
- i/ Regional studies (mainly the Sahelian zone) of Forestry and Livestock. The Forestry study will include Ivory Coast, Ghana, Cameroon and the Democratic Republic of the Congo, and may also include Liberia, Niger, Gabon and the Central African Republic.
- j/ Livestock and Fruits and Vegetable sub-sector surveys in selected countries of the Middle East.
- k/ A Review of selected aspects of regional and rural development in the Philippines.
- l/ Special missions to Egypt and Romania; an economic-regional (Macedonia) development study in Yugoslavia; a rural and regional development study in Tunisia.

Annex A: AFRICA RURAL DEVELOPMENT STUDY

SUMMARY AND CONCLUSIONS

1. Some Major Issues Related to Designing Rural Development Programs

1. In this chapter, the performance of the rural development programs reviewed is summarized with a view to drawing lessons for design and implementation of future programs. In doing so, it is important to emphasize at the outset that the state of the art of rural development is poor. The interactions between policies, institutions, trained manpower, physical resources and technology are complex and immensely diverse. There is not a single "package" that is universally applicable. Nor is there a systematic framework that can realistically be applied for planning rural development programs on a mass scale, given the extreme paucity of information and in particular the trained manpower and institutional capability available for planning rural development in Africa. There is only a catalogue of insights based on the analyses of the constraints and potentials encountered in designing and implementing the programs reviewed, of the mechanisms that have evolved to deal with them and of the effectiveness of these mechanisms in improving the performance of the projects. In presenting a view of rural development derived from these insights, it is assumed that in the future the objective of rural development will be not only to reach a mass of the low income rural population, but also to make the process of their development viable in the long run. The discussion is, therefore, focused on five sets of interrelated questions:

- (a) Were the programs reviewed directed towards low income populations?
- (b) To what extent have the programs been effective, or shown a potential to be effective, in improving living standards of the mass of the low income rural population?
- (c) What constraints have been faced in realizing this objective?
- (d) How have these constraints been ameliorated in the programs reviewed?
- (e) What are the implications of the performance of the past programs for the choice of target groups, types of targets, policies, and institutions if the objectives of rural development are to be realized?

2. It is apparent from the description of the programs in Chapter I that, with the exception of the spontaneous squatter settlements in Kenya, all the programs selected for analysis were at least partially directed to improving living standards of the low income rural populations. Although the Agricultural Finance Corporation and the Livestock schemes in Kenya have aimed at the development of both the existing commercial and the traditional subsistence sectors, a certain portion of their resources have been allocated specifically to the development of the low income subsistence sector. Even the earlier export crop schemes, such as the KTDA in Kenya and the BAT in Tanzania, involved development of low income smallholders. Although these programs represent a considerable step towards realizing the objectives of rural development, on the whole they have been less than fully effective in making the process of development of the low income sector self-sustaining.

3. Their limited effectiveness cannot be attributed to the inadequate or inappropriate specification of target groups, but rather to a combination of factors. First, the objectives of rural development have changed considerably over time. Many of the projects reviewed were designed with what now appear to be "limited" objectives, as for example increasing export crop production among smallholders. The projects were also based on more limited knowledge than is now available of the broad sector and policy questions, and of their possible impact on the performance of the individual programs. Frequently, despite the fact that the likely impact of domestic policies and institutions was anticipated, national policies could not be changed to improve project performance. The programs were often based on inadequate knowledge of technological possibilities and of their suitability to small farm conditions. Experience with regard to the appropriate forms of administrative institutions and their transferability was limited when many of these programs were planned. They also suffered from poor knowledge of the socio-cultural and institutional environment in which they were to be implemented. Consequently, the programs were rarely designed with a view to anticipate the effect of such factors on the response to interventions, or with an intention to introduce modifications in plans in the course of implementation to achieve maximum effectiveness. Finally and most importantly, the programs often experienced extreme scarcity of trained local manpower.

4. These various factors largely explain the limitations of the past programs, and have important implications for future sectoral policies and for the planning and implementation of future rural development programs. The past experience suggests that first, if the objective of participation of the lowest income group is to be ensured, examination of the particular country's existing sectoral policies and plans, as well as of the indigenous institutions available for rural development, has to be oriented explicitly to assessing the extent to which these effectively "reach" the lowest income groups in the rural areas. Such examination will allow explicit recognition of the existing government policies which are inconsistent with the goals of

rural development. For example, if the land tenure situation precludes participation of the lowest income groups in rural development programs, land reform may be essential for realizing the potential of a particular project. If the marketing boards have a vested interest in certain pricing policies which affect the distribution of benefits to the lowest income groups, perhaps a change in price policies is necessary for improving benefits of a specific rural development program. Because such questions were not resolved prior to implementation, many of the programs reviewed have had only a limited impact on low income groups. It must also be recognized, however, that in some cases the necessary changes in national policies may not be easy to bring about. The choice may be between opting for only a limited impact and not undertaking programs.

5. Second, the past programs indicate that substantially greater project preparation is necessary than was possible in most of the programs reviewed, if effectiveness is to be maximized. To this end, a number of pertinent questions must be resolved. For example, are technologies actually profitable at the farm level? Do existing marketing systems serve low income farmers effectively? Given the social ties that often exist between peasants and traders and given the extreme scarcity of trained manpower available to implement market interventions, will a new marketing system -- which may seem desirable in principle -- actually benefit the lowest income groups? Or will it only aggravate the tensions between the cultivators and the merchants, with adverse effects on the cultivators, as has been the case in ZAPI in Cameroon? In sum, what really are the critical constraints to development in a specific situation? How feasible is it to remove these constraints given the existing manpower and institutional development? What steps are necessary to develop the necessary capability? And what is the time horizon implicit in the results to be expected from the program?

6. To answer such questions project preparation will of course require considerably greater staff time and expenditure. Given the extreme scarcity of trained manpower to plan and implement rural development programs, one of the following alternatives usually has to be accepted: (a) To use the existing scarce trained manpower to acquire all the necessary information to perfect the design of only a few rural development programs in the hope of maximizing their effectiveness. This may also mean a substantial time lag between planning and implementation. (b) Alternatively to adopt an approach of learning by doing, i.e., undertaking a few pilot programs with an explicit recognition that, if they are based on limited knowledge, performance may fall short of expectations. Monitoring program performance and remaining flexible in program implementation will have to receive substantially greater attention than generally given in the programs reviewed, so that programs may be modified during implementation to improve their effectiveness and to enable their replicability. Although the importance of such flexibility is recognized in principle, analysis of the past programs indicates that in practice numerous obstacles emerge which frustrate the programs' ability to adapt to changing circumstances.

(c) The third alternative and the one recommended here is to attempt to reconcile the desirable features of the first two approaches, namely planning based on systematic acquisition of knowledge, and flexibility in the course of implementation. However this approach differs from the first two in two important ways. It can allow broader geographical coverage than is implicit in the first two approaches, and it places substantially greater emphasis on development of indigenous institutional capability. It involves beginning programs with only the few simplest interventions to remove the most critical constraints, and allowing the programs to evolve in scope through time phasing of activities based on specific knowledge acquired, constraints identified, and indigenous human, institutional and financial capability developed during the course of earlier stages of program implementation. These various implications for design of future programs are best illustrated by summarizing the effect of the various factors listed earlier on the performance of the past programs.

2. The Effect of National Policies on Past Programs

A. Land Policies

7. The Ethiopian and the Kenyan experience indicate that where acute inequity in the distribution of land rights exists, the full potential of the programs in improving benefits to the lowest income groups is not realized by simply targeting programs towards low income groups and devising temporary tenurial arrangements, as has been done in the Ethiopian programs. In such circumstances a more permanent change in the distribution of land rights should be an integral part of the rural development strategy.

8. In Ethiopia, exclusion of large farmers from the program's services both in CADU and in the Minimum Package Program has had several positive effects on the lowest income groups.^{1/} This policy has arrested the widespread eviction of tenants that commenced with the introduction of new technologies in the CADU area. It has also facilitated the distribution of credit to small farmers and thus tilted the programs' benefits in favor of the low income rural populations. However, these steps have not ensured full participation in program activities by the lowest income groups, in particular the tenants.^{2/}

^{1/} In 1970, partially as a result of eviction of over 500 farmers in the program area, CADU excluded landowners cultivating over 25 hectares and tenants with more than 40 hectares from its credit program. In 1972 the limits were further lowered to 20 hectares and 30 hectares respectively. A similar ceiling has been established in the Minimum Package Program.

^{2/} According to Teclé in 1969/70, the last season before CADU established a ceiling on credit, landowners with less than 10 hectares received only 29 percent of the program's credit, while tenants obtained less than 28 percent. During the next season, i.e., subsequent to imposition of the ceiling, the proportions increased to 53 percent and 40 percent respectively.

Recent figures indicate that in 1973 only 5 percent of the credit recipients in the MPP areas were tenants. Yet a land tenure survey conducted by the Ethiopian Government in 1969 found that tenants constitute between one and two thirds of the population in the various target areas. 1/ The low participation of the tenants results from insecurity of tenure and high and uncontrolled rents. 2/ For the tenants an innovation has to increase net yields by at least 30 percent if it is to be profitable. For the landowners, on the other hand, any net increase in yield is profitable. (See Chapter IV for further details.) Most tenants also encounter considerable difficulty in obtaining the yearly lease that is necessary to qualify for the program's credit. 3/

9. Are the incentive problems being dealt with more effectively through collectivization of cultivation? The Tanzanian experience indicates that if collectivization is to have a noticeable impact on the productivity and incomes of subsistence farmers and is to receive broad popular support, the critical organizational questions of who will do what, when, how and at what wage rate, faced in managing collective farms, need substantially greater attention than they seem to have received so far. Also, if continued uncertainty of land rights is not to have a disincentive effect on production, the decisions as to whether to introduce collectivization across the board and whether collectivization is possible only through "persuasion" cannot be postponed indefinitely.

10. In the absence of the resolution of these policy questions, the agricultural services provided to the collective farms and the managerial standards on the farms are frequently poor. The incentive for the cultivator to allocate his scarce labor to collective cultivation seems to be low, and consequently the yields on collective plots

1/ The proportion of tenant participation was 40 percent in CADU. However, this is because CADU's Swedish management introduced a policy of denying credit to landowners who would not sign the lease for the tenant. (See footnote 3 below.) The MPP has not had such "muscle" to bring to bear. Still the tenancy problem has created much tension in CADU, showing effectively the limits of rural development when there is little national will to change policies.

2/ Rents in the program areas in Ethiopia range from 1/3 to 1/2 of the tenant's produce. Lendlords may, however, refuse to share the costs of innovations, and may evict the tenant without any notice or compensation.

3/ In the absence of a land reform the programs have introduced temporary lease clauses to prevent eviction of tenants by landowners, at least during the period when tenants have received credit from the program.

are noted to have been generally lower than those on private plots. In addition there is some evidence that uncertainty with regard to collectivization is affecting yields on private plots. (See Chapter VIII.) The resistance to collectivization has been substantial, particularly in the predominantly export crop growing regions such as Tabora and Sukumaland, where the potential losses to commercial farmers from joining Ujamaa villages are considerably greater than in the case of subsistence farmers. In summary, despite the substantial donor assistance available for development of the low income agricultural population in Tanzania, effectiveness of the agricultural programs seems to be limited by haphazard policies towards collectivization and by the neglect of critical organizational questions.

B. Technology

11. Where considerable effort has been made to adapt technology to suit small farm conditions, as in the KTDA in Kenya or CADU in Ethiopia, the response of small farmers to innovations has been truly dramatic. (See Chapter II.) Even without such effort, where transplanted technologies have been responsive to local agronomic and climatic conditions the adoption of innovations has been rapid and has often surpassed projections, as in WADU. However, in many other programs, such as the Ujamaa villages in Tanzania, ZAPI and SODENKAM in Cameroon, the SRDP and the small farmers credit programs in Kenya, inadequate adaptive research appears to have been a major constraint to increasing productivity and incomes of low income farmers. (See Chapter II.)

12. The research gap has been particularly severe in the case of food crops. This is one of the reasons why in many earlier export crop schemes there existed considerable reluctance to introduce services for food crops. ^{1/} In these schemes promotion of the relatively more profitable export crops has led to rapid substitution of acreage from food to export crops. Such substitution has considerably increased cash incomes of the farmers who have taken to export crops. (See Chapter II.) However, it has also reduced the overall off-seasonal food supplies available for local consumption in the predominantly export crop areas, as for instance in Sukumaland in Tanzania or in the groundnut operation in Mali. These shortages have not been corrected by marketing systems, which are of a fragmented nature. (See Chapter II and Chapter V for details.) Excessive specialization in export crop production in early stages of development thus appears to have adversely affected rural welfare, particularly of the low income farmers, who are deficit in food but too poor to purchase food at high off-seasonal prices. (See Chapter II.)

13. The neglect of technology for food crops not only affects rural welfare; it also arrests rural growth. The need to grow the

^{1/} See Chapter II for other reasons for this reluctance.

minimum supply of low productivity food crops for domestic consumption has restricted the supply of scarce labor for production of high value export crops.

14. The experience of the export crop schemes indicates that even if export crop development is highly justified, in most cases a mixed cash and food crop development may be essential if the objective is not only to increase cash incomes of participants but also to improve general welfare in the program areas. (See Chapter II.) Although this approach has been adopted in many recent programs, including many reviewed under the ARDS, all too frequently its effectiveness seems to have been limited by the inadequate adaptive agricultural research. Such research needs to be oriented to develop technological packages that are profitable not only on research stations and demonstration plots, but also on the small farmer's field. The importance of such adaptive research and the present technological gap cannot be overstated.

15. If effective national research systems are to be developed along with national commitment to their continuation, substantial resources may have to be allocated specifically for this purpose.

C. Pricing and Marketing Policies

16. Pricing and marketing policies, particularly towards food crops, have had a substantial adverse effect on the performance of rural development programs. They have often led to considerable income disparities among food and non-food crop producers, even within program areas. In Lilongwe gross return from an acre of tobacco is three times that from maize, despite the fact that new technologies exist for maize. Where no new technologies exist for food crops, the incomes of food crop producers are even lower. (See Chapter II.)

17. Low food crop prices have discouraged expansion of food crop production for the market. Often even when grain has to be imported to meet national food deficits, as in Mali and Ethiopia, program managers have encountered considerable difficulty in convincing indigenous policy makers to establish prices high enough to provide an incentive for increasing domestic food production. When the programs have attempted to generate substantial marketed surpluses, in the absence of coherent national price policies, their individual pricing and marketing efforts have become successive reactions to a series of unanticipated crises, arising from inconsistencies between program and national objectives. Such ad hoc price policies have not only arrested the rate of adoption of new technologies in the program areas, as for instance in the case of wheat in Chilalo in 1972 ^{1/} but have also required substantial

^{1/} Numbers of farmers borrowing credit in Chilalo declined from 14,000 in 1971 to 12,500 in 1972. This decline in the demand for credit was largely attributed to the declining wheat prices and the marketing problems encountered in CADU in the previous year. (See Chapter IV.)

21. The experience of the past programs indicates that if the objective of rural development programs is not only to generate substantial marketed surpluses but also to ensure minimum availability of food and incomes to low income populations in rural areas, three steps are necessary in rural development programs: (a) broad geographical coverage of services in bringing about production increases, (b) a commensurate, simultaneous improvement of the marketing systems, including traditional trade channels where these already play an important role, and (c) development of the rural infrastructure, in particular of roads and storage facilities.

B. Manpower Policies and Participation

22. Trained manpower poses a particularly severe constraint to the expansion of rural services in African countries. Substantial investment in manpower training of field level and administrative staff is therefore necessary if rural development programs are to reach a mass of the low income rural population.

23. In the programs reviewed several interrelated factors have affected supply of trained manpower and thus limited the expansion of services to the target populations. The countries started with a low base of trained manpower. Malawi for example, is said to have had 10 college graduates when it became independent in 1964. Because of the considerable demand generated by a combination of increased development expenditure and Africanization of the existing positions, there has been a severe shortage of trained manpower in the early years of development. Investment in training of manpower does not seem to have been commensurate with the substantial investment in rural development programs. Therefore, frequent employment of the trained indigenous manpower by the programs has meant depriving other regions and departments of their existing manpower, with adverse effect on their development. (See Chapter VII.) However, in other cases where the programs have been bound by the domestic public service commission rules regarding salaries, promotions, and benefits both the programs, and the normal administrative structures have lost manpower to private enterprises and parastatals. (See Chapter VII.) Although establishment of project authorities has temporarily bypassed several inefficiencies of the existing administrative structure, it has not resolved the difficult basic problem of wage disparities and administrative incentive systems that continue to deter manpower from serving the rural sector. This problem is by no means easy to tackle. Frequently it is argued that higher salaries are necessary to attract trained manpower to the rural sector. However, attempting to maintain parity with rising urban salaries, rather than controlling the latter, further increases the disparities between the educated and the uneducated. The constraints posed by these structural problems, however, seem to receive little attention in policy making. Often ad hoc measures are adopted in programs, making the manpower problem more complex over time. (See Chapter VII.)

subsidization of marketing operations in programs, as has occurred in WADU, CADU, the LLDP and ZAPI. (See Chapter V.) But even more important, these price policies have resulted in diversion of scarce administrative talent away from the problems of long-term development to the solution of the short-term crises that are caused by the problem of disposal of marketable surpluses.

18. The pricing and marketing problems seem to have been frequently aggravated by the excessive dependence of the programs on unwilling marketing boards or inadequate farmers organizations to handle the increased marketable surpluses. In many program areas, as for instance ZAPI, the LLDP, CADU and WADU, much of the marketed surplus is already handled by private trading channels. However, often due to the view of the private trading systems as being exploitative and anti-social, their development has received relatively little attention. The surpluses generated have tended to outstrip the capacity of the "organized" marketing channels.

19. Despite the considerable efforts devoted to correcting marketing problems, much of the marketed surplus procured in integrated program areas has found its way to the capital city or has been exported. Due to the poor market development in the rural areas, there has not been much increase in food availability in the non-program rural areas, except that which has frequently trickled through the traditional marketing channels. (See Chapter V.)

20. But then why cannot the surpluses sold in the cities or exported abroad provide resources for development of other regions? To answer this question it is not enough merely to estimate the magnitude of the surplus; it is also necessary to examine who is likely to have control of the resources generated by these surpluses. In Malawi, ADMARC has earned substantial profits from the high market margins in the export of the increased maize surpluses in the LLDP. ^{1/} So far these profits have helped reduce the past deficits of ADMARC, which are said to have arisen from handling the marketing operations of traditional export crop producers at low margins. These profits also seem to have led to substantial investments in large scale commercial enterprises. The maize surpluses in Lilongwe thus appear to have resulted in a substantial redistribution of income from small-scale maize producers to traditional commercial farmers. However, this phenomenon is by no means confined to Malawi. In Tanzania it is not rare to find that the resources generated by smallholders are lost to a few members or officials of the inefficient cooperative societies.

^{1/} ADMARC earned as high as K 6.6 per bag for the maize it exported in 1972, whereas the maize producers received only K 2.5. This is a major source of contention between the program management and ADMARC. See Chapter VI for further details.

24. The administrative and technical quality of the available staff has also been poor, restricting the scope for expansion of services. The only Malawian who took over an administrative position from an expatriate in 1973 was ill-equipped to handle even the existing credit operations of the program. Quality of the indigenous manpower can, of course, be increased relatively quickly, provided there are effective programs for their training.

25. Performance of the programs on this score has varied considerably. CADU, the KTDA, BAT, and ZAPI have played a very effective role in training administrative staff. However most other programs reviewed, have been deficient in this respect. While the LLDP, CADU, and the KTDA have carried out extensive programs for the field level staff, training offered by the remaining programs has been modest in scope and generally poor in quality. In Ethiopia, even the substantial training of field staff being carried out by programs such as CADU and by the additional nationally-run training centers has not been adequate relative to the need. The supply of trained extension staff remains one of the major constraints to expansion of even the very modest level of services that the Minimum Package Program aims to provide. Low levels of technical competence among the field staff and poor incentive systems remain an equally severe constraint to improved performance in Kenya and Tanzania, although in comparison with Ethiopia the latter two countries have been better endowed in terms of numbers of extension workers. 1/ (See Chapter III.)

26. This raises a question as to whether programs directed at low income target populations can indeed carry out training on the scale and of the quality which are essential for providing a guaranteed minimum level of services to all the low income rural populations in the foreseeable future. Substantial investment seems to be necessary in training programs to release this major constraint. To improve the content of training and to make it practically oriented, training programs can of course be linked to specific rural development programs.

27. Obviously, the need for formally trained manpower is largely determined by how delivery of agricultural services is organized. Many programs follow conventional forms of credit administration based on complex criteria of creditworthiness of the applicant, which involve processing of a number of complicated forms. These administrative procedures are highly demanding of scarce trained manpower, a constraint

1/ It has been frequently observed that development of an effective network of field staff may be easier in Ethiopia, where the slate is clean, than in Kenya and Tanzania where administrative reform poses a major constraint, but seems far more difficult to bring about.

which limits the number of small farmers that can be reached through credit. (See Chapter IV.) Similarly, the use of personal visits in the introduction of innovations, an approach followed in many programs, restricts the number of farmers that can be reached through extension services. (See Chapter III.) All too often, the administrative systems used in the delivery of services and the manpower they require seem to be a far greater constraint to the expansion of coverage than are finances.

28. The manpower constraint also creates a conflict between realizing growth and achieving distribution, since reaching fewer, more responsive farmers within the target populations is the easier way to realize growth in the short run. This tendency to concentrate on "progressive" or "innovative" farmers was frequently noted in the programs reviewed. (See Chapters III and IV.)

29. To alleviate this problem some of the programs, including the KTDA, ZAPI, CADU, and WADU, have introduced a modest element of responsibility to the program participants in the provision of extension services, in the delivery of credit, and in the marketing of inputs and output. The experience of these programs indicates that, if properly developed, there may be substantial potential for local participation in the delivery of services. However, this potential has so far not been exploited sufficiently, primarily because the knowledge as to how to organize such services is limited. Whether the planners of the programs are expatriates or indigenous administrators, their understanding of the traditional rural people and of the local leadership patterns often seems poor. There also seems to have been little tendency to innovate in organizing services and little willingness to delegate responsibility to the rural people. Reviewers of the programs emphasize that the paternalism of program administrators is one of the severe constraints to development of strong viable local organizations. This attitude tends to lead to excessive protection and subsidization of local organizations at the outset, resulting in inefficiencies and a lack of willingness on the part of the rural people to share responsibility along with benefits.

E. Credit Policies

30. In the programs reviewed target populations have been eligible for short term institutional credit at an annual interest rate of 7 to 12 percent, provided they meet the criteria of creditworthiness. Although these criteria vary substantially between programs, they are generally cumbersome. In some cases, the requirement of a downpayment -- which the poorest farmers often cannot afford -- excludes many farmers from credit services. Despite this fact, the credit policies in the programs reviewed have by and large not been discriminatory towards the low income groups. Nor has the amount of credit distributed in these particular programs been restricted by the supply of credit. Rather, in most cases the availability of manpower to administer credit and the profitability of the innovations affecting the demand for credit seem to have been the critical limiting factors in reaching small farmers. (See Chapter III.)

Often during implementation, in the quest for measuring success of the programs by the number of farmers reached through credit, these constraints appear to be overlooked and emphasis placed on credit expansion. When innovations are profitable, however, the repayment rate of even the lowest income farmers can be as high as, if not higher than, that of the large farmers, as illustrated by the rural development programs in Ethiopia. (See Chapter III.)

31. Since priorities must be established in the use of scarce administrative manpower, in the initial stages in many of the programs reviewed the development and extension of technology and the improvement of the marketing systems seem to have been far more critical before credit could become the central focus of the programs. When profitable innovations and markets for output exist, even small farmers are frequently noted to purchase inputs with cash or to organize themselves spontaneously to take advantage of group sales, as illustrated by the Modified Input Areas in Lilongwe. Where feasible, it therefore seems desirable to encourage such spontaneous group or cash sales of inputs. This approach has the advantage of minimizing complex credit administrations, of mobilizing rural savings, and of developing viable farmer organizations. Alternative approaches to credit administration such as an input subsidy also need to be explored more systematically. The programs reviewed have, however, rarely departed from the credit focus.

F. Interregional Allocation of Resources and Participation

32. There are several special features of the African countries which seem to require particular attention if mass participation of the lowest income groups is to be realized in the foreseeable future. A majority of the rural population in Africa earns low incomes. Although relative income disparities are substantial, with a few obvious exceptions, incomes of even the prosperous rural classes are generally low. ^{1/} The

^{1/} Although a tea farmer in Kenya earns an annual cash income of \$40.00 compared to \$7.00 earned by a subsistence farmer, he can hardly be placed in the class of the Latin American latifundia. The relatively equitable income distribution in Africa is underlined by a comparison of the proportion of the national income going to the lowest income groups in Africa and in Latin America. For example in Kenya and Tanzania the poorest 20 percent of the population earn 7.0 and 9.5 percent of the national income respectively, while in Brazil and Colombia the poorest 20 percent earn 3.5 and 2.2 percent of the income. (See Irma Adelman and Cynthia Taft Morris, "Who Benefits From Economic Development", International Meeting of Directors of Development Research and Training, Belgrade: August 28-30, 1973, Appendix.) The problem in Africa is, therefore, frequently one of fostering participation of the poor, rather than attempting an exclusion of the "rich".

low income population is not concentrated in a few regions, as is the case in some Latin American countries, but encompasses the entire rural sector. The widespread incidence of low productivity and incomes means that in Africa potential target groups are large relative to finances and, in particular, to the trained manpower and institutional capability available for planning and implementing rural development programs. Therefore, if masses are to be "reached" and if their development is to be viable in the long run, the primary emphasis in rural development programs has to be on establishing a few clear priorities such as increasing productivity, generating additional resources, and equally important, augmenting indigenous institutional capability to undertake the more complex tasks of development over time.

33. Intensive development of certain high value export crops or of high potential regions, is therefore, often justified, not only because of its direct impact on the selected target populations, but also because of its potential to generate substantial additional resources for development elsewhere.

34. However, as has been pointed out earlier, emphasis on intensity of services in an early stage of development may also divert scarce manpower and financial resources away from other regions or activities. Further, even if it generates additional resources, the form in which the resources are generated or the institutions that control the resources may not in practice always ensure the mobilization and allocation of these resources to other low income regions. This is one of the many dilemmas faced in rural development. It would seem, however, that in many cases the objective of mass participation of low income groups may be better served by a more equitable allocation of resources at the outset to ensure a minimum level of institutional development for removal of the most critical constraints before a few regions benefit from substantially greater allocation. There are, of course, exceptions when unusually profitable opportunities may justify intensive development.

35. In several programs the argument against initial intensity can be made particularly strong in the case of investments in social services. Social services are strongly in demand in most program areas and can be frequently justified on the basis of "need". Consequently, both in 'top down' integrated programs such as the LLDP and SODENKAM and in 'bottom up' programs such as Ujamaa many social services are provided, often without instituting mechanisms for generating additional fiscal resources in the program areas, without examining economic ways of providing the services, without training additional manpower and without developing the necessary institutions to ensure their long-term viability. These oversights may occur despite the fact that the intensive provision of productive services has led to considerable increases in incomes in some of the program areas, such as the LLDP or SODENKAM. (See Chapter VI.)

36. Particularly because many social services such as health facilities involve substantial recurrent budgetary resources, ensuring their continuity without additional resource mobilization means either

continued reliance on foreign assistance or diversion of resources from productive investments elsewhere. This diversion of resources may frequently affect long term growth as well as distribution, as is feared may be the case in Tanzania.^{1/} The knowledge of the effect of social services on increasing productive capacity as distinct from improving welfare must of course be highly region specific. Such knowledge is generally very poor. Where social services cannot be justified on the basis of extreme need on either productive or welfare grounds the question of their initial efficacy focuses on the interrelated considerations of long-term feasibility and regional equity: e.g., why should people in Lilongwe benefit from substantial productive services, intensive land use planning, roads, soil conservation measures, water supply and health clinics, while several other regions in Malawi do not receive even the minimum level of agricultural services?

37. Through their visibility and the "demonstration effect," integrated programs have undoubtedly helped to focus attention on problems of rural development, as is evident from the role of CADU in energizing the Ethiopian Ministry of Agriculture and in getting a massive rural development effort under way. However, where the peasantry is politically conscious, as in Kenya, a few regional programs can also generate substantial political tensions. This partly explains the rather lukewarm enthusiasm of the Kenyan government towards regional programs, so labeled, since the SRDP got under way.

3. Institutional Development in the Past Programs

38. Constraints are also imposed by inadequate development of administrative, commercial and elective institutions which have had a profound effect on the scope for development of the subsistence sector. Institutional development takes time even if the commitment to its realization exists and the necessary decisions for its development are made. Frequently, however, the time required for institutional development and the changes in the distribution of political and administrative power that such development implies deter policy makers from taking the necessary steps, despite the attention that institutional reform may receive in policy pronouncements.

39. Besides, for political, administrative, psychological, and other conventional economic reasons, success is easier to 'measure' when it is in the form of an immediate increase in the amount of fertilizer distributed, the number of health clinics established, or the number of Ujamaa villages settled, than when programs aim at bringing about participation more slowly and indirectly, as for instance by simultaneously increasing the administrative capacity of ADMARC to ensure that the fertilizer will be distributed in the program areas after the

^{1/} See Chapter VI.

program phases out, or by developing viable local organizations in ZAPI that can plan and implement health clinics, or by improving the technical and administrative competence of the local leaders to organize and implement Ujamaa villages.

40. This is why it is important to examine the performance of the SRDP in Kenya and the decentralization in Tanzania. For unlike the integrated programs these two efforts have been undertaken ostensibly with the objective of improving institutional capability and self reliance.

A. Decentralization of Administration

41. For several reasons the SRDP has had a rather limited success. It seems to have lacked the commitment of high level Kenyans necessary to bring prestige to the concept and to push the program through the many difficult domestic administrative obstacles, including obtaining funding from the influential but conservative Treasury. Such tasks could probably not be carried out by expatriate technical advisors, even with the greatest of will and commitment to the SRDP concept. (See Chapter VIII.)

42. For short term political reasons far too many quick results seem to have been expected of the SRDP, even though local administrators responsible for planning were inexperienced and lacked technical ability. In practice, the SRDP has therefore suffered from a kind of 'schizophrenia'; on the one hand, it has been expected to serve a pilot function and thus be innovative in bringing about administrative improvements, and on the other hand it has been expected to show immediate visible results. There has also been considerable reluctance among the administrators in Nairobi to delegate authority to the provinces and districts and unwillingness in the individual ministries to coordinate their activities.

43. The SRDP has, nevertheless, made a modest beginning in improving district planning and implementing capacity and in institutionalizing an administrative system to improve interdepartmental coordination. (See Chapter VIII.) The disappointment with the program is not a result of the limitations of the SRDP as much as the fact that, in planning the overall district decentralization exercise in Kenya, many of the same mistakes seem to be repeated. Little appears to have been learned from experience.

B. Development Administration and the Role of Elective Bodies

44. The Tanzanian effort has benefited from an immense national commitment to the idea of decentralized and participatory administration. This is already reflected in the greater delegation of authority to the regional administrations and the more explicit role given to the political party in rural development planning. The Tanzanian experience is too new to be able to assess its performance. Nevertheless its potential for accomplishments and its possible limitations are beginning to be apparent.

45. The Tanzanian emphasis on regional equity in the allocation of resources is worthy of emulation in other African countries. However, the increased role of the elective bodies in planning seem to have led to the allocation of far too high a proportion of the development expenditure to provision of social services, without a commensurate effort at resource mobilization. Paradoxically, welfare expenditures on such a scale appear to have been possible mainly because the emphasis on self-reliance has attracted donors to Tanzania, leading to a considerable increase, over the short run, in the availability of resources. (See Chapter VI.) In the long run, increased competence of the regional administrators can exercise an important influence in bringing about a more rational allocation of resources and a more effective use of the resources allocated. This is why considerably greater attention needs to be devoted in donor assisted programs to improving the indigenous planning and implementing capacity. In the programs reviewed, including those in Kenya and Tanzania, donors have taken an excessively short-term view of aid. They have tended to design their own programs and to implement them mainly so as to avoid risk of "failure." This attitude has of course been reinforced by the frequent lack of national will to make policy decisions that touch upon the existing distribution of political and administrative power. The role of technical assistance in improving the indigenous planning and implementing capacity has, therefore, been far short of its potential.

C. The Role of Semi-Autonomous Administrative Structures

46. As the time approaches for transferring administrative responsibility for some of the autonomous integrated rural development programs from the project authorities to the indigenous administrations, the gap between the capability of the two administrative systems has become a subject of particular concern to persons involved in designing rural development programs.

47. Paradoxically, the institutional gap seems to have arisen because the integrated programs have accomplished far too many visible results in too short a time period and therefore have been able to allocate only a limited time and effort to development of institutional capability. The gap exists at three levels. First, the indigenous regional administrations do not have the capability to carry out the policy and coordinating functions at the regional headquarters. These are now being carried out by autonomous administrations. This capability is critical for administering complex integrated programs since they involve activities of a number of departments and local governmental agencies, as for instance agriculture, transportation and health. Second, the institutions to handle the commercial aspects of the programs, such as agricultural credit and input and output marketing, either do not exist--since the programs have handled these functions--or do not yet have the administrative capability to manage the activities on a scale on which the programs have carried them out. Third, the local organizations and local administrative units being developed by programs do not correspond to the existing local governmental institutions, raising difficult questions related to maintenance and expansion of the various local services.

48. The LLDP is now faced with these complex problems. Although CADU and ZAPI have been more effective than the LLDP in training indigenous administrators, their progress in establishing liaison with the regional administrations, in developing commercial institutions, and in fostering vigorous local organizations seems to have been limited.

49. The experience of the integrated programs indicates that if there is not to be a considerable "sag" in the program activities after expatriate managers have departed and project authorities have dissolved, programs may have to undertake only those activities on such a scale which, in the foreseeable future, can realistically be taken over and managed by indigenous manpower and institutions, even with ambitious assumptions about manpower training and institutional development.

4. Implications of the Findings of the ARDS for Designing Rural Development Programs

50. The past experience reiterates several special features of the African countries which seem to need greater attention in designing future programs than they have often received in the past, if the other objectives of rural development are to be realized.

51. Because the bulk of the rural population in Africa is poor and because this poverty is spread over the entire rural sector, "target groups" in Africa are large relative to the financial resources and in particular the trained manpower and the institutional capability frequently available for development. Therefore, if the emphasis in rural development is to be on mass participation and on the viability of the process of rural development, it would seem necessary that rural development programs be viewed as part of a continuous, dynamic process, rather than as an 'extensive' vs. an 'intensive,' or a 'maximum' vs. a 'minimum' effort. The emphasis on mass participation also means that a sequential approach may be necessary in planning and implementing a rural development strategy, involving establishment of clear priorities and time phasing of activities.

52. Given the low productivity of the subsistence rural sector, for a variety of reasons discussed earlier, in many cases an initial emphasis on broadbased increase in productivity through a certain minimum level of institutional development, may well be a more effective way of ensuring viability of mass participation than the substantial initial concentration of resources in a few regions.

53. Some constraints to improvement of productivity, such as lack of a profitable technology, ineffective extension and inadequate fertilizer may be common to all of subsistence agriculture. Whereas others such as ill health caused by malaria (in the squatter settlement in Kenya) or the inadequate incentive system and organization (in the Ujamaa villages) may be location specific. A single package is therefore not universally applicable. The establishment of priorities needs a

combination of a few critical general interventions applicable to several regions along with emphasis on development of capability of the regional administrations to identify and ameliorate additional constraints specific to individual regions. However in all cases, including the case of priorities that may be established at the national level, the effectiveness of implementation depends on the efficiency and the coordinating ability of the regional administrations and of the general institutional development at the regional and local level. This is why a regional focus in development is necessary from the outset even when a broad coverage of services may be aimed at. This is so particularly if more complex programs involving a number of sectors are to be planned and implemented by regional administrations over time.

54. The first step may well be to improve regional administrative capability for effective planning and implementing of programs directed towards only a few productive activities, including food crops. Attention to food crop production seems critical since a majority of the low income population derives its livelihood from this activity. The results of the mixed crop approach are already noticeable in the more recent integrated rural development programs. However, they have been confined to a few regions.

55. The sequential approach implies efforts to improve indigenous institutional and technical capability in several regions. If per capita agricultural production is to increase, the first phase of sequential development may involve an objective of achieving an overall annual growth rate of 4 to 5 percent. The time required to achieve such an annual growth rate may, of course, vary between regions, depending on their potential and on the effectiveness with which the necessary steps are implemented. However, the first phase of development may be planned for 4 to 7 years. In a few cases, where an effective technical and institutional capability to coordinate and deliver the necessary services already exists, the first phase of development may be skipped.

56. Increased intensity in agricultural services of the type undertaken in integrated programs including improvement of the overall farming systems through rotational improvement, integration of crop and livestock production, soil conservation, and land registration, may constitute the second stage of development. Realistically, the overall growth rate of production may not exceed 4 to 5 percent per annum even during the second phase. However, consolidation of the growth rate through a more diversified agricultural productivity may require an intensive effort.

57. In this case the bridge between the first and the second stages of development is land use planning. The intensive effort needs considerable technical and administrative input both at the planning and implementing stages.

58. To plan a strategy for intensive agricultural development, data are needed on factors such as: agroclimatic zones--including soil conditions, rainfall patterns, present yields, existing farming systems, erosion and fertility problems, density of settlement, sociocultural factors, and on opportunities for expansion of cultivated area and grazing land, required investments in road and water development, soil conservation, and the optimal farming systems (i.e., crops management practices, rotations, etc.).

59. The data gathering and planning of this second phase may be combined with the implementation of the first phase. Phased planning has several advantages which were not derived in many of the programs reviewed. It may allow greater first hand knowledge of the specific technical, administrative and socio-cultural constraints. It may also permit greater indigenous participation in planning. Both these factors are important for improving effectiveness of the strategy. The phased approach may also facilitate training of indigenous manpower geared specifically to planning and implementing regional programs. Equally important, it may allow a relatively balanced national coverage of services in the foreseeable future.

60. For a variety of reasons discussed earlier planning and implementation of services such as community centers, drinking water supply, health clinics, promotion of small scale processing and servicing, women's extension programs, etc., require considerations substantially different from those in agricultural planning. It seems necessary to allow greater scope for social choice and for local participation in the organization and delivery of these services. In many cases such planning may have to wait until the second phase, i.e., until incomes and demand for such services increase, local administrative capability for planning and coordinating such programs is developed, mechanisms for raising fiscal resources are instituted and local institutional capability to plan and implement programs is fostered through an explicit emphasis on the necessary preplanning in the first phase.

61. Given the substantial shortage of trained manpower and administrative capacity, in each phase only those components which are not likely to be undertaken without planned public intervention may be provided. These of course vary substantially between regions depending on what does and does not exist in the form of institutional development. Therefore no blueprint for planning is possible. However, in the first phase provision of technology, extension, inputs, manpower training and a feeder road network may be the most frequently needed components. A facilitative role may be provided in fostering other activities. For instance, encouraging cash or group purchases of inputs may be desirable where the savings potential in the traditional society is demonstrated to be significant. Once intensity of cultivation increases and manpower and institutions are developed, credit may become the major thrust of the programs. Marketing services may also fall in the category of a facilitative development at an early stage. The initial emphasis may be on providing intermediate forms of interventions and on improving the

improving position of the farmer, for instance through construction of public facilities, for seasonal storage, improvement of roads and market information systems, and standardization of weights and measures. Introduction of high cost administrative marketing monopolies or hurried development of farmers' marketing organizations should perhaps be avoided in the early stages. Such organizations are likely to develop more spontaneously once the preconditions for their development are established.

62. Given the extreme constraint of trained manpower, even with the establishment of priorities in provision of services, mass participation rarely seems feasible in the short run through delivery systems oriented towards individual farmers. Therefore, some delegation of responsibility to the rural people is necessary. Many recent programs have already made a beginning in this direction. They have shown a considerable potential for success, provided local involvement is promoted gradually and is accompanied by a genuine delegation of responsibility to the rural people.

63. Considerable emphasis on the training of field and administrative staff is needed so that the intensity of services and the number of services may be increased gradually over time. Manpower training is critical to achieve production targets, as well as to broaden participation.

64. Finally and importantly, the past programs indicate that if the process of rural development is to be viable, there is not only the need for expansion of administrative coverage but also for emphasis on improvement in the performance of the indigenous administrative systems. Technical assistance may be needed not mainly to manage projects but to assist in developing local, regional and national capability to plan and implement rural development programs. To realize this objective it seems necessary that nationals be actively involved from early stages of project formulation and implementation. It also seems desirable that expatriates not be highly concentrated in project authorities in which effective interaction with local staff and indigenous administrative institutions is frequently inhibited, hampering the development of the latter.

65. Wherever possible technical assistance needs to be provided to develop administrative systems which incorporate clear definitions of objectives and targets, ways of implementing and evaluating these targets, and incentive systems which will encourage improved administrative performance as measured by the realization of these targets.

66. The sequential approach attempts to reconcile several desirable features from the programs reviewed. First, it points out the frequent need for broadbased development of the subsistence sector. Second, it underscores the crucial role of indigenous manpower and institutional capability, not only in the effectiveness with which interventions are implemented but in planning rural development programs to take account of variability. It therefore, points out the need for emphasis on

manpower and institutional development in early stages of program implementation so as to evolve programs in scope over time. Third, it views increase in productivity of the subsistence sector as frequently constituting a major, but only the first step, in improvement of the welfare of subsistence rural populations.

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LAND DEVELOPMENT IN IRRIGATED AREAS

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INTRODUCTION

1. In the following notes technical and economic factors in the development of irrigated lands are discussed. The notes are directed primarily to India, but they have general relevance to other areas where similar climatic, soils, and social conditions are encountered.

2. Land development for irrigation aims at achieving maximum efficiency in land and water use within the economic sociologic and other constraints of the particular area in question. The means of achieving this result in a particular project area are influenced by a number of factors discussed herein. The notes conclude with brief analysis of several typical project situations.

DEFINITIONS

3. For the purpose of this discussion an "outlet" is the 1 cfs to 1/2 cfs structure controlling releases from an irrigation system, and serving a "chak" of 50 to 100 acres. The chak is typically divided into "survey numbers" of 5 acres to 20 acres, the survey number being the unit of land ownership at the time of the last general cadastral survey. It has generally been since divided through inheritance or sale into "parcels", the present unit of individual ownership. A cultivator may have several parcels within a chak, the total comprising his "holding" within that chak. A parcel may be divided into several fields for purposes of cultivation or irrigation. A field in turn may be subdivided, usually temporarily, by small bunds into strips or basins for irrigation purposes. Land development for the purpose of this discussion relates to land and water management within the chak, i.e. "below the outlet". Provision of basic infrastructure (canal system, main drainage, roads, agricultural extension, etc.) in the irrigation area as a whole is of equal importance, but is excluded from present discussion.

OBJECTIVES IN DEVELOPMENT OF IRRIGATED LANDS

4. These can be summarized as follows:

- (a) Delivery of water from the "outlet" to the border of the field by field channels with minimum loss and maximum reliability of service consistent with economic and other limitations.
- (b) Land shaping to permit application of irrigation water from the border of the field to the crop with minimum loss by spillage or seepage, and with maximum uniformity.
- (c) Drainage of excess surface-water from fields in areas of high rainfall, or at times of short intense precipitation in low rainfall areas.

- (d) Prevention of water-logging in newly irrigated areas.
- (e) Reclamation of existing water-logged, saline, or alkaline lands in new, or more generally in existing irrigated areas.
- (f) Conversion of lands to permit diversification of cropping, particularly from mono-cropping of paddy to inclusion of non-paddy irrigated crops in the rotation.
- (g) Facilitating access for cultivation and harvesting, generally with some regard to mechanization either at the present time or in the future.

PHYSICAL, ECONOMIC AND LAND TENURE CONDITIONS WHICH MAY BE ENCOUNTERED

5. The following are typical:-

- (a) Densely populated areas, with holdings generally small (1 to 5 acres) and individual parcels frequently one half to one quarter acre or less.
- (b) In contrast to the above, holdings generally large (e.g. 10 acres or more) with individual parcels usually 2 acres or more in size.
- (c) Areas for which intensive irrigated cropping is planned (e.g. 150% irrigated cropping intensity).
- (d) Conversely, areas where light irrigation intensity is proposed, as in supplemental irrigation in drought-prone areas in Central India.
- (e) Areas primarily intended for paddy. Alternatively areas intended for a rotation including but not restricted to paddy, or devoted entirely to non-paddy irrigated crops.
- (f) Areas of irregular terrain with slopes generally in the range 1% - 3%, and conspicuously incised erosion pattern. Alternatively, areas in which a considerable proportion of the terrain has sloped of less than 1%, with widely spaced or moderately developed drainage pattern.
- (g) Areas of shallow soils (variable depth of developed top soil ranging from 10 cm to 30 cm depth) in which soil depth is a major consideration in land shaping.
- (h) Light soils of high infiltration rate, and conversely heavy soils with low infiltration rate (frequently presenting a surface drainage problem).
- (i) Soils on which water-logging, salinity and, possibly, alkalinity are already a problem, and where soil reclamation is a primary need.

- (j) Areas already partly or wholly under irrigation, in which the need is for re-development rather than for initial development;
- (k) Areas already served by canals, but where land development and utilization of canal water have lagged behind canal construction.
- (l) Virgin areas where canals are planned or under construction, but not yet in service.
- (m) Areas where cultivators already have some experience in irrigation; alternatively, areas where cultivators have little experience and limited technical and financial resources.

PRINCIPAL FACTORS IN DESIGN OF LAND DEVELOPMENT

6. In view of the range of conditions described in para 5 above, individual land development projects may differ considerably in character. There are, however, a number of key issues which must be considered in all cases. They include the following:-

(a) System of water distribution on the field

7. Excluding for present purposes such sophisticated systems as sprinkler and corrugation irrigation, the choice is basically between "furrow" irrigation or "basin" irrigation. In the former case water flows down the length of the sloping field in furrows, or where furrows are not used it is guided between parallel temporary bunds (border strips). Supply of water at the upper end of the field is cut off when the moving stream of water reaches the lower end. In basin irrigation the field is subdivided for irrigation purposes into flat basins (up to one half acre in size) enclosed on all four sides by temporary bunds. The basin may be cultivated in furrows or not, as desired for the crop in question. The desired quantity of water is admitted to the basin (or a sub-basin within it) relatively rapidly during a short interval, after which inflow is stopped and infiltration of the impounded water occurs uniformly over the whole basin.

8. The relative merits of the two types of water application are discussed in Annex 1. Briefly, the flow system requires less labour in water application but more skill in land shaping and maintenance of grade. Both systems can be equally efficient, but under conditions of inadequate maintenance or difficult soils the "furrow" system is likely to be less efficient than the basin. On the other hand, the "furrow" system, with fewer bunds, is the most convenient if mechanical harvesting is used. This is less of a consideration in mechanical cultivation, as the bunds for the basin system are frequently constructed after cultivation is completed. In total, and excepting paddy cultivation where basins are mandatory, flow irrigation is most applicable to mechanized, large-scale farming operations. Basin irrigation is more applicable to small-scale labour-intensive farming. Under Indian conditions preference of cultivators is generally for basin irrigation unless the soils are particularly well adapted to the furrow system. However, the basins are frequently an adaptation of a long graded field, with the addition of temporary cross-bunds and temporary field channel.

9. The significance of the above discussion to the design of land shaping is as follows:-

- a longitudinally graded strip or terrace, which is frequently the most convenient unit in land shaping, is equally adaptable to flow or to basin irrigation;
- on the other hand, as Indian cultivators will most generally adapt a sloping field into a series of level basins for ease in water management, the longitudinally graded strip is not essential, and can be substituted by individual basins where topographic or other conditions so indicate.

(b) Width of field

10. The controlling factors are cost of land shaping and cost of cultivation. In most circumstances there is little difficulty in obtaining a field of sufficient length (100 m to 150 m) to facilitate both initial land shaping and subsequent cultivation. (An exception is encountered in irregular terrain with very shallow soils, when a much shorter field may be mandatory). More debatable is the desirable width of the field. In sloping terrain (1% or more of side slope) where "graded contour" terraces are most frequently used, the narrower the field the smaller the volume of excavation in land shaping. On the other hand, the wider the field the greater the convenience for mechanical cultivation in harvesting. Comparing fields of 15 m and 30 m width, the following points are noted:-

- the volume of excavation per hectare is less than one half in the 15 m case compared with the 30 m case;
- as lateral lead is smaller in the 15 m case, the cost of excavation per unit of volume moved is less;
- survey control is much simpler in the 15 m case, becoming a linear problem rather than a two-dimensional problem;
- finish levelling by the cultivator (following initial rough levelling by contractor) is more practical with the 15 m field than with the 30 m field;
- with shallow soils, the shallower depth of cut with the narrower field is an important factor;
- in terrain with zero to 1% slopes, where fields may be oriented down-the-slope rather than round-the-contour, the advantage of narrower fields (in regard to volume of excavation) is reduced. This is also the case where round-the-contour fields are smoothed only across the slope, rather than terraced;
- mechanical cultivation and harvesting (by combine) is quite practical with a 15 m (or even 10 m) wide field, but costs per hectare for such operations may be around 20% more for the 15 m field than for the 30 m field;

- with 30 m wide fields the area required by permanent bunds is one half that with 15 m wide fields (a reduction in cultivated area of about 2%, depending upon width of bund). This is offset, to some extent, by fewer temporary longitudinal bunds with the narrower field.

11. In balance, for irrigated farming on the scale undertaken by most Indian cultivators, a field of nominally 15 m to 20 m width has a significant advantage in first cost over a wider field. Construction can also be carried out more rapidly and with greater possibility of finish levelling by the cultivator.

(c) Field drainage and grading of fields

12. Conditions may vary from a sandy soil of very high infiltration rate in an arid area, to a poorly permeable clayey soil in an area of heavy seasonal rainfall. In the first case conservation of rainfall on the field, and erosion protection, may be the main considerations, rather than drainage. In the second case, removal of water from the field during rainstorms to avoid surface flooding or water-logging is likely to be the principal problem. In the latter situation, which is the more general one, surface drainage is facilitated if the field or terrace is graded down its length. A slope of 0.5% to 1% may be used. Where the field is to be cross-bunded for paddy or converted to a series of permanent basins in series down the length of the field, the above basic slope is still convenient. It may be readily provided where the natural slope is 0.5% or more. Where natural slopes are smaller, however, (zero to 0.5%) the question of graded fields must be reconsidered. Substantial excavation is required if a basically level area is to be re-shaped to provide such a grade. The alternative is to leave the fields nearly level (with smoothing of local irregularities) and to provide graded field drains (and field channels). This course requires more attention to provision of supplementary drainage channels within the field during cultivation than does a graded field. However, as graded fields are frequently converted by cultivators to a series of flat basins, the need for supplementary drainage on the field to assist flow of water from the centre of the field to perimeter drains may still remain even with a nominally graded field.

13. The question of grading of fields in basically flat topography is also related to methods of water application. Grading is essential if flow irrigation is to be used, but not with basin irrigation. It is, of course, necessary to provide grade on the field channel in either case, but this can be done without grading the field itself. The matter of graded or level fields in relatively flat lands is of major importance in areas with a considerable proportion of lands having slopes less than 0.5%, particularly in heavy soils. Grading of long fields can be an expensive operation in such circumstances, whereas little work may be required in land preparation if the existing generally flat slopes are retained. It is essential, however, that there should be a sufficient level of agricultural extension to ensure that on-the-field drainage measures are properly applied.

14. The above discussion refers to grading down the length of a field. The question of grade across the field is also of importance where graded contour terraces are employed, in slopes of around 1% or more. Frequently the cross-grade is made zero, i.e. the field is graded in the direction of its length only. In the interests of minimizing excavation, or in some cases for drainage, the field may, however, be given a cross-grade also. An initial cross-grade of up to 0.5%, in conjunction with a longitudinal grade of the same order presents no problem, and the field can still be adapted to basin irrigation by minor modification. If the cross-grade is as much as 1%, while the field may still be manageable for furrow irrigation, it would present the cultivator with problems in adapting to basin irrigation (unless, as discussed below, the field is small in width). Cross-grades of more than 1% are likely to cause difficulties in water management even with furrow irrigation, unless particular skill is used in land preparation, or guide bunds are used at close spacing.

15. The question of acceptable cross-grade is associated with the question of width of field. A wide field with considerable cross-slope may result in uncontrolled diagonal or cross-flow of water unless intermediate bunds are employed. If these are permanent (as may be necessary) the wide field becomes, in effect, a series of narrower fields. At the other end of the scale, if fields are limited to 15 m in width between permanent bunds, the amount of excavation required to convert a natural cross-slope of 2% back to 1% or to zero is relatively small and is no longer a primary consideration. Further, the work could be carried out by the cultivator with his own equipment in one or two seasons, provided that the bunds were correctly located and constructed for him previously. This in fact is the practice in some areas, with slopes in the range of 1% to 3%, where the initial levelling operation carried out by contractor consists solely of forming substantial graded-contour bunds at 15 m to 20 m intervals, with or without ripping or discing of the area between the bunds.

(d) Layout of fields and field channels

16. Where natural slopes, on average, exceed the desirable longitudinal grade of the field (0.5% to possibly 1.0%) the "graded contour" terrace system discussed above is generally the most effective system. The direction of the graded contour terrace varies from almost parallel to the contours where natural slopes are steep, to diagonally across the contours in more modest slopes. Primary field channels and field drains run directly down the slope. They may serve fields on both sides or on one side only. The double-sided arrangement has the advantage of minimizing the length of field channel, and is preferred where circumstances permit.

17. Where natural slopes, on average, approach the desirable longitudinal grade of the field, for minimum cost of levelling the fields should run directly down the slope. In these circumstances the double-sided arrangement of field channels and field drains is inapplicable (unless the primary field channel is on a ridge), and the single-side arrangement is preferable. The alternative is to continue to orient the fields along the contour, re-grading to the desired longitudinal slope, and to use the double-sided arrangement. In this case the economy of length of field channel with the latter arrangement is obtained at the cost of substantial excavation in re-grading.

18. Where natural slopes are very small (virtually zero), fields may be oriented at will. Either the double-sided or single-sided arrangement of primary field channels and field drains may be used.

(e) Field channels, lined and unlined

19. As seepage losses in unlined field channels commonly average some 25% of gross diversion, the question of reducing these losses by lining or other means is of major importance. Aside from loss of water, associated problems are seepage and water-logging of lands adjacent to field channels, rise in water-table generally (seepage from field channels commonly contributes about half the total flow to the water-table from an irrigation system), and inadequacy of delivery of water to the lower end of a field channel.

20. Measures to reduce seepage losses in field channels, other than by lining, include the following:-

- keeping the difference in elevation between water-level in the channel and the field as small as possible (10 to 15 cm). This consideration operates against the use of plastic siphon tubes for irrigation where unlined field channels are used, as these commonly require greater differential head between channel and field;
- avoiding small capacity field channels (other than secondary channels), and operating channels intermittently at full-flow rather than continuously at part-flow;
- compaction and turving of channels.

21. Assuming that the above measures have been adopted, losses may still be undesirably high in many circumstances. A decision to line should be based on specific measurements of losses in unlined channels, and with due regard to the cost of associated features necessary with lined canals (crossings, etc.). It is noted that in a typical field channel system supplying water to individual fields on a rotation basis (e.g. for four hours once weekly) the head-reach of the channel may be operating continuously while the tail-reaches will be operating for only a small proportion of the time. Over a season the total losses per metre of channel in the upper reaches may consequently be much greater than the total losses per metre of any particular portion of channel in the lower reaches. Consequently, there is often much greater justification for lining a portion (e.g. the upstream one-quarter) of a field channel system than for lining the whole system.

22. Lined field channels of about 1 cfs to 1.5 cfs capacity, using either precast concrete or in-place lining, can be constructed (in India July 1974 costs) for about Rup 15/- per metre.

(f) Access to fields

23. Rights of access to fields in India in both rainfed and irrigated areas are based partly on use of established village access tracks and

partly on customary communal usage in regard to access across fields. Development of an area for irrigation will generally involve modification or relocation of established tracks, which otherwise remain in service. However, the extent to which irrigation will interfere with customary access across fields is difficult to determine, also the need for specific provision of vehicle access to each field. The situation generally in irrigated areas in India is that formal access is limited to village-to-village tracks traversing the area, but that there is extensive traffic of animals and equipment (including tractors and trailers) across fields when crops are out of the ground. With small-holdings, where bullock-drawn cultivation and manual harvesting are usually the rule, access is not a problem at any time. Even where mechanical cultivation is employed, there is sufficient uniformity in cultivation and planting dates within a village for equipment access across fields to present little difficulty. However, for larger holdings, with an increased level of mechanization in cultivation and particularly in harvesting, and greater diversity of cropping patterns, there is greater need for an access route to each holding which is available at all times, independent of neighbouring operations. Access to individual fields within the holding itself can be provided, as required, by the cultivator himself.

24. Summarizing, the need for permanently available access for mechanical equipment to the individual holding depends very much on the size of holding, the intensity and diversity of cropping, and the degree of mechanization anticipated. For small-holdings the value of land is also a consideration. While formal access is always an advantage per se, the area occupied and the cost of providing it, and the need in the particular circumstances, must be considered independently in each area.

(g) Realignment of property boundaries

25. In India, property rights have usually been acquired and boundaries of holdings established long before the advent of irrigation. To a greater or lesser extent, dependent upon factors discussed below, these existing boundaries are a constraint on land development for irrigation, which would be much facilitated if the boundaries could be removed or realigned. This, however, is not always a simple operation and in each case the technical advantage of boundary realignment must be weighed against the problems of carrying it out.

26. The advantages of boundary realignment in a particular case depend largely on the scale of subdivision of the area into individual parcels. Where subdivision has proceeded down to very small parcels, particularly if they are of irregular shape, satisfactory land development for irrigation (other than for field-to-field paddy cultivation) becomes almost impossible without complete realignment. On the other hand, where parcels are large in relation to the area served by an outlet, the technical advantages of boundary realignment may be of much less significance.

27. In the context of average-sized parcels (in the range from 2 acres down to 0.5 acre) the advantages of boundary realignment are principally the following:-

- (i) facility in supply of water directly to each field and drainage from it, with minimum length of field channels and drains;
- (ii) facility in layout of land shaping, as the realigned boundaries are made to fit the land shaping pattern rather than vice versa. Also, facility in execution of land shaping, where parcels are small;
- (iii) more convenient size and shape of field for cultivation and irrigation;
- (iv) facility in providing access to fields for mechanical equipment;
- (v) the indirect advantage to the cultivator that existing title disputes are necessarily resolved in the process of boundary realignment, and the cost of continued further litigation is avoided.

28. Each of the above points must be qualified in particular circumstances. Advantages (i) and (ii) are generally applicable, although as noted earlier they are most significant where parcels are small. Item (iii) is also influenced by size of parcel, but also by degree of mechanization and type of irrigation. Converting a square field of one quarter acre to a long narrow field of the same size is an advantage if flow irrigation is used, but not if basin irrigation is practised. Also, where soils are very shallow, and topography irregular, fields may necessarily have to remain small and compact in shape. The advantage of (iv) is discussed in para 23. It is again conditional upon size of holding, intensity of irrigation etc. Item (v) can be significant, but underlines the fact that many property disputes do exist and the time required to resolve them is one of the problems encountered in land development with boundary realignment.

29. As indicated earlier, technical factors definitely favour boundary realignment. However, problems encountered in implementation of realignment must also be considered. The following are typical:-

- (i) Improvements already carried out by a cultivator on his original holding, and unwillingness to change to a realigned location.
- (ii) Soils of shallow, variable depth (e.g. zero to 30 cm). This situation also results in unwillingness of cultivators to move. In addition, it makes the type of field layout and size of field usually associated with boundary realignment difficult to achieve. Cultivators are furthermore suspicious of excessive depth of cutting in large-scale land shaping by government agency in such areas.

- (iii) Traditional attachment of cultivators to family holdings of long standing. This may be overcome with persuasion and example, but conversion requires time.
- (iv) Unwillingness of cultivators to incur the indebtedness inherent in across-the-board land shaping associated with development involving boundary realignment. Cultivators, particularly those with larger holdings, may prefer to carry out land shaping progressively over three or four years with their own resources.
- (v) Cultivators within a chak who are ineligible for credit to pay for across-the-board land shaping (there are a number of reasons for "ineligibility", some of which are difficult to remove. The amount of credit available from the Central Government to cover such cases is limited).
- (vi) Cultivators who have holdings in excess of the ceiling amount for irrigated lands and who consequently are unwilling to participate in land development, and who cannot, in any case, obtain the necessary credit from any source. (This problem, which does not occur in all states, is hopefully being removed by planned legislation).
- (vii) Unclear or disputed titles which must be resolved before the process of realignment is completed.

30. Of the above problems, some can be removed by negotiation, but the time which this requires can become a constraint in itself. A solution can nominally be provided to all except the credit problems through legislation which overrides the objections of a minority of cultivators, assuming that the majority can be converted by persuasion. However, legislation imposing boundary realignment regardless of the objection of a majority of cultivators could only be entertained in a technical situation in which there is a major advantage in realignment and a case can be made for national interest prevailing over individual preferences.

31. The question of the amount of time required for the process of in boundary realignment has been referred to above. It is noted that this is less likely to be a problem in redevelopment of existing irrigation areas, where the work can be taken up at whatever pace is desired, than in the development of new irrigation areas either in parallel with canal construction or closely following it. In the latter case the pace of land development must be matched to canal construction, if random land development is to be avoided. The practical rate at which land development may be carried out with boundary realignment then becomes a critical question in deciding what proportion of development can follow that pattern, and if necessary whether some other type of development should be adopted for the remainder. A number of such situations are considered later in these notes.

(h) Land development without general realignment of property boundaries

32. It is implied in the above discussion that there are certain situations in which the problems of general realignment of boundaries may

largely outweigh the technical advantages of realignment, in the particular circumstances in question. Alternatively, the rate at which realignment can be implemented may not match the rate of construction of the main canal system. In these circumstances, alternative approaches to land development must be considered.

33. It is of interest to note that irrigation areas in which development below the outlet has been left entirely to the initiative of the cultivators, necessarily without boundary realignment, are widely encountered throughout Asia. They operate reasonably well in purely paddy areas (field to field irrigation) but have a number of classic deficiencies in non-paddy areas. These include:

- excessively long and tortuous field channels with heavy seepage losses, no proper control of diversion to individual fields and very precarious supply to "tail-end" areas;
- no systematic field drainage system;
- very limited access to fields for mechanical equipment;
- small irregular-shaped fields (of consequence mainly in regard to mechanical cultivation) and excessive area occupied by bunds;
- poor standard of land levelling;
- usually an uneconomically slow rate of land development and taking up of water usage.

34. Systematic land development without general realignment must avoid the above problems as far as possible. A first essential is to bring the official supply channel closer to the individual field than the outlet to the chak, which may be 1 km distant by direct line and considerably further in terms of length of field channel. This can be accomplished by construction of a primary field channel system extending from the "outlet" into the centre of the chak, taking a reasonably direct route and aligned with regard to topography. Secondary field channels, relatively short in length branch from the primary field channel system. In effect, the "outlet" is taken down to the point at which the particular secondary field channel branches from the primary system, and the sub-area served by such a secondary outlet becomes typically one fifth to one tenth of the area of the chak as a whole. The sub-area adopted in some states in India in which this system has been introduced or is proposed is the "survey number". As indicated earlier, this is generally from 5 acres to 20 acres in extent. It is a convenient unit from the cadastral viewpoint, as its boundaries are known and recorded. Other cadastral boundaries for the sub-area could, however, be adopted.

35. It is essential that the primary field channel system:

- be located with regard to minimum length and topographic location, crossing property boundaries where necessary to achieve this;

- be regarded virtually as an integral part of the canal distribution system project, its design, construction, maintenance and operation being under direct departmental supervision.

36. The secondary field channels are short, generally - but not always - following property boundaries. A secondary field channel serves the cultivators within the survey number only. (There are commonly two to five cultivators in a survey number).

37. With the rotational system within the chak commonly adopted in India, at most two secondary field channels within a chak would be in operation at any time. Seepage losses are then confined to the primary field channel (or the part of it in service at the time) and the two short secondary field channels.

38. A further essential is the provision of a primary field drainage system, which is the counterpart of the primary field channel. It must be located on topographic grounds, crossing property boundaries if necessary to do so, and should be regarded as an extension of the main drainage system with departmental supervision of construction and maintenance. Secondary field drains from each survey number connect to it. (Secondary drains can most frequently be located along property boundaries and are generally quite small, serving a limited area and of capacity generally less than 2 cfs).

39. The primary field channel and field drain systems described, being located largely on topographic grounds, are likely to be broadly similar in layout to the main stem of the field channel and field drain system in the case of full boundary realignment. The layout of secondary field channels and drains differs, however, in the two cases.

40. Layout of primary and secondary field channels and drains and the general outline of land shaping should be carried out on the basis of the chak as a whole. Detailed layout and land shaping in conformity with the general outline can be on the basis of the survey number as a unit, or if parcels are large enough (several acres) on the basis of the parcel. In principle, the orientation of fields with respect to topography follows the system (i.e. contour terraces etc) described in para. 16, unless parcels are small or inconveniently oriented for such a system. Small parcels are likely to be encountered, however, in only a small proportion of survey numbers in a chak for which development of the type discussed is considered. When they do occur there is a case for boundary realignment within the particular survey number; alternatively, smaller fields must be accepted in the small parcels.

41. For administrative reasons, and economy in transport of construction equipment, it is preferable that execution of land shaping should be undertaken on the chak as a whole, at one time. Where this cannot be done and land shaping is undertaken piecemeal, all such works, including that carried out by the cultivators themselves, must conform to the general outline design for the chak.

42. Provision of access for mechanical cultivation or harvesting equipment has been discussed earlier (para. 23). While it is not mandatory that permanent access for mechanical equipment be provided to each parcel, the question of present and future access needs should be closely considered in designing the development of an area. As indicated earlier, the facility of access required depends upon the size of holding, the diversity and intensity of irrigation, the demand for mechanization foreseen, and other factors. In land development of the type under discussion, formal vehicle access may stop at the outlet to the chak, or may extend into the chak either along boundaries of survey numbers (a legal right-of-way in some states), or along the primary field channel system which generally extends as far as each survey number. The access provided initially can be extended later as desired, when mechanization comes into more general use.

43. Land development without general realignment of boundaries avoids some of the difficulties limiting the rate at which development with general realignment can be carried out. It is also possible in such development to exclude a particular survey number or holding from land shaping where legal or other problems indicate such a delay, and to proceed with the development of the remainder of the chak. It is emphasized, however, that legal powers for construction of primary field channels and field drains, across property boundaries where necessary, must be available and capable of enforcement even with this type of development.

TYPICAL PROJECTS

44. To put the above discussion in the project perspective, a number of typical project situations are briefly considered hereunder:

(a) Redevelopment of an area deteriorated by irrigation

45. This is a classic case, usually with water-logging, salinity and, possibly, alkalinity in a considerable part of the area, and the prospect of more widespread deterioration. Main drainage and field drainage are priority requirements; also reduction of seepage to water-table from canals, field channels and the fields themselves. Soil reclamation treatment may also be necessary. In such circumstances, unless parcels are large there is a particularly strong case for complete boundary realignment and re-levelling throughout. Furthermore, the current level of production is usually so low that cultivators are unlikely to offer objection to whatever proposal is made by the State for reconstruction and rehabilitation of the area. The work is clearly beyond their capacity. Finally, as noted earlier, redevelopment can proceed at whatever pace is determined by the rate of acceptance of reconstruction by the cultivators.

(b) Development of a new area with smallholdings

46. If holdings are small, aggravated by considerable fractionation into scattered parcels, it becomes impossible to design a satisfactory field channel and field drainage system without full boundary realignment (with the possible exception of purely paddy lands). In these circumstances

full realignment is essential and probably readily acceptable by cultivators. The position should be made clear to cultivators before arrival of main canals, however, and design of land development and negotiation of property consolidation and realignment carried forward in time to avoid prior land shaping by cultivators within existing property boundaries.

(c) Modification of an existing irrigation area for diversified cropping

47. This is the case of an area already largely levelled by cultivators for field-to-field paddy cultivation, but in which diversified non-paddy irrigated crops are to be introduced. The problems are usually lack of drainage system, lack of provision for supply of irrigation water to individual fields and, frequently, small size of field. In some cases the solution may be to completely redevelop the area, with boundary realignment and re-levelling throughout. However, this can be a costly procedure in some topographical situations, in view of the existing terracing. Further, cultivators may already be indebted for the existing work. Where complete redevelopment is excessively costly in relation to the additional value of production resulting from it, modification rather than reconstruction may be adopted. This will entail construction of primary field drains, and generally also primary field channels (depending upon the original size of the chak). Construction of secondary field channels and field drains necessary to adapt the existing terraced basins to non-paddy crops is not technically difficult in most circumstances, but requires an intensive level of agricultural extension trained in such water management.

(d) Improvement to a partially-developed irrigation area

48. This is the case of an irrigation area in which field channel efficiency and water management are poor; land shaping has been carried out on most of the area but "tail-end" portions are not yet levelled due to unreliable water delivery; standards of land shaping are less than satisfactory. The area lacks systematic drainage, but is not in immediate danger of water-logging. This is a condition encountered very widely. At one end of the scale minor improvements may be all that are called for, or practical. At the other end of the scale, reconstruction may be justifiable. In an intermediate situation the desirable course may include the following:

- reconstruction of field channels, preferably with partial realignment and conversion to the layout described in para. 34;
- where seepage losses are particularly high, lining of the upstream portion of the field channel system;
- institution of the rotational system of water delivery within the chak;
- institution of systematic maintenance of field channels by cultivators within the chak;

- construction and maintenance of primary field drains;
- provision of facilities for improvement in land levelling and levelling of non-levelled areas, either by contract or by the cultivator;
- provision of intensive agricultural and irrigation extension for an initial period during and after execution of the above items.

(e) Development of a new area with shallow soils and irregular topography

49. In this situation, soils, soil depth and topography are the primary factors in developing the area. As soil depth and profile are likely to vary considerably throughout the area, a detailed survey should be carried out ahead of land development. In chaks where soils are particularly shallow (0 to 15 cm) and topography is very irregular, small terraces or basins are the only practical method of land preparation. In such a chak there is little to be gained by complete boundary realignment and considerable resistance from cultivators is likely to be encountered to it. However, in chaks where soil depth and topography are less of a constraint, development with complete boundary realignment may be technically practicable and readily acceptable to cultivators. Development including both systems, as dictated by the varying conditions encountered, may be the satisfactory solution.

(f) Development of a new area with large holdings

50. Holdings are in the range of 10 to 15 acres, parcels generally 2 to 5 acres. Soils are shallow but not excessively so (20 cm to 60 cm). Proposed irrigation will be principally the provision of supplemental water in the rainy season, as rainfall is irregular and light. "Survey numbers" are from 10 to 30 acres in extent, generally with established rights-of-way along their boundaries. Topography is gently rolling, with slopes 1% to 3%. The canal system service area is to be expanded at the rate of 100,000 acres per year. In the above situation land development technically could be carried out satisfactorily either with or without boundary realignment. With holdings of this size the advantages of boundary realignment are of less significance than with small holdings, although some technical advantage remains. Two important non-technical factors to be considered in this case are:

(i) the rapid rate at which the canal distribution system is to be expanded and the need for comparably rapid rate of systematic land development if unregulated development is to be avoided. (This rate of development must be weighed against the problems anticipated in negotiation and execution of boundary realignment);

(ii) the relatively small net incremental value of production per acre with the light supplemental irrigation proposed, and the correspondingly limited repayment capacity of the cultivators. (For this reason some cultivators with small resources are unwilling to incur substantial indebtedness for development of their entire holding at one time, and would prefer to develop it progressively over three or four years with maximum contribution from their own labour).

51. In such circumstances it is unlikely that development by boundary realignment could be implemented throughout the project area at the necessary rate. Regulated development without full boundary realignment as discussed in para. 32 may be the general solution in this area, or both systems may be used in part, as appropriate. The preference of some cultivators for limitation of initial capital outlay in land development, and for extension of land shaping over three or four years, can be met through departmental design and construction of "sloping contour" bunds (at 15 m to 20 m spacing), together with primary field channels and drains. The cultivators can then undertake levelling between the bunds progressively. Bund construction is discussed in Annex 2.

WATER APPLICATION SYSTEM

FURROW AND BASIN

(Supplementing the discussion of the merits of the "sloping furrow" system and the "basin" system in Paras 7, 8, 9 of the text)

1. For sloping furrow irrigation or sloping border strips, the field is usually 100 to 200 metres in length. The slope or grade of the field is nominally determined with regard to the infiltration rate of the soil, the amount of water to be applied per irrigation and other factors. It is an efficient method of water application when all factors are in balance. However, a change in infiltration rate (e.g. due to hardening of the surface with successive irrigations) can upset this balance. Furthermore, field slopes are seldom matched closely to soil type and tend to be standardized throughout a particular project area. Efficiency of water application is consequently often less than might be expected. It is noted, however, that there occurs in India one type of soil which is particularly well suited to such irrigation. This is the "self-mulching" clay soil which breaks up into a crumbly structure on drying, and is self-limiting in water up-take during irrigation regardless of the duration of water application.

2. Soils not well suited to sloping furrow irrigation include those of very high and very low infiltration rates. The problem of low infiltration rate can be overcome by continuing the supply to the upper end of the field after water reaches the lower end, i.e. spilling at the lower end. This is appropriate where the spill is re-used elsewhere. This is not generally the case in Indian irrigation practice, however, and very low infiltration rates remain a problem for furrow irrigation.

3. The long sloping field referred to in furrow irrigation may also be the basic unit of land shaping for basin irrigation. In that case, the cultivator has two alternative courses in preparing the field :

- (i) Simply adding low (15 cm high) temporary cross-bunds at intervals of 5 m to 10 m down the slope, after cultivation, and irrigating the field as a series of small basins.
- (ii) Modify the sloping field into a series of flat basins (e.g. 20 m in length) arranged step-wise down the slope. The difference in height between adjacent basins is about 10 cm, and the amount of cut involved in forming each basin is no more than 5 cm, which can easily be managed with the cultivator's own equipment.

The second alternative is that used wherever paddy is included in the crop rotation. In both alternatives the basins are irrigated successively from a temporary tertiary field channel or furrow running down one side of the field for its full length.

4. The disadvantage of the basin system compared with the sloping furrow system, is the additional labour involved in preparing the field for irrigation and in irrigation itself, although with labour costing the equivalent of less than US\$ 0.75 per day this is less of a consideration in India than elsewhere. Where permanent basins are used (alternative (ii) above), each basin is usually cultivated individually. This is a disadvantage if mechanical equipment is used for cultivation or harvesting, although not a prohibitive one (a 20 m x 20 m field can be handled quite easily with mechanized equipment, but the time taken per hectare is greater than with a large field).

5. Both sloping furrow and basin irrigation have a place in Indian agriculture. The ease of control of basin irrigation and its versatility in regard to soils conditions make it attractive to the small cultivator. The larger cultivator on the other hand may find sloping furrow or sloping border strips more attractive where soils are suitable. Both types of irrigation can be provided for if land is shaped in graded strips (about 0.5 % grade, with side slopes 0 to 0.5 %), the option of selection of type of irrigation being left to the cultivator. However, where irregular topography or shallow soil depth or other factors make graded strips difficult to achieve or technically inappropriate, the basin should be used as the unit in land shaping.

CONSTRUCTION OF "SLOPING CONTOUR" BUNDS

1. Reference is made in the text to the use of 15 m to 20 m wide "sloping contour" terraces as the unit in land shaping, particularly where natural slopes are above 0.5 % or 1 %. The first operation in such land shaping is usually forming of a series of bunds initially 40 cm to 60 cm in height parallel to each other, and spaced at the desired width of the terraces. The bunds run on a "sloping contour" at the desired longitudinal slope of the finished terrace, generally about 0.5 %. As indicated in Para 51, in some circumstances cultivators may carry out the remainder of the land shaping operation, i.e. levelling between the bunds, with their own equipment. In other circumstances the shaping operation between the bunds may also be carried out by contract. In either case the essential first operation is the forming of the bund.

2. As the earth which forms the bund is excavated from the area immediately adjacent to it, the net effect is a shallow depression or trench paralleling a bund. The trench is in effect the first cut in cross-levelling the terrace. It is on the up-hill side of the terrace, and can consequently function as a temporary field channel permitting flood irrigation of the terrace where pre-irrigation is necessary to soften the soil before continuing with levelling between the bunds. Pre-irrigation is of particular importance in land shaping in heavy clay soils, and also in the red ferruginous soils of the Deccan. In these soils land shaping in the dry season is very difficult even with mechanical equipment, and impossible with animal-drawn equipment, unless pre-irrigation is resorted to. The trench may subsequently also function as a temporary field channel for initial crop irrigation, while land preparation by the cultivator continues.

3. As bund-forming may have to be undertaken in the dry season, and as pre-irrigation in advance of bund-forming is not generally possible, heavy equipment may have to be employed in this operation. Current practice in India is to use a bulldozer operating at right angles to the line of the bund, in a back-and-forth motion. This is a time-consuming operation, commonly requiring 1½ to 2 hours of bulldozer time per acre. As bund-forming can be an important element in the cost of land-shaping, particularly if narrow terraces are used, the use of equipment more specifically adapted to this operation is desirable, in particular equipment travelling continuously along the direction of the bund, rather than back-and-forth at right angles to it. Depending upon soil moisture conditions a single pass of a three-tyne ripper or heavy three-disc harrow cutting to a depth of 30 cm to 40 cm, hydraulically mounted on a D6 or D7 tractor, may be necessary prior to the bund-forming operation. For bund-forming itself the following equipment may be used :

(a) An angle-dozer, possibly followed by a light finishing pass with a wheel-tractor mounted bund-forming blade.

(b) A heavy disc ridger.

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Bank Policy on Agricultural Credit

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Agriculture and Rural Development Department

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BANK POLICY ON AGRICULTURAL CREDIT

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BANK POLICY ON AGRICULTURAL CREDIT

PREFACE

Bank lending for agricultural credit has expanded considerably in recent years, and credit is now the largest component of Bank agricultural lending. In the course of this expansion, a number of issues have arisen and problems have been encountered, and these are likely to be compounded as increasing emphasis is placed on lending to small farmers. Accordingly, this paper examines: (i) the issues and problems associated with the use of credit on the farm and with institutional lending and (ii) the policies that might be considered by the World Bank Group, including those which will facilitate the provision of credit to large numbers of small farmers.

Small farmers, as considered here, include families farming less than five hectares or, in those countries where all farms are small in absolute size, those farmers who comprise the lower half of the country's cultivators. Since these constitute the core of the poverty problem in the developing world, improving their productivity and incomes is a matter of high priority. But credit has also to be provided to medium- and large-sized farmers in order to help meet the world food problem. The evidence suggests that holdings of 5-50 hectares are also short of accessible production credit.

Bank credit projects in the agricultural sector provide more than finance for on-lending to farmers. Funds are provided for processing and marketing farm produce, forestry development and fishing enterprises. Provision is also made for the support of technical services and training, feasibility studies, project preparation and other institutional assistance. While these are significant elements in Bank lending the main problems- and the focus here - concern lending for on-farm development.

Data used in this paper were drawn from Bank reports as well as from the many studies that have been made of farm credit. Both sources of information leave much to be desired. The data from studies are generally incomplete and often of poor quality. In particular, little is known of the extent of farmers' needs for institutional credit, of the uses to which borrowed funds are put, or perhaps most significant, of the impact of credit on output and productivity. It is argued that non-institutional sources of funds lend more than the formal institutions in many countries; but there is little information about lending terms and conditions in the informal market, and what is known is derived from observations by knowledgeable people rather than from hard evidence.

Most of the Bank data come from appraisal reports. Since these are prepared prior to project implementation, they present expectations which may or may not eventuate. For example, these reports show the average size of expected beneficiaries for each project but there is as yet little basis for comparing achievements with those expectations. Supervision reports

yield little in most cases because information is generally not available on what happens at the farm level in terms of the actual size distribution of borrowers, the uses made of the funds and their effects, or the repayment record by different classes of borrowers. The information the Bank has on such key institutional issues as the costs of administration and on defaults is both incomplete and not comparable between projects. This situation will be rectified to some extent by the review of five agricultural credit projects being undertaken by the Operations Evaluation Department.

Despite these serious shortcomings in data, the statistics presented are believed to reflect reliably the overall magnitudes on size of programs, extent of coverage and interest rates charged. The information on institutional arrears and defaults and the costs of administration contain a greater margin of error. Information on the impact of credit on output and on the sources and charges for non-institutional credit is even less reliable. Thus, this brief preface highlights the need for better information on all aspects of rural credit and its impact on production and incomes.

BANK POLICY ON AGRICULTURAL CREDIT

CONCLUSIONS AND RECOMMENDATIONS

1. Credit is often a key element in the modernization of agriculture. Not only can it remove a financial constraint but it may provide the incentive to adopt new technologies that would otherwise be more slowly accepted. Credit facilities are also integral to the process of commercialization of the rural economy. However, no amount of credit, even at the most reasonable rates, can provide a panacea for raising farmer productivity or improving incomes of the rural poor. Success in this depends on many factors, including the availability of complementary inputs and services, sound credit policies, well-managed institutions and appropriate delivery channels. These issues and their implications for Bank operations are discussed in this paper.

2. Although credit problems have been the topic of much keen debate and a voluminous literature, hard information on the structure of credit, in terms of sources, recipients, rates, uses, mechanisms and impact, is fragmentary and leaves much to be desired. The picture collated in this paper from Bank and many other sources is necessarily rough and presents only sketchy outlines of some essential features.

Dimensions of Credit Problems

3. Outstanding institutional loans to agriculture in the LDCs are estimated at about \$15 billion. Total agriculture credit outstanding in these countries is unknown. The bulk of it originates in the informal sector and it is probably not less than five times the estimated outstanding institutional credit.

4. The percentage of farmers receiving institutional credit varies widely in different parts of the developing world. In certain African countries around one percent of the total number of farmers use institutional credit, while in Taiwan nearly all farmers have access to it. About five percent of farmers in Africa get institutional credit while coverage in Latin America and Asia (excluding Taiwan) is about 15 percent of all farmers. Large farmers have been the main beneficiaries of institutional credit. It is common to find that 70-80 percent of small farmers in a given country have virtually no access to institutional credit.

5. Most of the credit that is available to farmers in developing countries is for short-term loans for a season or for up to one to two years. These credits are used for purchasing current inputs such as seed, fertilizer, pesticides and the like. There are some credits available for 2-5 years for purchasing livestock and some longer-term credits are available for acquiring items such as tractors or pumps for irrigation. The available supply of credit to all farmers, though, is heavily skewed in favor of short-term credit and this skewness is even more pronounced in the distribution of whatever credit is available for small farmers. Even though most of the limited credit available for small farmers is short-term, the supply is

inadequate especially as it is credit of this kind that is most needed by small farmers to produce a marketable surplus, the first requirement if they are to contribute to the development process.

Size and Nature of Bank Group Operations

6. Total Bank Group commitments to agriculture rose from \$468 million in the 16-year period FY48-63 to \$621 million during FY64-68 and to \$2,589 million in the most recent five-year period. The credit component rose from 20 percent of total lending for agriculture in the first period to 56 percent in the last five years. There has also been a significant shift in the share of credit funds going to countries with lower per capita incomes. In the most recent period, agricultural lending to the poorest countries exceeded \$1 billion, of which more than half was for farm credit. Approximately one quarter of all credit that has been financed by the Bank/IDA is intended for small scale producers.

7. The Bank Group's initial objectives, namely to increase agricultural production through the economic use of resources and to develop agricultural credit institutions, resulted in a concentration at the outset on commercially viable farms and related enterprises. Recently, however, there has been a significant shift in emphasis in the allocation of Bank Group resources to small farmers. Project appraisals during FY69-73 envisaged that long and short-term agricultural credit operations would benefit over 900,000 small farmers with holdings of five hectares or less located mainly in India (long term credit for 300,000 small farmers) and in Ethiopia (seasonal credit for 400,000 small farmers). While the numbers have grown in recent years, Bank Group operations have probably reached only one percent of the 100 million small farmers in the developing world.

8. The Latin America region has been the main area for Bank Group farmer credit operations with \$507 million in FY69-73, followed by Asia (\$442 million), EMENA (\$258 million), East Africa (\$140 million) and West Africa (\$61 million). Two countries, India and Mexico, together received nearly two-fifths of all farm credit lending during FY69-73.

Impact on Output and Incomes

9. Available evidence demonstrates that credit stands little chance of being used for productive purposes unless accompanied by certain other conditions. These include:

- (i) clear opportunities for economic gain from adoption of new production technology or other improvements;
- (ii) widespread recognition and acceptance of such opportunities on the part of the farmer, along with access to training in the necessary skills; and
- (iii) delivery systems which provide ready and timely availability of the inputs required, and market outlets for farm production.

10. These conditions do not often prevail in LDCs. To be successful in expanding production, each of the constraints, whether financial or non-financial, must be relaxed. This may involve new varieties and breeds, improved water control, basic infrastructure such as access roads, reliable provision of inputs, or an effective marketing infrastructure for farm produce. Price policies, such as unrealistic exchange rates, export duties or artificially low prices designed to favor urban consumers, can also reduce the profitability of an increase in output. If farmers are ignorant of the economic opportunities open to them or how to take advantage of them, the lack of extension services may be the limiting factor. Alternatively, if the constraint is risk aversion, support prices and possibly crop insurance could contribute to the adoption of a new technology. Especially for small farmers, it is essential to provide a comprehensive package if the potential for increased productivity is to be translated into a commercial reality.

11. Different types of potential innovations may each have different financial requirements regardless of the size of holdings of borrower. Some innovations, such as a switch from one variety of seed to another, may require little additional capital. Other changes such as the introduction of irrigation pumps can be far more demanding in their financial requirements, and may require more resources than traditional sources are able to provide. But farm credit is usually a necessary if not sufficient condition for increased agricultural productivity and improved incomes. This is especially so for small farmers who do not have savings or ready access to institutional sources. There appears to be considerable scope for the use of institutional credit to replace or augment credit from traditional sources in order to alleviate monopoly situations which force interest rates to excessively high levels; to overcome inelasticities in the supply of credit which become apparent when new opportunities emerge; to ease the seasonal financial problems of rural households; and, most importantly, to encourage small subsistence farmers to raise their output and enter the commercial sector. Furthermore, land reform, if pursued widely, could sharply increase credit needs of former tenants which were previously supplied by landlords.

12. The best ways to meet this demand are still the subject of experiment. There is little experience on which to base firm views concerning the most effective credit policies and appropriate lending channels and institutions. There is a need, therefore, for trial and comparison of alternative approaches, and for further monitoring and acquisition of data so as to permit flexibility in implementation and management of Bank projects.

Credit Policies

13. Credit policy discussions center around four main issues:

- (i) eligibility criteria and security requirements;
- (ii) the level of interest rates and the merits of interest subsidies;
- (iii) repayment performance;
- (iv) credit channels.

Eligibility and Security

14. Traditionally credit agencies have required that borrowers both large and small pledge some collateral, usually land, as loan security. This practice, and the low valuation frequently placed on lands, excludes tenants and militates against small farmers who often lack certified titles to their land. Obtaining and processing related documents also substantially increases the cost of lending, delays the disbursement of loans and discourages lending to small farmers and borrowing by small farmers. Lenders are also discouraged because foreclosure is extremely difficult to implement and often politically unacceptable.

15. The Bank has consistently emphasized that the repayment capacity of a borrower should be determined by the appraisal of the productive capacity of his holding and this should substitute for security as the essential criterion in loan decisions. For long-term credit and large farmers, insistence on land as collateral is quite in order. For those who have the resources to repay but do not, there is no real substitute to court action, at least on a selected basis as examples to others. For short- and medium-term credit, chattel mortgages and liens or mortgages on crop production are appropriate; they cost less to document and can be accomplished more readily than land mortgages. They are not yet more widely used because legal procedures are still too cumbersome and the security they offer is generally considered to be poor compared with land mortgages. One way to make crop liens more acceptable as an alternative to use of land as collateral is to coordinate repayment with marketing of crops. This system is likely to be of particular importance in dealing with the security problems of small farmers. It is being used successfully, particularly with those crops which are subject to a monopoly and which are centrally processed, e.g. tobacco, cotton, cocoa, tea, coffee and sugar cane. A variation would employ contracts whereby the credit agency is paid a percentage of the farmer's output rather than a fixed amount. Another approach is to couple crop insurance with credit in order to protect both the borrower and the credit agency against the vagaries of nature. Some success has also been achieved by lending to groups (informal cooperatives) with the members held separately and severally responsible for the loan. Solutions to the problem of collateral are important if smaller and tenant farmers are to benefit from credit programs; the best prospects in the future will lie in some form of group responsibility for individual borrowings—an approach yet to be developed on a large scale. Whatever solutions are developed it is important that every effort is made to minimize cumbersome procedures for lending to small farmers.

16. Small farmers and tenants are usually penalized by the cumbersome and time consuming procedures involved in applying for their loans. Many lending agencies have rigid procedures for processing loans, whether large or small. These include the completion of complex forms and a pre-audit of the borrower who, if he is a small farmer, is often illiterate. Thereafter, before the loan is issued, an official has to visit the farmers' holding and when the loan is eventually made it is available at the lending institution (which may be distant from the borrowers' holding). The repayment terms of the loan will often be rigid without the flexibility needed to

accommodate the natural hazards of farming. There is great scope for innovation and modification of the rules and regulations that govern the requirements for collateral and the procedures involved for borrowing by small farmers. The need is for simplification and flexibility to facilitate ready access for farmers to credit. This may only be possible with the modification of laws governing the granting of credit and with greater reliance on self management and policing of individual sub-loans by groups of farmers who assume responsibility for all the members of the group.

17. Farmers should generally be required to contribute to the costs of the investment for which they are borrowing. This emphasizes their responsibility to make it successful, increases the lender's security and spreads institutional funds further. While significant down-payments should be required from those borrowers who can afford it, great flexibility with regard to small farmers, such as acceptance of contribution in labor, should continue to prevail. Strict repayment requirements compatible with cash flows are also justified because of their role in resource conservation and generation.

Interest Rates

18. Capital/credit markets in developing countries are imperfect in varying degrees and as a consequence interest rates may not allocate resources among competing uses as effectively as they should. Also, other price effects or exchange rate policies may swamp the impact of changes in interest rates. Much more needs to be known about the effect of differential interest rates on resource allocation between sectors and, within agriculture, at the farm level.

19. It could be argued though, in strictly economic terms, that interest rates in agriculture and elsewhere should cover the cost of capital and the associated costs of services to provide capital to the borrower. In that event the interest rate would represent cost of making capital available so facilitating the allocation of capital in line with its most effective use. An interest rate that would cover the cost of capital would include:

- (a) The opportunity cost of capital: this represents the foregone opportunity costs of using funds for agricultural credit rather than for alternative programs. Estimates of opportunity costs for capital are seldom less than 8 percent in real terms, approximately the level required to mobilize savings effectively;
- (b) The costs of administering the provision of credit: these are costs that are directly attributable to the processing, delivering and administration of loans. An efficient institution making medium and long term loans to large farmers can operate at an administrative cost of around 3 percent of its total portfolio. (The median, administrative cost for the lending institutions discussed in Annex 13 is 5 percent)

Costs of administration rise as the size of loans fall, as the duration of loans shorten and as accounting services have to be expanded to cope with large numbers of small scale borrowers. An efficient small farmer credit institution can operate with administrative costs of between 7 percent and 10 percent of its total portfolio. These costs would be for providing a mix of short term and long term loans and would be for services associated with processing and delivering loans; costs would not include the provision of extension and other public advisory services normally made available as a non-profit, public service;

- (c) The costs of risks and defaults: costs of lending have to incorporate an element to cover losses through defaults. The limited evidence available indicates that, over time, the level of defaults is no greater among small farmers than among larger farmers. The evidence indicates that the more careful the scrutinizing of loans, the supervision of loans and the pursuit of delinquents, the lower the default rate (but the higher the administrative costs). Limited evidence indicates that 'normal' defaults can be expected to add 4 percent to the costs of lending.

20. In summary, total costs, in real terms, for an efficient institution could be between 15 percent and 22 percent depending on the nature of the operation and the size of the loan. Costs for lending to small farmers would be at the upper end of the range and may well be higher.

21. These rates contrast with interest rates for institutional credit to agriculture as a whole, which are typically low. Although there is considerable variation among countries and institutions, most nominal interest rates for agriculture range from 6 to 30 percent, averaging about 10 percent. After adjustment for price changes these translate into real interest rates of between -16 and +16, with a mean of about 3 percent. Frequently, the real rate for agriculture, even if positive, barely covers administrative costs, let alone makes lending profitable after allowing for inevitable defaults, and seldom permits paying an interest rate on deposits that will attract savings.

22. The available evidence, as given in Table 9 in the Annex, indicates that commercial lenders charge much higher interest rates than institutional lenders. Petty traders, money lenders, landlords, and some commercial bankers charge anywhere from 3 to 20 times as much as institutional lenders. Payment of such high interest rates would seem to indicate that borrowers would be prepared to pay an institutional interest rate of 15 percent to 22 percent-- a rate much lower than the commercial rate but still high enough to reflect the real cost of lending to small farmers.

23. There are, however, a number of major factors that require consideration before advocating raising interest rates for lending in agriculture in general and to small farmers in particular. These include:

- (a) Effective interest rate policy has to take account of comparative intersectoral rates. In practice real rates throughout most economies are likely to be well below the real economic costs of lending. Forcing up interest rates for agriculture alone can lead to uneconomic diversion of resources and, not infrequently, may be negated by subsequent leakage between sectors. Correcting the problem for agriculture, therefore, rests on restructuring lending conditions as a whole;
- (b) Lower interest rates than those representing real costs may be used as a compensation or offset to adverse terms of trade between agriculture and industry or agriculture and the rest of the economy. There is some merit in this but the use of interest rates for this purpose always carries the danger of proliferating distortions that already exist in an economy. A preferred approach (where possible) would be to eliminate the discrimination or to find other (and better) avenues to offset the discrimination, e.g. through changing price policy or modifying those trade or fiscal policies that encourage high cost industry while penalizing agricultural exports;
- (c) Introducing high interest rates for agriculture may have a deleterious impact on the rate of acceptance of credit. Where agricultural credit rates are very low to begin with--as is often the case--large and abrupt increases in the interest rates may have adverse psychological effect on farmers' readiness to utilize credit. The rate of change in interest rates has to be given careful consideration especially for its impact on small scale farmers moving into the money economy. Hence, any policy that contemplates raising interest rates may require that the change be implemented over a long period of time.

24. A further argument that is mooted against raising interest rates is that the provision of agricultural credit is so basic to the needs of small farmers that it should be subsidized. This argument rests largely on social grounds - subsidized interest rates are viewed as an instrument to transfer income to the lowest income groups and so help redistribute income. In view of the widespread poverty of the small-scale farmers there is undoubted merit in transferring income to the rural poor and it may well be that the interest rate is a convenient mechanism for this purpose. Against this argument, though.

- (i) Subsidized credit can distort the use of resources and can lead to excessive capitalization of farm investment including the use of labour displacing machinery. Furthermore, if credit is used productively then there is evidence that farmers--even small farmers--can bear the real costs of credit;

- (ii) Subsidized credit for small farmers tends to result in leakages. Experience indicates that larger farmers tend to gain the greater proportion of whatever subsidized credit is available for use in agriculture;
- (iii) The provision of subsidized credit to small farmers is also open to corruption and political abuse. Subsidized credit intended for small farmers has often been used for financing non-agricultural ventures, frequently ventures in which local politicians use their influence to acquire the low-cost credit. Political pressure is also often used to avoid repayments and to write off debts;
- (iv) Subsidized or low cost credit means that the rate charged by the lender does not cover the costs of lending so that the lending institution incurs a 'loss' on each loan; consequently, even with a high repayment rate there can be a reduction in the inflow of funds into institutional credit and a depletion of the resources of the lending institution. The financial viability of the lending institution could be weakened and the level of lending could be reduced unless the losses incurred from low interest rates were subsidized from other sources such as the national budget. It should be borne in mind that income distribution is not really improved by subsidizing further those small farmers already benefitting from access to institutional credit when this reduces the resources available to the lending institution to provide similar access to other small farmers. Additionally, interest subsidies would not help the often large and even poorer group of landless labourers;
- (v) Subsidized interest rates have also been advocated to help make small farmers more productive. However, subsidies tend to be most effective when they are linked to introducing a particular technological change. Thus, where it is deemed desirable to use subsidies to encourage change, it is preferable to subsidize particular inputs related to that change rather than a general parameter such as the cost of credit. Subsidizing particular inputs such as fertilizer has the advantage that the cost of the input to the farmer can be varied over time, and the variation can depend on the acceptability of that input; subsidized interest rates, on the other hand, have a pervasive effect that spreads beyond any particular technological change;

- (vi) One subsidy that might be effective in avoiding some of the problems enumerated above would be a subsidy to cover the administrative costs of lending to small farmers. Such a subsidy could equalize interest rates for all loans of equal duration and so help foster optimal resource allocation; at the same time unified interest rates would minimize leakages and opportunities for corruption.

25. The preceding discussion provides ample evidence that there is no simple or unique answer to the question of what is an appropriate interest rate for agriculture, especially for small scale farmers. Many considerations have to be brought to bear. In so far as the Bank is concerned, the Bank should be working towards a long run objective of positive interest rates reflecting costs of lending; an intermediate objective might be to cover at least the opportunity cost of capital. Subsidies should, in general, be confined to cases where they can be clearly justified and are likely to be effective in view of the pattern of financing in the project area.

26. There are obvious difficulties in any single institution--such as the Bank--trying to obtain interest rates on particular projects that are different from those charged by the same or competing borrowing institution on other but similar projects. This difficulty is compounded by the fact that many external lenders have accepted the principle that borrowing institutions should on-lend at subsidized interest rates. In these circumstances the role of the Bank would seem to be one of persuading the external lending agencies and the governments to follow an interest rate policy consistent with the needs of the agricultural economy.

27. It has already been stressed that credit is only one element in the package of inputs and services needed to raise the productivity of small farmers. In many instances credit in itself may not be the most significant element. The attitude of the Bank towards the question of an appropriate interest rate will therefore tend to be viewed in the perspective of the overall project; the attitude towards the interest rate will have to be influenced by the extent to which the project overall would achieve the objective of raising the productivity of large numbers of small farmers and giving a satisfactory economic return.

Repayment Performance

28. Repayment performance by large and small borrowers on farm loans is typically poor. However, while many large arrears are reported, in the long run most loans are eventually paid and the default rate is much lower than the arrear rate. The major problems for credit institutions associated with a chronic poor repayment performance by all farmers are loss of liquidity, and the additional manpower and costs involved in collection activities. The reasons for the large arrears are independent of size of borrower; they include the vagaries of production such as price and weather effects, sociological factors and most important poor organization and management of credit institutions. Given the likely fluctuations in farm income from year-to-year there is a strong case for flexibility in scheduling repayments. However,

this should not encourage tardiness or provide less pressure on farmers to make repayments when they are able. This requires a firm stance on the part of institutions, which has seldom been forthcoming, often as a result of political pressure. Closer supervision provides the most obvious means of minimizing defaults, and there appears to be excellent scope for offsetting a higher supervision cost against a lower delinquency rate in many institutions. Supervision has the advantage that it encourages favorable behaviour patterns which may eventually allow supervisory activities to be reduced whereas unchecked delinquencies only encourage a worsening situation. In the case of small farmers, though, the costs of supervision will be high unless this can be done on a group basis with some collective responsibility for debt collection.

Credit Channels

29. In considering appropriate and effective credit delivery systems we must come to grips with two major issues:

- (i) whether institutions should be specialised in providing credit alone, or alternatively be multi-purpose organizations providing marketing services, input supplies and other items and service along with credit;
- (ii) how to cope with large numbers of small farmers.

Whether farm credit institutions should be specialized or multi-purpose is something of a moot point, but experience tends to favor multi-purpose ones. Both kinds have had their successes and their difficulties. Multi-purpose cooperatives have found it difficult to exercise credit discipline among their members in some cases, and some observers of the experience with cooperatives argue that the administration of credit should be kept separate. On the other hand, specialized institutions have a tendency to remain aloof from the everyday problems that affect the financial needs and repayments capability of their clients. Since credit is often only a component in a package, multi-purpose institutional arrangements are generally to be preferred at the primary level dealing with farmers. Such institutions facilitate the provision of credit in kind (and on time) and the collection of repayments by deductions from the proceeds of marketed produce. They are also better situated to pursue supervised credit provisions; to ensure its purposeful use; and assist in recovery. Further, they allow the availability of credit to be tied in more effectively with the government extension services to become a vital catalyst in the process of technological innovation. While in practice there is probably a need for both specialized and multi-purpose credit institutions, the advantages of delivering credit through the multi-purpose type justify considerable effort toward resolving the credit management problems that frequently crop up in such institutions.

30. The best means of reaching large numbers of small farmers is still unclear. Most Bank Group lending for farm credit has gone through commercial banks, via the central bank. This has proved satisfactory from a management and control standpoint, and has been effective in reaching the clientele of large borrowers. In general, however, such institutions are limited in dealing directly with small farmers, because of high administrative costs, lack of borrower collateral and locational limitations which restrict access. Government efforts to prescribe quotas for lending to agriculture, or partial guarantee of loans to small farmers, have not moved the commercial banks substantially in this direction--despite serious attempts to do so by the banks in some cases. Agricultural Banks and Development Banks are bound by the same kind of limitations, though they lend almost as much to agriculture as the commercial banks.

31. One avenue of lending to small farmers - special crop and project authorities - has provided a satisfactory channel for reaching relatively large numbers of smallholders. Since crop authorities can provide a guaranteed market (perhaps with quotas) and are usually in a position to ensure profitable return, they have been able to operate successful credit operations. The nature of these institutions facilitates the delivery of credit in kind, its timely distribution to coincide with field operations, support and supervision by technical field staff, and the collection of repayments by deductions from returns. Clearly this is an effective means of delivering seasonal credit to smallholders, and should be utilized wherever possible. An important qualification might be that such credit should not only relate to the needs of the cash crop being produced, but also to the subsistence crops grown for the farmer's own use, with repayments for both being deducted from the cash crop proceeds. Credit administered by project authorities as a component of integrated development schemes has also been a useful means of reaching substantial numbers of small farmers in limited areas - though the overall record has been varied. In the WADU project (Ethiopia) production of maize rose by two or three times over three years. On the other hand in Lilongwe (Malawi) there was a decline in production, though the cause may have been unrelated to the project elements. This type of approach, though limited in the scale it can have, is probably more appropriate in an African context where suitable institutions and basic infrastructure are otherwise lacking.

32. Cooperatives are also an important element for reaching small farmers. Almost 20 percent of Bank Group farm credit is disbursed through cooperatives. These usually have an apex structure, layered to the local or primary society level. India has channelled a large part of its agricultural credit through the Land Development Bank Cooperative System, which has performed fairly well. Successes have also been recorded in Taiwan and Korea, and in isolated instances in many other countries. But many experiences elsewhere have been discouraging in terms of high administrative costs, delinquencies and inadequate and untimely services. Local cooperatives are often captured by the well-to-do, and smaller farmers have difficulty in obtaining funds. A highly centralized system does not necessarily ensure better performance than a flexible village society

structure where the operating decisions are made at the local level. In general, the proficiency and equity with which the cooperatives operate reflect the conditions prevailing in the country as a whole - a fact which is hardly surprising. Where there is a strong private sector, cooperatives are difficult to sustain. They also encounter serious problems in countries which have an acute shortage of skilled manpower. Nevertheless, cooperatives probably provide one of the most promising vehicles for reaching large numbers of smallholders and rural producers.

33. There are other means of reaching small farmers. These include farmers' associations and other groupings, frequently informal, which have obtained credit from financial institutions under conditions of group liability. Small groups have been organized, sometimes within a formal cooperative system, in several countries in order to obtain credit for small farmers. These groups are highly diverse, including village societies in Turkey, tribal groups in Africa, peasant groups in Mexico and so forth.

34. In areas where credit institutions are lacking or grossly inadequate, it is possible, as an interim measure, to increase the supply of credit for small farmers by using non-institutional channels, such as traders or merchants, as conduits for public credit. This has yet to be proved as an effective mechanism. The risk of misuse of funds and the difficulty of integrating credit functions with the other package elements indicate that the use of non-institutional channels should be approached very cautiously, usually in the context of a channel of last resort.

35. There is need for all concerned to learn much more about the most appropriate channel for providing credit at low cost to enable large numbers of small farmers to become more productive. It is clear, though, that any system intended to reach large numbers of low income producers will have to be based on different principles from those systems assigned to reach relatively few large producers. One important difficulty which arises from the need to reduce administrative costs is that the borrowers themselves will have to operate through some institutions which represent them as a group. This institution will have to assume responsibility for being the channel to its members and for administering, supervising and collecting loans at the local level. However, while it is possible to identify the need and importance of a group for this purpose, the specific nature of the group that will be most effective will vary among different societies and cultures.

36. Because of the special problems of dealing with small farmers, a case could be made for separate credit institutions to look after them. They require much more service, including closer supervision, than the more commercialized larger farmer and more flexible policies relating to credit collateral, down-payment requirements and repayment schedules. But institutional and manpower constraints are such that few countries are in a position to establish parallel institutions. A practical solution is to keep the programs and accounts for small farmers separate and distinct from the others, so as to be able to evaluate performance and costs of

providing credit to small farmers by various methods, and to take such corrective steps as may be required. For the same reasons in a multi-purpose cooperative, the credit account should be held separately from the other activities.

37. To sum up, in order to develop effective credit institutions for dealing with small farmers, these appear to be the important considerations:

- (i) The institution must encourage acceptance of its role in assisting small farmers and make itself readily accessible at the village level.
- (ii) It must view credit as part of a package to improve small farmer productivity, have specific proven technology to do so and assurance that the inputs required are available.
- (iii) The institution should look to the advantages of providing credit in kind for purchased inputs, both to relieve the smallholder of further transactions with which he may be unfamiliar and to provide the institution with some assurances that the credit is used for the purposes intended.
- (iv) Credit, especially credit in kind, must be timely; if provided too early or too late it leads to diversion and loss.
- (v) The basis for selecting smallholder borrowers should be creditworthiness but the criteria need not be as restrictive as for larger borrowers. The important elements should be the reputation of the individual within the community, the technical feasibility of the proposed enterprise in his own farm situation and the expected cash flow generated.
- (vi) The prospects for repayment of loans are greatly enhanced by group responsibility for individual liabilities. Given the cohesiveness of most rural communities, when the village cooperative society or farmers' association has a stake in an individual's performance, it is difficult for him to withstand the pressure of his peers and avoid his obligations.
- (vii) Institutions should understand that for small farmers, more than for larger farmers, loans and repayments need to be carefully scheduled to meet periods of liquidity shortage and surplus as they arise. This will make supervision much more effective and orderly.
- (viii) Even so, institutions will need to exercise considerable flexibility in rescheduling repayments when unexpected circumstances, such as drought or other disasters, occur. Under such conditions, it may also be necessary to be flexible in regard to lending criteria.

- (ix) There must be a commitment on the part of the institution for continuity of operations. This is a recognition that performance in the initial stages may well leave much to be desired. It will take time and discipline to develop effective credit programs for small farmers.
- (x) Finally, authorities should recognize that there is still much to be learned about small farmer credit, that a process of trial and error on a limited basis may be quite in order in many circumstances to provide guidelines for wider application. Ultimately, the program should be conceived as providing continuing and increasing financial support to the farmer for the evolving process of modernization.

Recommendations

38. (i) The Bank should continue to expand its efforts to help meet the credit needs of small farmers. Increased attention to small farmers should not, however, obscure the need for also increasing significantly the aid to other groups especially medium-sized farmers. Reaching large numbers of small farmers in low-income countries with credit, at the farm level, will necessitate a substantial volume of Bank/IDA lending. During the next five years an anticipated US\$1.3 billion will be allocated for rural credit and close to half will be for small farmers.
- (ii) The expansion of rural credit should be on a selective basis related to situations which will lead to an increase in rural productivity. Credit is not normally the appropriate instrument for transferring income to low-income producers or the rural poor. While an expansion of credit could reach large numbers of small, potentially productive farmers, there will be large numbers of low-income persons in the rural areas, such as the landless and those whose holdings are too small to be viable who will seldom benefit from rural credit programs. They will have to be aided by other means.
- (iii) Access to short-term credit for purchasing fertilizers, improved seeds, pesticides, etc. is often of greater importance for small farmers than long-term credit in the initial stages of the transition to more productive agriculture. Accordingly, there should be appropriate emphases in the credit programs for small farmers toward short-term seasonal credit in the context of overall on-farm development planning. Bank Group lending could provide a permanent working capital fund for this purpose which is rolled over and re-used every year. As the Bank Group loan/credit is repaid, domestic sources of credit/capital can gradually replace foreign ones.

- (iv) Emphasis should be on the productive capacity of small farmers rather than on collateral as a criterion for loan decisions. For long-term credit to large farmers, land mortgages are in order; more use should be made of chattel mortgages or liens on crops as security for short- and medium-term loans. In general, further experimentation with simplified arrangements and procedures to secure credit should be encouraged.
- (v) Preference should usually be given to a single institution handling all types of credit needed by farmers, both short-term credit for production and for living in the lean period as well as medium- and long-term credit for on-farm development. This would benefit the recipient and enable the institution to oversee his performance and protect its loan. Credit to farmers should be viewed as an integral part of a continuing process to help farmers adopt changing technologies as they evolve.
- (vi) With regard to small farmers, preference should be given to projects in which credit is designed as an element of a reasonably low cost package that provides the necessary additional services - as in integrated area or crop development projects.
- (vii) The Bank should encourage appropriate adjustments to the general structure and level of interest rates so that interest rates within the agricultural sector are in harmony with those in other sectors of the economy. In general there is no simple or unique answer as to the question of what is an appropriate interest rate on a Bank financed agricultural credit project. The Bank should work toward the long run objective of an interest rate that reflects the costs of capital and of providing the capital; an intermediate objective might be to cover at least the opportunity cost of capital. Subsidies should, in general, be limited to cases where they can be justified and are likely to be effective in view of the pattern of farming in the project areas. The issue of interest rates, however, should always be seen as one component in a project. The extent to which the project would achieve the overall objectives of Bank policy should influence the attitude towards interest rates.
- (viii) The Bank should encourage governments to develop systems of lending through cooperatives and/or groups of small farmers. This approach seems to hold most promise for reaching large numbers at low cost. The nature of the groups will vary according to the culture of the different societies involved. At the same time, it should be recognized that cooperatives perform poorly in most countries and ways need to be found to strengthen them.

- (ix) Special project authorities such as those created in Africa in limited areas should continue as Bank instruments to draw farmers from subsistence agriculture. At the same time, the Bank should encourage the development of apex institutions which can promote, oversee and service such enclaves within national programs.
- (x) The Bank should give increasing attention to building and strengthening financial institutions as agricultural credit channels, particularly to orient their efforts towards the small farmer.

39. Clearly, the Bank needs to know a lot more about how small farmer credit programs (including non-governmental programs) perform in improving productivity and incomes, and the costs involved in providing such credit. Accordingly, the Bank Group should in future insist on a reporting system being incorporated, at least in major projects, which will provide information from the farm level--regarding the situation before the project was initiated and the progress and problems that emerged thereafter. In the meantime, the Agriculture and Rural Development Department should initiate a study of the administrative and other costs of providing credit to small farmers. This study should include considerations relating to the effectiveness of cooperatives and other group activities as a means of providing low-cost credit.

I. AGRICULTURAL CREDIT PRACTICE AND PROBLEMS

1. Evolution of Current Approach

1.1 The goals of public agricultural credit programs have changed significantly over the last two decades. Historically, the main objective was to reduce the farmers', especially the small farmers', dependence on the village money lender, who, it was thought, exploited farmers through usurious interest rates. In addition, refinancing was needed for many farmers, especially in Asia, who were excessively indebted at high cost. However, with the emerging importance of economic growth in the 1950's and the development of new and more productive agricultural technologies in the 1960's, governments have shifted emphasis so that today the main purpose of most credit programs is to increase output. In a few of the more prosperous developing countries there has been a further evolution: credit institutions are now used to mobilize rural savings in order to reduce the sector's dependence on external funds. The programs receiving support from the World Bank Group and other international agencies have increasing production as their primary goal. Many combine this with a concern for the welfare of the small farmer, again primarily through raising his output as well as reducing his dependence on the money lender.

1.2 In idealized form, a modern, production-oriented credit program is organized as follows: the government lends its own funds together with those obtained from other sources (e.g., an international agency) to an agricultural bank which, in turn, relends the funds either directly to farmers or indirectly through cooperatives. The farmers use the funds to purchase productive inputs - fertilizer, seeds, pesticides, livestock, tubewells, machinery, and such - which are combined with family labor to produce more output. The additional output is sold and the proceeds are sufficient to repay the loan yet leave the farmer better off. The payments received from the farmers by the agricultural bank are adequate to cover administrative costs, to pay the interest on the government loan and also to regenerate lending capacity.

1.3 The above paragraph suggests several criteria by which to judge credit programs: their success in increasing production and farmers' incomes, their success in generating sufficient interest and repayments to meet institutional costs, and, for those programs with a small farmer orientation, their success in actually channeling credit to large numbers in that group. It is difficult to provide "hard" evidence on the impact on production but it appears that few credit programs can pass all three tests. In a number of countries the availability of institutional credit has undoubtedly helped to increase output, but the impact has not been quantified. Regarding financial viability, with few exceptions the record is poor. Interest receipts seldom cover costs and many programs have high overdues. Without substantial subsidization, few

programs could survive. As for the distribution of credit, most of the institutional loans have gone to larger farmers. Furthermore, a few credit programs may have been damaging to the position of the smaller farmers; for example, in Colombia, Ethiopia and Pakistan, the new technology financed by loans contributed to the displacement of tenants (due to the lack of concomitant changes in institutional structure, especially land tenure).

1.4 Credit is an important tool in fostering development. But, unless the recipient groups have profitable opportunities in which to invest, unless the programs are well designed and administered, and unless great effort is made to hold down the rate of delinquency, credit programs will fail to meet one or more of the criteria of success listed above. This paper attempts to outline the issues associated with agricultural credit, particularly with lending programs for small farmers, and suggests policies for alleviating the problems.

Volume and Nature of Institutional Credit

1.5 Outstanding institutional loans for agricultural credit in LDCs are estimated to be in excess of \$15 billion. International support for these programs is of considerable importance. The World Bank Group is now committing each year approximately \$400 million for agricultural credit of which more than \$300 million is on-lent to farmers; the Agency for International Development and the Inter-American Development Bank each supply another \$50 million per year and other assistance agencies provide further millions.

1.6 Institutional lending to the agricultural sector by country is detailed in Annex Table 1, which shows total loans outstanding and new loans made by institutional sources in the most recent year for which data are available. The table also gives the level of institutional lending in relation to the rural population. There is substantial variation among countries: in a number of countries, loans from institutions are less than \$5 per person living in rural areas while in five the amount is in excess of \$100 per capita. On a continental basis, in most countries of Africa and Asia institutional lending is less than \$20 per rural inhabitant, while in many Latin American countries the amounts are in excess of \$50 per capita. The greater importance of institutional lending in Latin America is confirmed in Annex Table 2, which reflects the distribution of loans by type of lender. Again the figures vary widely by country, but, on a continental basis, the percentage of loans being made by institutions is high in Latin America, while in Africa and Asia non-institutional lending predominates. Within the institutional sector, public institutions are of much greater importance in Asia and Africa, while in Latin America a substantial fraction of loans pass through the commercial banks.

1.7 The percentage of farmers receiving institutional loans is shown in Annex Table 3. Again there is a great difference between certain African countries where little more than one percent of all farmers use credit, and Taiwan in which nearly all farmers have access to institutional credit. On a continental basis, about five percent of farmers in Africa get institutional credit, while coverage in Latin America and Asia (excluding Taiwan) is about 15 percent of all farmers.

1.8 In summary, only a relatively small fraction of farmers receive institutional credit today. The remainder either do not borrow or are dependent for loans on money lenders or friends and relatives. Though institutional credit is growing rapidly, non-institutional sources are still the major suppliers of credit to farmers in most less developed countries outside Latin America.

1.9 Coverage by institutions is even more limited in the case of small farmers, for in almost all countries institutions have channeled their funds to the larger farmers. In Pakistan the smaller 60 percent of the farmers got three percent of the institutional credit. In Bangladesh, few farmers hold more than three acres and yet these larger farmers captured more than 80 percent of the loans from the Agricultural Bank and the cooperative banking system. In the Philippines 27 percent of the larger farmers handling 61 percent of the land captured 98 percent of the institutional credit. In Thailand, those receiving institutional credit held, on average, 60 percent more land than the average farmer; in Tunisia, 90 percent of the farmers could not qualify for institutional credit; and in Bolivia only 3.5 percent of the institutional credit goes to the campesinos. In Brazil three percent of the farmers got 34 percent of the loans. Studies of Chile, Colombia, Ethiopia, and Honduras - all indicated that at the time of the survey the larger farmers were the main beneficiaries of institutional credit; this indicates that there is scope for expanding institutional credit to small farmers.

Development of Bank Group Participation

1.10 The Bank Group's lending in the field of agricultural credit has expanded rapidly, and now constitutes the major part of Bank Group lending to agriculture. ^{1/} Total Bank Group commitments to agriculture rose from \$468 million in the sixteen-year period FY 48-63, to \$621 million during the five-year period FY 64-68, and showed a more than four-fold increase to \$2,589 million in the most recent five-year period (see Annex Table 4). The credit component grew even more rapidly, rising from less than 20 percent of total lending to agriculture in the first period to 56 percent of the total in the last five-year period.

1.11 There has also been a significant increase in the share of credit funds going to countries with lower per capita incomes (as also seen from Annex Table 4). In the earliest period of Bank lending for agriculture to countries with per capita GNP of less than \$150, less than four percent were for credit projects. In the most recent period, agricultural lending to the poorest countries exceeded \$1 billion of which more than half was for credit. Clearly, credit has become an important element in the Bank Group's agricultural programs for low income countries.

^{1/} The data discussed below refers to all projects in which a minimum of 10 percent of the Bank Group loan was used for agricultural credit purposes. While this creates some inconsistency with earlier Bank documents, e.g., the Agriculture Sector Working Paper, the broader coverage provides a more accurate measure of the Bank Group's involvement in agricultural credit activities.

1.12 This activity in the low income countries is of course directly due to the availability of IDA funds (see Annex Table 5). While negligible in the earliest period, by FY 1969-73 IDA credits were utilized in nearly three-fifths of all credit projects and provided over two-fifths of the volume of lending, not counting the portion in projects which were a Bank/IDA blend.

1.13 The Bank Group's initial credit activities were guided largely by three concerns - that funds loaned should lead to increased agricultural production and productivity, that the investments financed should constitute an economic use of resources for both the farmers and the nation, and that support is given to developing agricultural credit institutions. In practice this meant a concentration on commercially viable farms and agriculture-related enterprises; credit was not regarded as a practical means for dealing with the problems of subsistence farmers and agricultural laborers. However, the technological improvements of recent years have changed the economics of small-scale farming, making it possible for once marginal farms to become viable and creditworthy enterprises. The Bank Group has been increasingly concerned with this group of producers, and, although the Bank continues to assist programs lending to medium- and large-scale farmers, there has been significant shift in emphasis in the allocation of its resources to these small farmers (see Annex Table 6). Approximately one-quarter of credit financed by Bank/IDA is intended for small-scale producers.

1.14 In project appraisals, it was reported that agricultural credit operations during FY 1969-73 would benefit over 900,000 small farmers with holdings of five hectares or less. In addition, 300 cooperatives were beneficiaries, containing small farmers as well. Almost 80 percent of the farmers holding less than five hectares and benefiting from Bank Group funds are in India and Ethiopia. Bank Group credits to India go to 300,000 small farmers, about 0.7 percent of the estimated 42 million smallholders in the country. The loans are mostly for wells, pumps and motors and have an average size of approximately \$1000, of which the Bank provides about \$650. The Bank's commitment to these loans is \$185 million and constitutes 65 percent of the volume of all Bank money flowing to small farmers in the form of loans. Another 400,000 small farmers in Ethiopia receive Bank assistance as part of the Agricultural Minimum Package Project. The average loan size is approximately \$25.00, of which \$12.50 is provided through Bank lending. These loans are for seasonal inputs such as seeds and fertilizers. The number of small farmers benefiting from Bank-supported programs has grown in recent years, but at best are reaching only one percent of the 100 million small farmers in the developing world.

1.15 The country and regional pattern of Bank Group credit activities (shown in Annex Table 7) brings out the prominent role Latin America has played in past Bank Group credit operations. Only in the latest period, FY 1969-73, did Asia approach it in volume of lending and number of projects. The table also reveals the Bank's limited involvement in agricultural credit in West Africa - a reflection of the difficulty of mounting credit projects in that Region, in which traditional cultural practices predominate, and the fact that many countries did not achieve independence until fairly recently. Two countries, India and Mexico, together received nearly two-fifths of all Bank Group credit for agriculture during FY 1969-73.

1.16 A review of the contribution made by Bank Group financing to the total costs of agricultural credit projects (shown in Annex Table 8) reveals the significantly higher proportions of project costs provided to low-income countries - a position which emerged most clearly during FY 1969-73. Also, local cost financing has tended to be more important for low-income countries than for those in the highest bracket. By the FY 1969-73 period, countries with \$150 GNP per capita or less had, on average, nearly two-fifths of local costs covered by Bank Group financing. Ability to do local cost financing has been a key element in expanding the scope for Bank Group participation in agricultural credit, particularly in those countries with the lowest incomes and at the earliest stages of development.

Categories of Bank Group Lending

1.17 Information on the types of credit projects financed by the Bank, as presented in Annex Table 10, shows that total lending in each category has increased in the three periods covered. However, the rates of expansion by project type and by region differ considerably and are indicative of changes in the Bank policy. Lending for livestock operations remains the single most important type of credit operation, though its relative share in Bank credit commitments has declined slightly. Livestock loans constitute nearly one-third of Bank credit projects and make up more than 70 percent of the credit projects in Latin America, which, in turn, has been the region receiving the largest number of Bank Group credit loans. Within Latin America, in the past at least, most of the funds have gone for the development of large-scale commercial ranches. The trend in recent years in Africa and the Middle East, and in Latin America as well, has been toward developing smaller scale livestock operations.

1.18 The second largest category of loans has been credits in support of general agriculture. The nature of such projects is quite varied, the category including loans for mixed farming, for general on-farm improvements such as land-levelling and for the purchase of non-mechanized implements, such as plows.

1.19 In the period 1969-73, agro-industrial credits were third in importance. These are classified by the Bank under agricultural loans but are not for crop or livestock raising; rather they are for processing plants, storage and marketing facilities, and for aerial spraying of crops. The next class, in value of Bank credit operations, are loans for minor irrigation projects. Most of these projects are for wells and low lift pumps. In recent years, this type of operation has been limited to Asia and is often to provide the water control essential to the adoption of the new varieties of wheat and rice.

1.20 Lending for crop development, mostly export crops such as tea, oil palm, and cocoa, and integrated agricultural development have both emerged as important credit activities in the 1969-73 period. Reliance on these types of projects in East and West Africa reflects the specialization of commercial agriculture in these regions, and the need to package credit together with extension and infrastructure in Africa.

1.21 Farm machinery loans were one of the early kinds of agricultural credit activity in the Bank. These frequently involved financing imports of machinery and the use of the counterpart funds from their sale for onlending to farmers. Though lending for this purpose has continued to expand, it has done so at a slower rate than lending for other purposes and is now concentrated in Asia rather than in Latin America. There is awareness in the Bank of possible adverse social effects and the dislocation of labor associated with too rapid mechanization of agriculture.

2. Problems of Agricultural Credit Markets

Agricultural credit institutions tend to be treated in isolation rather than as a segment of the rural financial system. The discussion presented above indicates, however, that institutions provide only a fraction, and in most countries only a small fraction, of credit used by farmers. If farm savings are included, institutions provide an even lesser part. A recent study in India reported that over half the farm households did not have any debt at all; farmers that did borrow still financed 95 percent of household expenditures, 90 percent of operating outlays and 50 percent of investment costs out of their own resources. Of the funds that were borrowed, only 30 percent came from institutions and institutions financed only one percent of total farm outlays. Institutional credit programs must be designed to operate within the overall rural finance situation.

1.23 Some of the major problems in rural finance stem from the fragmentation of the financial markets. In some countries, funds do not flow readily, either between markets or even among borrowers within a market. Where this situation exists, it can lead to the following problems: (i) a lack of competition among lenders, leading to usurious interest rates; (ii) an inelastic supply of funds, slowing the investment process when the demand for funds for development is increasing rapidly; and (iii) the use of surplus funds whether for consumption, land purchase (exacerbating the land tenure problem), or for investments not related to increased productivity. Each of these problems is basically associated with a different stage of agricultural development, though a monopoly of credit supplies, where it exists, can be a problem at any stage. Moreover, because the farmers of an area do not all pass through the stages simultaneously, all three may be problems at the same time.

Limitations of Informal Sources

1.24 In traditional agriculture with a stagnant technology, the output of farmers is stable or expanding slowly, and investment is low, not because farmers are too poor to save or interest rates too high to borrow, but because, over time, they have acquired the quantity of capital ^{1/} which is consistent with their technology and their holdings of land and labor. In a

^{1/} In this paper the term "capital" is used to refer to fixed and working capital, while "credit" is used to mean a transfer in cash or kind with an obligation repay.

traditional setting some poor farmers use credit regularly to pay for their household requirements in the months before harvest. But most farmers borrow only when their crop has been poor or they are faced with an unusual expenditure, often for a family ceremony such as a birth, wedding or death.

1.25 Much of the borrowing is from other farmers - neighbors, friends, and relatives - who charge a nominal rate of interest but expect comparable financing should they find themselves in need of credit. Some farmers, and especially those small farmers making regular borrowings, obtain loans from merchants, middlemen, and money lenders, who charge high interest rates. In some places there is competition among such lenders and the rates charged are roughly equivalent to the high cost of lending to small, rural borrowers, including a realistic risk premium and the opportunity cost of the money lender funds. Other money lenders have a monopoly position and are able to charge rates greatly in excess of competitive market levels.

1.26 In those countries of Asia and Africa for which figures are available, friends and relatives provided 50 percent of total loans; for the countries in Latin America, they provided only 10 percent (see Annex Table 2, "Non-Commercial" lenders). On such loans interest is not charged or is nominal. Still, some farmers, and a disproportionate fraction of these are probably small farmers, are forced to borrow from money lenders, middlemen, landlords and merchants, who, on average, provide 27 percent of total agricultural credit (see Annex Table 2, "Commercial" lenders). Many of the loans from these commercial sources are at very high rates of interest. Particularly in Africa the rates on commercial loans are very high (see Annex Table 9), but the volume of commercial lending there is very small. The interest figures may be misleading since they represent an annualization of monthly rates, and most loans at high rates are for short duration, seldom longer than three months.

1.27 Exploitation is made possible by ignorance, by poor communication, by the absence of alternative lenders, by established trading patterns and by differences in economic and political power. Public credit programs by offering an alternative source of funds can help those who must deal with a credit monopolist. But monopoly power may not be the only, or even the most important, reason for high interest rates on agricultural loans in developing countries. Rather, rates on commercial loans could be high in part because of monopoly, but also because capital is scarce, because farm loans are costly to administer, because the rate of default is high, because much of the demand for credit is seasonal, and because in many countries there is substantial inflation.

1.28 The following illustration suggests the level of interest rates which could be achieved only by the most efficient private lenders, namely

lenders who could invest their capital during the whole year, 1/ and who could hold administrative costs to three percent and defaults to only three percent. To earn 15 percent in real terms, they would have to charge a real interest rate in excess of 21 percent per year. 2/ This is a competitive non-monopolistic rate. On a monthly basis it is about 1.8 percent per month. Yet even at this high rate, the cost to a farmer of financing half of his total expenditures for four months through borrowing would be about 1 percent of his annual expenditures. Data on India indicate that few farmers actually borrow this much. The interest rate figures on loans by commercial lenders show that in all Africa and in selected countries of Asia and Latin America, the rates charged by money lenders are in excess of 32 percent in real terms. In these countries, there may be some monopoly in the credit markets; however, shorter loans, higher administrative costs or more delinquencies than assumed in the above example would justify higher competitive rates. In some other countries, the money lenders' monopoly power is apparently quite limited.

1.29 Only a few studies throw light on the question of informal market interest rates. These indicate that in Ecuador, India, Indonesia, Thailand and Vietnam average interest rates on commercial loans are not out of line with competitive rates. Studies on Malaysia and Chile, however, indicate that in those two countries there is a substantial component due to monopoly included in the interest rate charged by money lenders.

1.30 The object of government policy should be to eliminate not the money lender but his monopoly profit. The most effective way to reduce interest rates and exploitation is to increase both the alternative sources and the volume of credit in agriculture. This can be done either by establishing government credit agencies or by pursuing policies that encourage private institutions to lend to agriculture, by allowing them to charge interest rates high enough to make lending to farmers profitable.

1/ Merchant-lenders usually invest their capital in loans over a period of the year. In seasonal agriculture, there is in effect a symbiotic switching over the year of working capital between farmer and merchants who are crop-buying agents. The merchant requires substantial working capital after the harvest to carry out the crop. Over the year as he sells out his position, his need for working capital is diminished, freeing funds for lending just at the season that farmers are running low on money and need loans to purchase household supplies. This seasonal shifting of funds between merchant and farmer makes for an efficient use of capital over the year.

2/ The calculation is as follows: to have an annual return of 15 percent on his capital, the lender must collect 15 on every 100 lent plus 3 for administrative expenses and 3 for losses - that is, 21. This must be earned from the actual capital recovered - that is, 97 over a period of 12 months. The lender must therefore charge a real rate of about 21.6 percent.

1.31 Many governments attempt to limit the rate of interest charged by the private sector through usury laws. If such laws could prevent exploitation, they would be most desirable. But money lenders and borrowers do not pay much attention to usury laws. If the maximum interest rate is set too low, usury laws discourage lending to agriculture by those private institutions, such as commercial banks, who usually obey the law. It is important for development to improve financial markets and to increase the flow of credit, both between and within economic sectors. Financial policy must pay due regard to intersectoral interest rates. Limits on interest charges which impede the flow of funds into agriculture by institutions, but are unenforceable as regards the money lender, do little good.

Changing Credit Uses and Requirements

1.32 Modernizing agriculture necessitates the introduction of new technology into an area. The change can be of various sorts: it may be the introduction of a crop not formerly grown in that area or it may be the adoption of some practice which preserves yield levels, such as soil or moisture conservation, pest control, or perhaps the introduction of crop strains more resistant to drought, heat or cold; or the innovation may involve a yield-increasing technology in the form of new varieties of seeds, pesticides, fertilizer, or machinery.

1.33 The various types of innovation have different financial requirements. Some innovations require little additional capital; for example, a switch from one variety of seed to another can be made without much investment. The additional capital needed for others, such as the introduction of pesticides, can be financed by many farmers from savings. Evidence from such varied countries as Brazil, Korea, Pakistan, Taiwan and Zambia indicate that farmers have substantial savings capacity when they have attractive opportunities in which to invest.

1.34 But in addition to their own savings, borrowed funds are needed by many farmers, especially when the investment is large relative to their income stream. In modernizing agriculture, credit is less likely to be available from other farmers, as in all likelihood they will be using whatever surplus they have to finance their own investments.

1.35 Nor are local landlords, merchants and money lenders likely to be an important source of additional agricultural finance since their supply of funds is quite inelastic. They finance only short-term production credits; lumpy, longer-term investments almost always need to be financed elsewhere. Furthermore, in the event of the introduction of land reform, this source may well disappear.

1.36 New technological opportunities can lead to financial stringencies when they require more resources than traditional sources are able to provide. It is at this point that access to credit from external institutions becomes critical. Without it, farmers' investment strategy and especially that of small farmers, will be biased toward marginal variation within the known, traditional technology.

Mobilization of Savings

One way to increase the flow of funds within the agricultural sector is to tap the surplus funds of those who have successfully adopted the new technology. To realize this potential, an appropriate savings transfer mechanism must be established. If credit (and savings) institutions can offer successful farmers attractive financial returns, they can encourage them to maintain a high rate of savings. The resources so mobilized can then be re-lent to farmers who are still at the earlier stages of development. To the extent that agricultural credit institutions can become the foci of local financial markets by mobilizing and distributing savings, they can lessen the dependence of the agricultural sector on outside sources of finance.

1.38 It must be recognized, however, that mobilization of savings through financial mechanisms will not automatically lead to an increased flow of funds within the agricultural sector unless loan investment returns are commensurate with those elsewhere in the economy. Traditionally savings mobilized in rural areas have been re-lent primarily in urban areas (because of higher interest rates in these areas).

3. Constraints on the Role of Credit in Development

1.39 Credit - that is money - can itself grow nothing. To achieve the objective of expanded production, borrowed funds must be spent by farmers on physical inputs - fertilizer, seeds, pesticides, labor. The surplus output must then be transported to market and sold to domestic or foreign consumers. This is a complex process. Credit puts funds in the farmers' hands that can be used to purchase productive inputs, but whether this will be done or not depends upon technology, markets, infrastructure, information and attitudes.

1.40 In most developing countries, the growth rates in agricultural output have been the slowest of all major sectors: farm production generally has been increasing at less than three percent per year. Coupled with this, there has been a low level of capital formation in the countryside. Many credit programs are predicated on the assumption that, in large part, a shortage of funds is responsible for the slow rates of investment and growth in agriculture, particularly in the case of small farmers. The following section aims to identify those factors which are essential complements of credit in promoting agricultural development.

Limited Applicability of New Technology

1.41 There are many opportunities to put credit to productive use in agriculture, ranging from merely spreading fertilizer where none was used before, to utilizing the more advanced elements of the technology associated with the full-scale "green revolution" including multiple cropping. But these are often limited to farmers in specific regions or to areas with particular natural endowments. Although dramatic increases in yields were experienced

after the successful introduction of new technology in some areas of the world in the 1960's, the applicability of these practices has been geographically limited. Indeed through 1970/71, outside of Mexico, the "green revolution" was highly concentrated in Asia - South and West Asia for wheat and South and East Asia for rice - with small quantities of the higher-yielding varieties of wheat being raised in North Africa and rice in Latin America. In fact, outside of Mexico, 86 percent of the total area planted to new wheats was in India and Pakistan. Rice was not quite so concentrated but 60 percent of the land planted to the new varieties was in India.

1.42 The possibilities of introducing high-yield and/or multiple-cropping techniques are limited, at present, to irrigated and high rainfall areas of mild temperatures, which probably do not occupy more than 30 percent of the world's potential arable land. For many other areas it is possible to develop yield-preserving, rather than yield-increasing, technologies, but there is an urgent need for more basic research to open up new technical horizons for agriculture in the developing countries. Similarly, there are limits on the availability of uncultivated land. Although there are areas of cultivable but unused land in Latin America and Africa, and a little in Asia, the expansion of cultivated land in developing countries is, on past performance, unlikely to exceed one percent per annum, a rate far short of population growth in the developing countries.

Economic and Social Constraints

1.43 Even where technical opportunities exist, these may not be economic. New grain varieties, although they may produce larger harvests in physical terms, have sometimes sold at a discount because local consumers consider them inferior to native grains. The profitability of new investment opportunities resulting from new technologies or from opening new lands is clearly not guaranteed, and it would be misleading to assume that all new technologies made available to the small farmer will be profitable to him. Where new technology does not exist, priority should be given by government to developing opportunities which will make possible increased output on economic terms, or, where feasible, to taking steps to bring additional land under cultivation.

1.44 Some of the recent improvements in technology involve indivisibilities which make them less suited for adoption by small farming units. For example, the new seed varieties are much more productive when water application can be controlled. Yet the minimum size tubewell or low lift pump available in most areas is larger than that required by small farmers to irrigate their land. In some areas it has been possible to group small farmers to share a single pump or tubewell, but where farmers cultivate several tiny parcels, such organization becomes more difficult. On the other hand, fertilizers, pesticides and new seed varieties are almost perfectly divisible. In the Indian and Pakistan Punjab, where irrigation was already available, the new grain technology is apparently as well suited to small farmers as to large, and the new practices were adopted to roughly the same degree by both groups. When indivisibilities are important, the new technology tends to be less profitable for smaller farmers, giving the larger ones advantages in the market place.

1.45 Many agricultural innovations are quite risky. For example, the new seeds show greater yield variation than the varieties they displace. Under ideal conditions, output may be twice as great or more, but under adverse weather conditions the new seeds may yield even less than the traditional varieties. ^{1/} Many of the traditional varieties have evolved overtime, or were consciously developed through early research work, to produce under wide extremes of weather conditions. The risks associated with the new technologies may threaten survival, especially among small farmers in marginal ecological areas who live close to subsistence levels, and this reduces the attractiveness of the new practices.

1.46 New agricultural practices may be disturbing to farmers' culture, traditions, attitudes and values. Profitable changes in practices may not be adopted if they involve work considered to be demeaning, or if agricultural practices are a secondary occupation, with primary orientation toward non-agricultural employment, or if societies provide sanctions against progressive farmers.

1.47 The absence of an adequate marketing infrastructure may make investment unprofitable. A number of country studies - Ecuador, Ghana, India, and Malaysia - report that a lack of adequate infrastructure makes marketing additional output unduly costly. Price policies, such as unrealistic export exchange rates, export duties, or artificially low prices designed to favor urban consumers can also reduce the profitability of marketing additional output. Where the delivery and marketing system and pricing policies are satisfactory, experience shows that not only are credit operations greatly facilitated but credit requirements are not as large as they would otherwise be.

1.48 Adoption of the new practices may also be constrained by a lack of inputs. For example, new seeds and pesticides may be available, but fertilizer may be in short supply. Because success of the new technologies depends on a balanced application of several inputs, the absence of any one may adversely affect the benefits to be gained from using the others. An investment in a tubewell may fail if the farmer cannot also obtain required fertilizer. The small farmer is at a definite disadvantage in acquiring essential inputs. Supply is limited to a degree which required rationing. Steeply rising prices may keep limited supplies away from the small farmers, but, even where prices are controlled (and sometimes subsidized), the wealthier and more influential farmers seem better able to capture what is available and to get the government to respond to their needs.

1.49 Farmers may be ignorant of the economic opportunities open to them, or they may misjudge the potential returns from new practices. In many cases, recommended procedures appear to be only imperfectly adopted. Farmers may use new seed but not fertilizer or use fertilizer in seed beds but not in

^{1/} The new wheat varieties introduced into Morocco from Mexico were found to be highly susceptible to rust - a problem which had never occurred in the somewhat different Mexican climate.

their fields. For various reasons, including the great effort required to reach the large number of small farmers, extension agents spend less time visiting smaller units, with the result that the latter are less informed about new practices. A study of small farmers in Zambia concluded that an educative process was needed with regard to both the potential commercial nature of farming and the profitability of innovation.

Non-Credit Policy Requirements

1.50 To be successful in expanding production, government policy must relax each of the binding constraints, whether it be financial or non-financial. For example, where the constraint is absence of knowledge, the Government's program should incorporate some form of extension service; where it is lack of experience with a particular input or crop, the program might include a subsidy on the input or a support price for the output to make the use of the input or the growing of the crop more profitable. If the constraint is risk aversion, crop insurance may possibly be used to reduce the yield component of risk, or a support price may reduce the risk of price declines.

1.51 There are also various techniques for shifting more resources into agriculture. In addition to institutionalized credit programs, alternatives include cutting taxes on agriculture, particularly export levies, or improving the terms of trade between agriculture and other economic sectors. Many countries discriminate between the prices established for agricultural and industrial commodities by raising the prices of the latter through protective tariffs and depressing those of the former by price controls on domestic foodstuffs and through taxes on export commodities. In countries pursuing such policies, improving the terms of trade for agriculture should be given highest priority and would probably have a very substantial impact on output and consequently on the demand for credit. (However, it must be recognized that credit is one facet of overall economic policy - increased availability of credit may have little effect on production if other economic policies militate against farmers' using credit profitably. Where such a situation prevails, credit will only become effective if those policies are modified.)

1.52 Credit and alternative programs of the kind indicated compete for scarce funds to achieve basically the same objective, i.e., to encourage farmers to adopt new agricultural practices. The choice of means, or combination of means, should depend upon careful analysis of the nature of the constraints in a specific situation, as well as of the costs of alternative programs and their political and administrative feasibility. The costs and the ability of the government to deliver services to a target group, especially when those are small farmers, can differ markedly among programs.

1.53 For the very poor in rural areas, agricultural credit programs are of limited application. Many of the very poor in the countryside are landless laborers, or those who are too aged or too infirm to work. For these, credit will be of little direct benefit. But even those owning a

little land may either have no productive opportunities or require such small amounts of capital that grants would be more economical than the cost of collecting loans.

1.54 To help these underprivileged groups, programs other than credit will have to be adopted. Agrarian reform is important. Programs aimed at improving the productive opportunities of small farmers will also help. To date, most agricultural research has been directed at monocultural practices and little has been done to improve methods of intercropping, typically employed by very small farmers. In addition, programs not directly connected with agriculture, such as health and education schemes, are also likely to improve farm productivity. But in the end many of these people will improve their lot only by leaving agriculture and finding employment in more productive parts of the economy.

II. AGRICULTURAL CREDIT PROGRAMS AND POLICIES

2.1 The success of credit operations depends not only on the conditions under which farmers will use institutional credit to expand production but on the agricultural credit agencies themselves. With regard to institutions, there are three key problems: the design of credit programs, the financial viability of the credit agency and the structure of the credit delivery mechanism. In order to discuss these questions, however, some conceptual clarifications are required.

2.2 First, for purposes of exposition, this paper divides farmers into two classes - large farmers and small farmers. There is, however, actually a continuum of farm sizes and the problems of the medium-size farmers should not be ignored. Experience has shown that the most progressive farmers, in fact, the real innovators, most often come from this class. Second, land quality is equally as important as land size. Three hectares of irrigated lowland may be far more productive than 25 hectares of arid or mountainous land. Third, the point was made in Part I that investment programs would succeed only if the farmer had profitable opportunities in which to invest, but these opportunities are of various kinds. To take advantage of some requires only additional working capital, while others need more expensive fixed investments. Because of differences in the size of holdings, the quality of land and the nature of the investment opportunity, there is a substantial range in the additional capital required by farmers. This amount cannot be precisely identified with farm size, and certainly not with the oversimplified rubrics of small and large farmers.

2.3 For the design of credit programs, what matters is not so much the size of land holdings, but the scale and type of the farmers' loan requirements. For example, the costs of administration rise as the average size of loan declines. But a small farmer seeking to finance the acquisition of a tubewell may require more funds than a large farmer borrowing in order to purchase fertilizer. Secondly, the availability of credit personnel and the level of their salaries greatly influences the type of credit program that can be economically administered. Where salaries are low, it is, of course, possible to service smaller loans. In summary, on the rich alluvial lands in certain areas of Asia, it may be economical to have credit programs serving farmers with much smaller landholdings than, say, in the mountains of Latin America, where, because of the poorer quality of land, the different nature of the investments and the higher salaries of credit officials, the costs of credit service for farmers of similar size would be much higher.

1. Designing of Credit Programs

Separation of Programs for Different Borrowers

2.4 Experience with both Bank Group programs and others, has shown that when a single credit agency serves both large and small farmers, most of the funds, if not most of the loans, go to the larger farmers. In part, this is a political problem; at the local level, it is the larger farmers who have the political and social influence with the credit agents. In addition, lending to the large farmers involves lower costs and lower risks. As will be discussed later, administrative costs on small loans to widely dispersed farmers are expensive. For many reasons, institutions are often unable to charge interest rates high enough to cover the costs of small farmer lending. Because it is more difficult for small farmers to generate a marketable surplus, the risk of default associated with small farmer lending is also greater. Lastly, many credit agencies require some form of security from farmers, and small farmers have little or no security to offer. Because the misuse of funds for consumption, high default rates and inability to cover costs are usually considered the hallmarks of a poorly administered credit program, managers of credit institutions attempt to hold down the value of small farmer loans in order to meet the criteria by which they are judged.

2.5 It seems advisable that the Bank should support separate credit programs for large and small farmers, in order to increase the probability that funds intended for small farmers actually reach small farmers in areas in which land holdings differ markedly by size. But, since credit institutions utilize scarce human and capital resources, it is often not economical to have completely separate and parallel organizations for small and large farmer lending. In such cases, separate programs should be created within a single institution, to a large extent utilizing the same facilities and personnel. However, the financial accounts should be kept separate, and many aspects of the programs will be different. Where there is not a clear distinction between small and large farms, it will be necessary to adopt other criteria such as income to sort out the two groups.

Providing Credit for Particular Purposes

2.6 Although Bank Group agricultural credit projects have generally been oriented toward funding specified production activities (hence their classification into livestock, mechanization, general agriculture and other categories) the items covered by such programs are not usually exclusively of a single type. All components of a production package should be, and usually are, financed under such schemes. In some cases there have been unfortunate instances where this has not been so. As an example, in cash crop projects in Africa credit has been provided for inputs to the cash crop (mainly fertilizer) but not for the subsistence crop, though the cash crop can be grown on many farms only if land is released from subsistence crops by increased yields. In a number of agricultural credit projects, as in India, short-term credit for incremental working capital required as a result of permanent improvements and adoption of modern technologies have not always

been made available to farmers. This resulted from the lack of coordination between two separate cooperative systems, which provide either short- or long-term credit. Clearly, there is a need to think of production packages for the farm as an entity and to finance all complementary components of a new technology package if the goal of rapid innovation is to be attained. Further, there is a need for related long-term financing plans which project farmers' overall financial requirements and recognize the necessity of sustained financial support for on-farm development and working capital.

Terms and Conditions of Lending

2.7 In the past the Bank Group has financed credit programs lending to farmers for investments in fixed capital, believing this type of lending to be most appropriate, since it is the lumpier investments with longer term pay-offs that farmers have the most trouble financing from their own savings or from alternative sources such as money lenders and merchants. (The latter usually provide only relatively short-term credits.) Many of the longer term investments in fixed capital are not suitable for small farmers because of size indivisibilities. However, the creation of farmer groups to share capital investments such as tubewells and pumps and further reduction in the minimum scale of such investment such as the development of rotary tillers and smaller irrigation systems can reduce this constraint. At the present time, however, much of the smaller farmers' investment requirement is for seasonal investments, to take advantage of new technology comprising seed, fertilizer, pesticides and the like.

2.8 Today, the preponderance of credit from public agricultural credit institutions is for short duration loans for working capital. Annex Table 11 shows that in Africa and Latin America 75 percent of the institutional loans are for two years or less and that in Asia the figure is 65 percent. Certainly, a similar proportion of small farmer credit needs will be short-term. The Bank Group has, for the most part, followed a policy of financing a working capital revolving fund only when it constitutes an essential part of investment under a project and meets two conditions: it is incremental start-up working capital and such finance is not available from other sources. The Bank's approach has been essentially pragmatic, however, and in recent years the policy toward seasonal lending has been relaxed. One of the first cases of such a change in policy was in Tanzania, where the Bank Group financed a substantial portion of a permanent working capital revolving fund required by supply cooperatives to purchase and distribute fertilizers and pesticides to their members. In the future, the Bank Group's increased emphasis on small farmer projects will necessitate more such lending to credit institutions engaged in financing seasonal activities. Credit of this kind is most needed by farmers to produce a marketable surplus.

2.9 The small size of individual loans is one cause for the high administrative costs in most small farm lending programs and these programs can ill-afford to fragment further small farmer credit needs into separate long-term and short-term components. Consequently, small farmer credit agencies should be responsible for the delivery of both long-term and short-term credit, supplementing long-term financing with working capital when needed, as well as providing short-term loans for small farmers with only seasonal credit needs.

Provision of Complementary Services

2.10 As discussed previously (paras 1.39-1.54) a shortage of capital is often not the only constraint preventing farmers from adopting a new technology. Often the farmer lacks other important ingredients - knowledge of technology, inputs such as fertilizer and seed, and, sometimes, even the ability to sell his crop. To make the credit program a success, the government must provide the complementary inputs that the market system or others do not provide, or provide but poorly. Usually various specialized agencies provide these auxiliary services, such as extension, sale of inputs and marketing. In other cases, however, several separate services are delivered jointly in what has been called a package program.

2.11 The package approach is to be preferred in that it provides the farmer not only credit but all of the ancillary services he requires, even though some of the benefits of specialization are lost. Several of the small-holder projects which the Bank has financed in Africa are of the integrated variety: the Lilongwe and Shire Valley Projects in Malawi, tea projects in Kenya, Tanzania and Mauritius, the Wolamo Project in Ethiopia, the Casmanche Project in Senegal, and the cocoa and palm oil projects in the Ivory Coast. These projects are considered quite successful. On the other hand, in several credit programs in Latin America in which the credit agency assumed the responsibility for performing non-credit functions which were not directly related to the purposes of the loan, there was a deterioration in both the quality of lending and in the credit institution's financial position.

2.12 Whether a single agency should be responsible for delivering several services or specialize in the provision of one is situation specific and depends upon the availability of trained personnel and the degree of institutional development. In countries rich in manpower and institutions, there are some advantages in specialization. In countries somewhat poorer in both, it is possible to separate functions at the apex level but combine them at the local level where the availability of staff is thinnest and application most costly. In countries with the least developed administrations, it will be necessary to utilize whatever distribution channels exist. Sometimes this will mean credit officers providing extension or the reverse. In other cases, organizations developed by private companies to ensure adequate supplies of such crops as tobacco, tea, cotton and groundnuts, can be used to provide the needed services. In yet other countries it will be an area or crop development organization, such as those being financed by the Bank in Africa.

2.13 In summary, the scope of activity best suited to credit agencies will depend upon the specific circumstances related to the availability of trained personnel and the feasibility of using or creating separate administrations for providing the additional services required to stimulate farmer development. If a multi-service approach is adopted by the credit institution, the costs and income from various activities should be kept separate and the credit agency should be reimbursed for the costs of services not related to the administration of the credit program. If a clear division of costs is not established and if ancillary services are not compensated for, it will not be possible to judge the financial success of the credit program, and losses incurred through the provision of ancillary services may lead unjustifiably to the abandonment of the entire program.

2.14 The most common ancillary service provided and financed by credit agencies is farm supervision. The degree of supervision employed varies widely, covering the range from the simple provision of basic crop information, a service roughly equivalent to extension, to the specification of inputs, sometimes provided in kind to prevent the misuse of loans, to almost complete control of the farm operation by supervising officers. Supervision is designed to help the farmer but also to prevent loan funds from being misused to finance consumption, and to insure repayment. Improved supervision can encourage the effective use of credit.

2.15 But supervision to prevent the use of loans to finance consumption can be only partially successful. Farmers and particularly small farmers seldom divide their operations between production and consumption. Farm life is integrated and much of their own production is used for household consumption. Owing to the inherent fungibility of credit, supervision can never completely eliminate increases in consumption subsequent to the receipt of loans, even when credit is provided in kind. Given that supervision is costly, it must be subjected to careful evaluation and planning in terms of number, purpose and scope of visits by the supervisory officer, to be certain that the benefits justify the costs. In the main, though, expanded supervision appears to be warranted as a means of reducing defaults.

2. Financial Viability of Credit Institutions

2.16 Throughout the period of Bank Group involvement with agricultural credit, a major concern has been to strengthen the credit institutions within the borrowing countries, and particularly to ensure their financial viability. The main reason underlying this orientation is that institutions without financial viability, if they survive at all, are dependent upon annual appropriations from government to help cover costs, and are therefore susceptible to political influence. In fact, without substantial subsidies, few existing credit institutions would have been able to survive since, for most of them, costs exceed revenues and inflation plus defaults have eroded their capital structure.

Loan Delinquencies - Overdues and Defaults

2.17 Failure of farmers to repay their debts on time, or even to repay them at all, is a serious problem in most agricultural credit institutions. The data on delinquency and default by country and program are shown in Annex Table 12. The table presents two measures of arrears where available, unpaid loans as a percentage of the total portfolio and as a percentage of payments due during the year from both loans coming due and those overdue. This latter percentage is called the arrears rate. The figures cited should not be used to make invidious comparisons among countries or programs because the figures reflect wide variation in definition and in quality of information. Nevertheless, the import of the data is clear - in most programs, delinquency rates are very high, frequently as much as 50 percent of amounts due. Some agencies are thought to have even higher rates of arrears than reported in these tables, but these are concealed, primarily through the refinancing of unpaid debts.

2.18 Data on actual defaults are very scanty. Experience shows, however, that except for a few countries, recuperation of large portions of arrears is usually possible over a number of years, and on Bank-financed projects losses resulting from defaults have seldom exceeded five percent of loans outstanding. Nevertheless, loan delinquency is a serious problem for most agricultural credit institutions because it results in waste of manpower, higher cost of administration and slow turnover of resources. Projects financed by the Bank have experienced serious collection problems in recent years in Colombia, Pakistan, Senegal, Tanzania and certain of the states of India.

2.19 There are three general reasons for overdues. The first stems from the farmer's failure to use borrowed funds for productive purposes. Second, overdues may result from adverse outcomes from the investment rather than from any failure to apply the loan proceeds as expected. Causes include bad harvests, natural disasters of various kinds, and changes in economic conditions which cause farm prices to drop. Some loans have been made on the basis of unrealistically favorable assumptions about the probable results; at other

times, the terms of the loans were ill-suited for the purpose for which they were issued, e.g., short-term loan for medium-term activities. Although much of this can be prevented by improved supervision planning and a better appreciation of the real developmental potential in specific situations, along with considerations of the borrower's repayment capacity, many overdues will continue to occur for reasons that cannot be foreseen at the time.

2.20 The third reason for delinquency or default is not related to an inability but rather to a refusal to pay. Having the funds to repay a loan is, of course, not an absolute matter. Some funds are usually available and farmers have to establish priorities for their use. Apparently repaying public sector credits is accorded low priority by many farmers. In some cases, farmers have the impression that credit is a gift made to ensure their loyalty and future support. Governments sometimes do little to change this attitude, and may even encourage it in times of political uncertainty. Low interest rates may encourage delinquency, too, especially if new credit has to be obtained at a higher rate.

2.21 The farmer's lack of enthusiasm toward repayment is aggravated by an observed general unwillingness of governments, through their credit institutions, to impose sanctions on those whose debts are overdue. If land is pledged as collateral, government credit institutions rarely foreclose. Denial of new loans is the usual penalty for failure to repay. This is often a weak sanction, especially for short-term credit, since if the size of a recurring loan levels off, the farmer has less incentive to repay. This is reflected in a decline in repayment percentages as programs mature. Lack of proper records and of an effective collection procedure also contribute to poor repayment performance.

2.22 Cases have arisen where non-repayment has been the result of a concentrated effort to cheat the credit institution, sometimes encouraged by landowners and moneylenders fearful of the competition. At times, it stems from corruption within the credit institution itself, when officials are more interested in bribes from those receiving loans than in the difficult, and personally less remunerative, task of recovering the overdues.

2.23 Failure to repay is common to large and small farmers alike. Small farmers would appear to be more prone to delinquency stemming from the first two causes mentioned above. They are more likely to use borrowed funds for consumption purposes and in poor crop years they are less able to generate the marketable surplus needed to repay their loans. On the other hand, in several countries, for example Bangladesh, Bolivia, Colombia, Costa Rica and Ethiopia, there is evidence that larger farmers actually have poorer repayment records. In many of these cases, it appears that large farmer delinquencies are deliberate. Large farmers use their political power to protect themselves against the penalties for delinquencies. Their overdues also occur where agrarian reform measures are expected or already in effect, and they stop repaying past loans in the hope that a debt adjustment or moratorium on repayment will be forthcoming.

2.24 From the overall economic point of view, default is a transfer payment to the defaulting farmers. But it is one of the least desirable or equitable forms of transfer: it destroys the financial viability of the credit institution; and farmers who know they will not be required to repay are more likely to use the borrowed funds for consumption purposes. From a social viewpoint, this is one of the most costly aspects of the default problem.

2.25 Reducing the levels of delinquency and default is the most important issue in seeking to make public sector credit programs financially viable. Traditionally, credit agencies have required that borrowers pledge some collateral, usually land, to secure their loans. Although this practice is feasible when lending to large farmers, small farmers often lack certified titles to their land and tenants have no title at all. Moreover, it is frequently difficult and expensive for the small farmer to obtain the appropriate legal instruments. For its part, the Bank has consistently emphasized that the productive capacity of his holding should substitute for security as the essential criterion in loan decisions.

2.26 In many cases, it is too costly to foreclose on assets pledged by small farmers, making security instruments poor protection against default. Lending only to those with investment opportunities sufficient to produce a significant marketable surplus is perhaps the best way to reduce the level of default. In such programs as the Puebla project in Mexico, INCORA in Colombia, and ACAR in Brazil, where credit was followed by a large increase in output, the problems of default and delinquency have been noticeably reduced. Another practice which has reduced delinquencies is to coordinate repayment with marketing of crops which must be centrally processed, e.g., tobacco, cotton, cocoa, tea and coffee. The use of chattel mortgages and liens on crop production has also been effective as a low-cost method of protecting against default.

2.27 Following a bad harvest, credit agencies frequently adjust repayment terms, either through renewals or postponements of maturity dates. However, most of the available data indicate that once a loan is in arrears, collection is both difficult and costly. This suggests that in areas where output is highly variable, it might be possible to employ contracts whereby the credit agency would be paid a percentage of the farmers' output rather than a fixed amount. Such sharecropping arrangements are quite common for land rentals. Crop insurance is a possible way to protect both the borrower and the credit agency against the vagaries of nature. Both approaches involve difficulties of administration and in the case of crop insurance may prove costly.

2.28 If the incidence of delinquency and default associated with poor harvests, and from failure to use borrowed funds for production, could be reduced, credit agencies could afford to deal more strictly with the remaining source of overdues, i.e., farmers who have the funds but refuse to repay. The onus attached to attempts by public credit agencies to take court action would be greatly reduced if such efforts were confined to the deliberate defaulters. This becomes largely a matter of attitude and political will. A decision on the part of the Bank Group to withhold funding where that will is lacking might strengthen the government's hand.

Costs of Agricultural Credit

2.29 Credit programs are costly to operate. The administrative costs of agricultural credit institutions vary considerably, as evidenced in Annex Table 13. In part, the difference in reported costs reflects a difference in concept and in the responsibilities of the institutions involved. The costs of supervision and other ancillary services vary, and eliminating these items to achieve comparability among agencies has not been possible. Further, in some cases, the cost figures cited encompass the entire credit delivery mechanism, while in others the costs refer only to a single element in a many-linked chain of credit delivery. In addition, cost accounting procedures, especially as regards reserves and write-downs of defaulted loans, vary widely. For the group of institutions shown, the median figure for administrative costs as a percentage of the total portfolio would be around five percent.

2.30 The administrative costs of agricultural credit institutions tend to be high relative to most other types of lending institutions. Because borrowers in rural areas are widely dispersed, credit distribution is more costly than in urban areas. Also, collection costs would be higher as a result of the high level of overdues inherent in agricultural credit.

2.31 Administrative costs, of course, depend upon the size of loans and their duration. For an efficient institution making medium-term and long-term loans to large farmers, the costs of administration are about three percent of total portfolio. ^{1/} The costs would rise if the financial institution provided ancillary services or had to mobilize funds through deposits.

2.32 Although a general study of costs in credit programs supported by the Bank Group has yet to be undertaken, a recent analysis made of administrative costs of Indian credit agencies funded by Bank and IDA loans may serve as an example. At the level of the Land Development Banks, the administrative costs were three percent of the total portfolio. Adding the costs of the apex bank raises administrative costs to four percent on outstanding credits. However, in India a portion of the total costs of credit administration are borne by the Government Department of Cooperatives, and if these costs were included, total administrative costs would be higher. In addition, in India, the Land Development Banks handle only medium-term and long-term loans going principally to medium and large farmers, provide no extension or supervisory services, and benefit from a salary scale that is low, all of which keep costs down.

^{1/} This is somewhat higher than the administrative costs of DFCs, which lend long-term to large corporate customers, and somewhat less than the costs of efficient commercial banks in developing countries that lend to large urban corporate customers at short- and medium-term but have to incur the substantial costs associated with savings mobilization through deposit issue.

2.33 The costs of administration rise as the size of loans falls, as the duration of loans shortens, and as the amount of ancillary services provided increases. Also, costs tend to be greater in more wealthy countries in which credit officers are paid higher salaries. For an efficient small farmer credit institution providing a mix of short-term and long-term loans and itself bearing all of the costs associated with credit delivery, total administrative costs, excluding extension and other ancillary services would be between seven and 10 percent of total portfolio. ^{1/} The actual cost would depend upon the size and type of loan and the salary scale. There is a trade-off between administrative costs and delinquencies and defaults. The more carefully the institution scrutinizes the applicants, supervises the loans and pursues delinquents, the lower the delinquency and default rates but the higher the administrative costs. However, no amount of appraisal or loan supervision can reduce them to acceptable levels so long as they arise from political misuse of the credit institution and tacit condoning of failure to repay. With sufficient political will, it should be possible to reduce complete defaults to five percent or less in a well-run credit institution.

2.34 There are also the costs of the capital used by the credit agency. Some public credit institutions receive government loans on which they are required to pay little interest, others operate on government-provided equity funds. Whatever the financial charge for capital, however, there is an opportunity cost of using funds for agricultural credit rather than for some alternative program. There is a substantial literature on the opportunity costs of capital in developing countries. These estimates are seldom less than eight percent in real terms, approximately the level required to mobilize savings effectively.

2.35 In summary, the foregone opportunity costs of using funds for agricultural credit are at least eight percent per year in real terms. Administrative costs for institutions making long-term loans to large farmers may be as low as three percent per year, while for short-term loans for small farmers, these costs will average at least eight percent per year. "Normal" defaults can be expected to add another four percent to costs. Excluding supervision and ancillary services, total costs in real terms for an efficient institution would range between 15 and 20 percent, depending upon the nature of the operation and the average size of loans.

Interest Rates

2.36 Credit programs in the past were aimed at protecting small farmers from exploitation by money lenders. Consistent with this goal, interest rates were set quite low. It would be fair to say that these programs were not expected to be self-financing; governments, at least implicitly, recognized

^{1/} In developed countries, consumer credit institutions which lend relatively small amounts primarily at short- and medium-term have administrative costs of between six and 12 percent of total portfolio, depending on the term, collateral, and credit risk involved. Default experience averages around two percent.

that they contained a large element of subsidy. Although the original program objectives have changed over time, the interest rates charged have remained relatively low in nominal terms, and in some countries with substantial rates of inflation they have become negative in real terms. Institutional interest rates are low in relationship to those charged by commercial lenders, low relative to the supply and demand for funds, and low in comparison with agency costs.

2.37 The nominal rates charged farmers by institutions (as shown in Annex Table 9) fall between five and 30 percent per year; half the institutions charge between nine and 12 percent, with the remainder roughly equally divided between those charging more and those charging less. Interest rates corrected for inflation range from minus 16 percent to plus 16 percent. The nominal rate charged by institutions averages about 10 percent and the real rate above 3 percent.

2.38 From the farmers' point of view, institutional credits involved other costs in addition to the rates cited above. Detailed studies of the true costs to the farmer of official agency credit in Bangladesh, Brazil and the Middle East found that the combination of application fees, travel and "entertainment" costs, and working days lost in arranging loans greatly diminished the attractiveness of public credit as compared with private borrowing. Information from other countries suggests that significant "informal" charges on public credit are not confined to these few cases. Nevertheless, even allowing for these hidden cost elements, institutional credit in most countries is notably cheaper than most loans from commercial lenders.

2.39 The level of interest rates on loans to sub-borrowers and the spreads available to credit institutions are recurrent points of discussion between the Bank Group and many borrowers. It could be argued on economic grounds that these interest rates should reflect the true cost of capital. This argument rests on an assumption that even though capital/credit markets are imperfect, the interest rate influences resource allocation, savings mobilization, financial viability of the credit institution, and equity. These points are considered in turn.

2.40 Resource Allocation. The Bank is lending to institutions with a production orientation, financing investments with a high expected rate of return. If productive opportunities exist and capital is scarce, low rates should not be necessary to stimulate investment. On the other hand, if farmers can afford to pay only low rates because the investments open to them have low yields, then it is questionable whether these investments constitute the best use of scarce resources. Low interest rates lead to higher capital-output ratios on the farm. In countries with surplus labor, this is a questionable policy.

2.41 Savings Mobilization. Agricultural credit agencies have attempted to mobilize rural savings in the form of both deposits and equity participations. Those countries that have succeeded in mobilizing voluntary savings in the countryside, such as Japan, where deposits in cooperatives amount to 84 percent of working capital, and Taiwan, where the comparable figure is 76 percent, have paid high rates for deposits. The savings mobilization effort in other countries without high deposit rates, such as India, Peru and Senegal, have been much less successful.

2.42 Some institutions offer equity participation as another means of mobilizing capital. In many countries (Ecuador, Thailand and Tunisia to name a few) farmers are required to purchase shares in the cooperative in proportion to the size of loan. Farmers regard such purchases as compensating balances whose effect is to raise the rate of interest. The difficulty members have in redeeming shares, the absence of dividends, and the poor operating record of many of the cooperatives militate against persuading farmers to voluntarily purchase shares in most countries.

2.43 Financial Viability. Obviously, financial institutions that charge rates that are insufficient to cover costs cannot be financially self-sufficient, and if they must rely upon government transfers to survive, they become more susceptible to political influence. Where governments are unwilling to provide adequate transfers, or if politicization of the institution results in high default rates, the credit agency runs the risk of paralysis and ultimately of reorganization or closure. Financial institutions represent an investment in organization and human capital that few developing countries can afford to lose.

2.44 Equity Considerations. When the charges on institutional loans are set unduly low, large farmers because of their disproportionate political power, almost always garner a disproportionate share. In fact, if cheap credit is available in excess of investment needs, large farmers may utilize institutional loans to purchase land, thereby exacerbating the land tenure problem. Evidence from Colombia and Ethiopia shows that this is a serious problem. Unless rates are high enough even for small farmers, the replenishment of resources of the financing institutions will not take place and fewer farmers will have access to credit.

2.45 There are, however, a number of major considerations which in practice require substantial departures from using an interest rate that covers the real cost of lending. These include:

- (a) Comparative intersectoral interest rates. In practice real rates throughout most economies are likely to be well below the rate that would cover the real cost of lending in agriculture (especially to small farmers). Forcing up interest rates for agriculture alone can lead to an uneconomic diversion of resources and considerable leakage between sectors. The problem for agriculture cannot be separated from that of the economy at large and a solution rests on restructuring lending rates as a whole in the context of national policy on interest rates.

- (b) The level of interest rates and the psychological impact on borrowers. If interest rates are to be raised substantially then this could well have a deleterious impact on borrowers. Sharp rises in interest rates may well deter small scale farmers or those farmers moving into the cash economy from borrowing the resources needed to sustain production of a marketable surplus. Increases in interest rates would have to take place gradually to avoid discouraging this class of borrowers. Interest rates would probably have to remain low over a fairly long period of time.
- (c) Low levels of interest rates and discrimination against agriculture. The terms of trade are often weighted against agriculture and low interest rates are advocated as a means of offsetting the discrimination arising from adverse terms of trade between agriculture and industry or agriculture and the rest of the economy. There may well be merit in using interest rates for this purpose. However, by the same token it may well be that modifying the interest rate to offset the terms of trade may also add another distortion to the economy. In this event it may be preferable to go to the heart of the matter, where possible, and change those policies that do discriminate against agriculture. These might include policies such as tariff policy that leads to high cost domestic production of manufactured goods or to policies that penalize agricultural exports.
- (d) Low interest rates help to fulfill social objectives. Subsidized interest rates - especially to small farmers - can help redistribute income in favour of the low income groups in the agricultural sector. Given the extreme inequalities in income distribution that do exist there may well be considerable merit in using subsidized interest rates for this purpose. However, there are also arguments against the use of subsidized or differential interest rates for social purposes.
- (i) As has been pointed out above, lower interest rates lead to higher capital output ratios on the farm. Low interest rates may be a questionable policy when there is surplus labor and may militate against the expansion of employment.
- (ii) Experience indicates that subsidized or differential interest rates are open to considerable abuse; frequently there is leakage and larger farmers obtain loans at subsidized rates. Subsidized interest rates also provide opportunities for corruption and political manipulation. It is difficult to ensure that loans at low interest rates reach the groups they are intended to assist. It is not uncommon to find that subsidized loans have been diverted to non-agricultural use or used in a way that contributes little to the raising of output by small farmers.

- (iii) If it costs 15 to 20 percent to lend money and the sums charged for lending is half of this amount (as they frequently are) then each loan made by an institution will contribute to a depletion of its resources. This in turn will diminish the 'reflow' of funds into the system for institutional lending. The lending ability of the institution will be weakened and the process will also weaken the financial viability of the institution. As is pointed out above, reliance on budgetary support to maintain financial viability diminishes the institution's independence and can make it susceptible to pressures which may reduce its effectiveness.
- (iv) Subsidizing interest rates may not be an effective means of redistributing income. Whatever institutional credit is available will only reach a minority of small farmers. It is questionable whether income distribution can be improved substantially by further subsidizing those small farmers already benefitting from access to institutional credit when this reduces the resources available to the lending institution to provide similar access to other small farmers. In addition, subsidized interest rates would not help the large group of landless laborers or the small holders whose holdings are so small that they cannot qualify to receive credit. Redistribution of income can often be implemented more effectively by means other than subsidizing interest rates for small farmers.
- (v) Subsidised interest rates have also been advocated as a means of encouraging technological change in agriculture. Low cost capital may well induce farmers to adopt changed methods of production but subsidies to encourage change are usually most effective when they are linked to a particular technological change. Thus when there is interest in encouraging the use of an input such as fertilizer it is preferable to subsidize the fertilizer rather than the cost of credit per se. Furthermore, subsidising an input such as fertilizer has the advantage that it can be modified as the input gains acceptability and so can be varied, depending on the rate of acceptance of the new input. Subsidized interest rates, on the other hand, have a **pervasive effect** and so cannot be varied according to the rate of acceptance of a given input or change.
- (vi) One subsidy that might be effective would be a subsidy to cover the added administrative costs of lending to small farmers. Such a subsidy could be used to equalize interest rates so that all loans of equal duration would carry the same charge whether for the use of large or small farmers. A unified interest rate would avoid the leakages and opportunities for corruption that might stem from differential interest rates; in addition, a uniform interest rate would help foster optional resource allocation, especially of the rate reflecting the true cost of capital.

2.46 The discussion above indicates very clearly that there is no simple or unique answer to the question of what constitutes an appropriate interest rate for agriculture, especially for small farmers. There are many factors that impinge on decisions regarding the establishment of an interest rate that suits the pattern and needs of agriculture in a given area and also fulfills the more general objectives of national economic policy.

2.47 It follows from the above that there is no unique answer to the question of what might be an appropriate interest rate on a Bank financed agricultural credit project. Many considerations will have to be brought to bear. First, there are obvious difficulties in trying to obtain different interest rates on Bank projects than those charged by the same or competing institutions on other but similar projects. This is especially so in those regions where other external lenders have accepted the principle that there should be heavily subsidized interest rates. Clearly, in these situations the Bank should attempt to work with the other external donors and the borrowing government and institution to develop a common policy that is consistent with the best interests of the national and agricultural economy.

2.48 In general, the Bank should work toward the objective of institutions lending at positive interest rates that reflect the costs of capital and of providing the capital. Such an objective should be seen as a long term goal. An intermediate objective might be for the interest rate to be at a level that at least covers the opportunity cost of capital. Where subsidies are used these should, in general, be limited to cases where they can be clearly justified and are likely to be effective in view of the pattern of farming in the project area.

2.49 There is a special problem regarding lending in an inflationary situation. In recent years, the Bank has made loans, particularly in several Latin American countries, where the rate of inflation is both high and variable. On several occasions the Bank has refused to make new loans until inflation was brought under a semblance of control. Where it did lend, the Bank insisted either on rates sufficiently high to cover expected price increases or on the indexing of the principal of the loan and/or the interest charges, a procedure that has now been used by the Bank in nine countries.

2.50 Unless indexing is applied throughout the economy, it disrupts the allocation of resources if pursued for agricultural lending but not for other kinds. There is an adverse equity impact if only farmers, or worse still only small farmers, have to pay indexed rates while others in the economy do not. Further study of this inflation problem as it relates to credit is recommended, but this is a problem relating to all lending, not agriculture alone.

2.51 Another difficulty is the choice of an appropriate price index to which to tie interest rates. Various indexes have been used, including the price of livestock (for livestock projects), alternative consumer price indexes, and the exchange rate, but all have been found to have deficiencies.

If indexing is to be used in future, detailed studies of alternative measures are recommended. In some cases a catch clause allowing for an increase in interest on, say, notice of three months, may be an effective alternative approach. However, when the inflation rate is variable, inflationary expectations differ and high nominal rates, particularly when set only on certain loans (say institutional loans in agriculture), may only deter borrowers rather than promote development.

2.52 Finally, it must be borne in mind that credit is only one element in the package of inputs and services necessary to raise the productivity of small farmers. Frequently it may not be the most important element. Thus the attitude of the Bank towards the interest rate issue will have to be influenced by the extent to which the project overall is achieving the objective of raising the productivity of small farmers and achieving a satisfactory rate of return. The significance of the interest rate must be seen in the perspective of the many faceted requirements to raise the incomes of the mass of potentially viable small scale agricultural producers.

III. SYSTEMS FOR DELIVERING AGRICULTURAL CREDIT

1. Policy-Making and Administrative Issues

3.1 Decisions relating to credit program implementation can be categorized as: strategic, tactical and day-to-day. The first category covers the broad priority questions: budgetary allocation to agriculture against other sectors and more specifically to credit against other developmental tools. This process covers borrowing from foreign organizations, such as the Bank Group, and setting key credit policy parameters, such as the interest rate. Because government credit can cover only a limited number of farmers, strategic considerations also include the decision on the characteristics, broadly defined, of those to be financed, which may represent a choice among regions, among income classes or among crops. In most governments these decisions would be made at the ministerial level.

3.2 Normally the tactical problems would be handled by the organization responsible for administering agricultural finance. These functions include: the detailed design and organization of the credit program; the choice, training and supervision of staff; the handling and accounting of funds; and the coordination of activities with agencies responsible for providing ancillary services. In design, credit institutions are usually pyramidal: at the top there is an apex financial institution, then several layers of bureaucracy, sometimes within one institution and sometimes organized into separate institutions, and at the bottom is the widely dispersed organization which actually delivers credit to farmers. This bottom layer is responsible for

day-to-day operations, that is, adapting the credit program to local conditions, choosing individual borrowers or organizing local credit groups, coordinating activities with other agencies at the local level and making, supervising and collecting loans.

3.3 This is a complex process and problems can arise at any stage in the credit delivery system. However, there seem to be a set of issues, which, while not found in all credit organizations, are common to many. The first of these is politicization of the credit delivery mechanism. This can hardly be avoided in one form or another with the distribution of an input such as credit which is in short supply and is channeled through a government bureaucracy. Because large farmers have greater political influence, they have usually been able to garner most of the government-provided credit.

3.4 In many countries, politics has invaded the tactical and even the operational level of credit delivery. The choice of directors for the credit institution, and sometimes even of the staff, may be made on grounds of political loyalties rather than qualifications. And in some cases politics spills over into the choice of individual loan recipients and the degree to which sanctions against defaulters are enforced. While the strategy of credit cannot be completely divorced from politics, it is obviously desirable to insulate actual operations from political interference insofar as possible.

3.5 The second problem common to many credit programs is over-centralization with subsequent cumbersome and inflexible procedures for procuring loans. An organization delivering credit to farmers, especially where the loans are small and many in number, has to be widely dispersed. Furthermore, at the local level the staff is usually thin and relatively poorly trained. To control such an operation is difficult, and the procedure typically adopted is to centralize the decision-making processes. Loan decisions often must be passed on to higher levels in the bureaucracy. The result is a credit program costly to administer, beset by paper work and red tape and not well adapted to local conditions: Illiterate farmers are subject to pre-audits and post-audits. The actual delivery of credit is slowed; few agencies can process loan applications in less than 60 days and many take as many as 90 days to provide funds after receiving a request. For long-term loans for investment purposes, this time element is not so important. However, for small farmers who do not plan their credit requirements in advance, such delays in obtaining seasonal credit often mean that the farmer gets the funds only after the need for credit has passed.

3.6 Studies of farmer attitudes have shown that farmers often feel so negatively about the red tape and delays inherent in centralized credit programs that they prefer to borrow from the money lenders who can operate more quickly and flexibly, even though charging higher interest rates. Farmer alienation is increased when, because of inflexibility and the lack of a proper feedback mechanism, the credit program is poorly adapted to local requirements. The problem of poor staffing at the local level is a real one, but over-centralization is clearly not the solution. Institution building and staff training are called for. The use of farmer groups and cooperatives can also help reduce the problem of over-centralization. There is great scope for innovation and modification to improve the procedures whereby small farmers can borrow.

2. Channels of Agricultural Finance

3.7 As previously noted, non-institutional sources of credit provide most of the credit used by farmers in developing countries. On the institutional side the main types are agricultural or developmental banks, usually established by Government and partially or more frequently fully Government-owned; cooperatives or farmers' associations, often government-organized; and private or nationalized commercial banks. Many Central Banks are involved in various ways and to different extents in the delivery of agricultural credit, primarily as a rediscount facility but also in developing and enforcing lending policies and sectoral allocation of resources. In a few cases, such as in India, the Central Bank has played a considerable role as promoter in the development of agricultural credit through research, guidance, supervision and establishment and financing of agricultural credit agencies.

3.8 The funds provided by the Bank Group for agricultural credit are usually loaned or passed on initially to an apex financial institution which then relends either directly through its own network of branches or through independent intermediaries to the ultimate borrowers. The Bank Group funds have, therefore, been currently handled at the top level by Government Agricultural or Development Banks and Central Banks, or by special agricultural refinance funds, usually closely associated with Central Banks. The Bank experience has been that Central Banks are well suited to serve as conduits for credit agencies and, where the objective of the Bank is to lend to farmers through many institutions, principally commercial banks, the use of the Central Bank for refinancing is appropriate. However, Central Banks should not be too closely associated with the administration of agricultural credit programs, and especially in making loans to ultimate borrowers. This would likely divert them from their primary responsibilities for financial and monetary policy. There are also cases where the borrowing Government on-lends or passes on the Bank Group funds to a Government agency or a special entity responsible for carrying out a project which relends the funds to the participants in the projects. The use of such channels and of Central Banks as well should not obscure the need for building specialized agricultural credit institutions.

3.9 The volume of Bank Group funds passing through the various channels which deliver credit directly to farmers is summarized in Annex Table 14. Commercial institutions, primarily banks, were the most important final channel utilized by the Bank Group during the period FY 1969-73, accounting for roughly 38 percent of agricultural loans. The bulk of these funds were for livestock projects in Latin America. Agricultural banks, once the most important channel, have become less important in the most recent period but still distribute to farmers 25 percent of Bank loans. In recent years cooperatives have emerged as an important final channel; lending through cooperatives is concentrated in India but also has been used by the Bank in Niger, Korea and Tanzania. The channel described in the Annex as "Project Authority, Ministry

or Special Entity" consists of the agencies or administrations, primarily government organizations, mainly in charge of regional integrated development, land settlement or development of a particular crop. The last type of channel, Development Banks, represents institutions which in addition to the financing of other sectors, lend to agriculture, mostly commercial agriculture.

3. Agricultural Credit Agencies

Agricultural and Development Banks

3.10 In many countries, governments have established these specialized credit institutions, mostly state-owned or with state majority participation, for lending to agriculture. The Bank Group has lent to farmers through these institutions in countries such as Afghanistan, Jordan, Kenya, Pakistan, Peru and Bolivia. These institutions lend primarily to large farmers, although their original purpose was often intended more for small farmers. Agricultural banks are operated through highly centralized bureaucratic structures and this tends to make them ill-suited for lending to large numbers of highly dispersed small farms. As noted in the prior section, excessive centralization when dealing with small farmers often results in increased administrative costs, an inability to adjust programs to local conditions, and political influence.

3.11 From experience, there seems to be definite advantage in specialized agricultural banks extending short-, medium-, and long-term credit over multi-sectoral development banks which are inclined to favor sectors other than agriculture, and to confine lending principally to long-term credit. Development banks are also centrally operated and thus, like agricultural banks, ill-suited to carry out small farmers' credit programs. Both types of institutions can, however, lend to groups or cooperatives to make their credit accessible to small farmers.

Farmer Groups and Cooperatives

3.12 To overcome the problems associated with excessive centralization, many developing countries have looked to the establishment of farmer groups and farmer cooperatives as the solution to the problem of small farmer credit delivery. Conceptually, group or cooperative organization of final credit delivery mechanisms represent a form of organization which embodies decentralization of control and decision-making and incorporates local knowledge and responsibility.

3.13 The terms "cooperatives" and "farmer groups" cover a range of organizational forms. Farmer groups are usually informal in character, organized around a village, kinship relations, or common economic interest, and typically have about 10 to 20 members. These groups include farmers' associations, village societies, and peasant societies. If such groups grow to a much

larger size, they tend to lose their social cohesiveness. In some cases, the only real activity of the farmer groups is to be jointly responsible for the repayment of loans made to members, while the other functions involved with delivering credit are retained by the financial institution which provides the funds. More authority is transferred where the group is made responsible for the division of funds among members and the collection of loans. Still further development takes place if the group manages a joint investment such as a tubewell. The group may also become a political organization for the small farmer, whereby he gains power vis-a-vis larger farmers and participates in the decision-making process of the credit institution from which the group obtains its funds.

3.14 Formal cooperatives are usually larger scale organizations built around such functions as credit distribution, the supply of inputs, the management of joint investments, such as storage facilities or processing plants, or the marketing of output. Credit cooperatives are financial institutions which usually hire their own professional staff. Farmers are required to make a financial commitment to the institution through the purchase of equity shares and sometimes also through deposits. In some cases, the credit cooperative is restricted to credit distribution and separate organizations are created to manage joint investments or handle marketing; in other cases, one multi-purpose cooperative is responsible for all of these functions. To be successful, cooperatives must have a certain minimum size and carry out a certain minimum volume of operations. The trend has been toward an increase in the size of these institutions for economic reasons, usually with consequent adverse effects on their social cohesiveness.

3.15 Sometimes, informal farmer groups work in conjunction with formal farmer cooperatives. Some responsibilities such as joint signing for loans and collection of repayments are relegated to the farmer groups while others, such as the choice of members and the decision on loan application, may be retained by the cooperative. In other cases, farmer groups deal directly with financial institutions of a non-cooperative character. In Thailand, for example, commercial banks lend directly to farmer groups, and in Western State of Nigeria, farmer groups borrow directly from the Agricultural Credit Corporation.

3.16 When functioning properly, the use of groups and cooperatives as the channel to deliver credit to small farmers has numerous advantages. Decentralization of the day to day aspects of management increases the credit programs' adaptability to local conditions and reduces the time required to process loan applications and make other decisions. Local knowledge can be used to assess both the risk of lending to a particular farmer and his investment opportunities. This, plus group responsibility for repayment and equity participation in the cooperative, should reduce default. Furthermore, grouping farmers raises the average size of loans, thereby reducing costs, and increases the political power of the small farmer.

3.17 The cooperatives considered to be the most successful are those in Egypt, areas of India, Israel, Southern Brazil, Korea and Taiwan. Some have combined informal village groups with financial institutions operating on a cooperative basis; this was quite successful done for a time at Comilla in Bangladesh. However, in most cases, although successful in delivering credit and other inputs to the farmer, the so-called cooperatives have operated more like centralized credit bureaucracies.

3.18 The system of cooperatives in Korea is a case in point. Almost all farmers are members, and almost all are small farmers. There is one institution involved, the National Agricultural Cooperative Federation, which is organized into three tiers, at the national, county, and village or township levels. Overall, this system can be judged to be quite efficient, providing ancillary services as well as credit with relatively low administrative costs. Arrears have also been kept at manageable levels, averaging only seven percent of total portfolio in recent years. However, the system is tightly structured and highly centralized, and farmers have virtually no say in operations.

3.19 Institutions such as these are cooperatives only in the sense that a financial commitment in the form of shares or deposits is required of members. In other respects these institutions are quite similar to specialized agricultural banks and many suffer from the same problems. Cooperatives and farmer groups which are truly locally controlled have proven difficult to establish. Many societies are quite individualistic and small farmers everywhere tend to be difficult to organize. Moreover, in many countries both the government and the wealthy farmers who are the local leaders have discouraged the growth of representative small farmer organizations. Cooperatives have tended to work best where there has been homogeneity of land holdings and tenure status among farmers, some grass-roots source of social cohesion, and a reasonable level of literacy. Grouping small farmers into cooperatives and farmers' associations has great promise, but the development of these organizations inevitably takes time, adaptation to local conditions, and requires a strong commitment from government. The Bank should foster the development of these conditions, but must avoid pursuing a single or rigid concept of cooperative organization since clearly many forms of association can be effective.

Project Authorities

3.20 Special project authorities or project units established to execute various projects of regional integrated development, land settlement, crop development and irrigation have in many instances retained the responsibility of extending credit to participants for on-farm development and working capital. Often they had no alternative because there was no agricultural credit system or the existing one was unsatisfactory. In some cases, there were recognized advantages for credit to be closely associated with other services provided by the authority. These project authorities are Government departments, public boards or statutory corporations, funds set up by special

acts, or companies organized under special or general legislation. Project authorities have generally established a special unit staffed with the necessary expert staff to deal with agricultural credit operations. In most cases, but more especially in the case of authorities set up to develop the production of a specific cash crop or to carry out a regional integrated development project, these arrangements have achieved close integration of credit operations and ensured productive use of credit and satisfactory repayment records. Cooperatives and farmer groups are in some cases intermediaries between farmers and the project authority. There is a need though to develop apex institutions which can promote, oversee and service those enclaves within national programs.

3.21 The Bank Group experience with crop or regional project authorities is mostly in Africa because of the absence of suitable nationwide administrative mechanism for provision of various services and credit. Projects include the Lilongwe and Shire Valley Projects in Malawi, Tea Project in Kenya carried out by the Kenya Tea Development Authority, Wolamo Project in Ethiopia, Casamance Project in Senegal, Tea Projects in Malawi and Mauritius, and Cocoa and Palm Oil Projects in Ivory Coast.

Non-Institutionalized Commercial Channels

3.22 In areas where institutional credit systems are quite inadequate, it may be possible to deliver credit through existing non-institutional commercial channels. In most areas, these serve far more small farmers than credit institutions. By working through merchants, middlemen, and money lenders, existing credit agencies can increase the volume of credit available to farmers, and take advantage of the non-institutional lenders' greater flexibility, speed in lending, and lower administrative costs and default rates. Increasing the non-institutional lenders' supply of funds may also tend to reduce interest rates. Lending through merchants also has possibilities since merchants, by splitting the overhead costs associated with distribution over two functions, the delivery of goods and credit, are able to deliver credit in small amounts more cheaply than alternative channels.

3.23 There are also distinct disadvantages to such schemes. It would be difficult to prevent gross misuse of funds. Small farmers would usually require inputs and services other than credit, and it would be more difficult to coordinate them when credit is distributed through non-institutional lenders. An attempt to incorporate non-institutional credit into the Muda project in Malaysia has been abandoned. The effectiveness of public schemes to use non-institutional sources is yet to be demonstrated. Furthermore, the idea of using such conduits is politically unacceptable in many countries because of their past exploitation of farmers. On the other hand, contractors of farming operations such as custom tractor enterprises, suppliers of farm inputs and processors or intermediaries in the marketing of farm products have provided an increasing amount of credit to commercial farmers. Under strict safeguards, they might be useful in a credit delivery system where no realistic alternative is available.

Institutional Commercial Channels

3.24 Commercial lending institutions represent another channel for lending to farmers. Many have an extensive branch network spreading into rural areas. They are generally more efficient than Government agencies, and less prone to abuse and political pressure. In general, they are properly organized, keep adequate records and are audited by independent auditors. They usually obtain better repayment performance by borrowers than do Government banks because of efficient mechanism and strict policies for loan collections. Because of the nature of their resources, commercial banks tend, however, to concentrate on short-term lending and to shun small farmers' credit because of costs.

3.25 In the Philippine, a private rural banking system developed from Government efforts and incentives to have local capitalists establish local banks aimed at meeting current credit requirements of rural communities, including small farmers. Though the rural banks are partially government-owned, they are nonetheless private institutions operated according to commercial principles. These institutions have exhibited steady growth in the past 20 years, continue to expand their activities and now provide a significant portion of institutional credit to agriculture in the Philippines. Two Bank loans have already been channeled by the Central Bank through these institutions for on-lending medium- and long-term to small farmers, types of credit which were not extended previously. Rural banks lend to commercial farmers of up to 50 hectares; a significant portion of their lending has reached those with farms of three to ten hectares. However, those with farms of less than three hectares, who comprise 73 percent of all farmers and cultivate 39 percent of the land, have received less than one percent of credit extended by the rural banks. To encourage these banks to lend to this class of farmers, the authorities have had to introduce modifications which make the small farmer lending program of the rural banks similar to more traditional public credit programs for small farmers. Additional subsidies have been introduced for small farmer lending, including an 85 percent government guarantee of repayment on small farmer loans. The Philippine experience suggests that commercial type institutions of a specialized character, if they charge positive rates of interest and receive some government encouragement, can lend to medium-size farmers, but that in the absence of farmer groupings, heavy subsidies, or significantly higher rates of interest, they will not finance the smallest farmers. The rural bank experience is being replicated in South Vietnam.

3.26 In Thailand, private commercial banks have also lent to small farmers. This activity was concentrated principally in one institution, which loaned to farmer groups organized by the bank itself. It was only a break-even activity and ceased to expand several years ago. A state-owned general purpose bank, the Bank Rakyat, in Indonesia is providing credit to small farmers directly, and the recently nationalized commercial banks of India are also beginning to lend to small farmers. But as a general rule, to be successful in lending to large numbers of small farmers, commercial institutions will need

to rely on the same elements as public institutions, such as farmers' groups and government financial support. They also require appropriately trained management and personnel, bureaucratic decentralization, and some degree of insulation from political influence.

3.27 Because commercial banks constitute the core of financial markets in most developing countries, several governments, such as Bangladesh, India and Mexico, are now experimenting with the use of the commercial banking systems as a channel for reaching small farmers. Where commercial banks already have extensive networks of rural branches, the costs and delays associated with building new institutions are eliminated. But the costs to the banks to include small farmers rise appreciably. Commercial banks have been induced to lend to small farmers only through some form of government intervention, such as compulsory investment quotas or incentives such as special rediscount facilities and loan repayment guarantees. The use of special rediscount facilities or repayment guarantees for small farmer programs are preferable to investment quotas in that they are more easily made specific to small farmers.

3.28 Bank Group lending for agricultural credit through commercial banks, via Central Bank or a special fund, has proved satisfactory from a managerial and control standpoint and has been effective both technically and in reaching the clientele of large borrowers. Commercial banks hold little promise of dealing with small farmers directly, because of high administrative costs, lack of borrower collateral and locational limitations which restrict access. Government regulations in prescribing quotas for lending to agriculture and special incentives for loans to small farmers have not moved the commercial banks substantially in this direction. Commercial banks are bound by the same kind of limitations as Agricultural and Development Banks and also would need to use intermediate channels such as cooperatives or farmers' groups in order to reach significant numbers of small farmers.

4. Guidelines for Delivery Systems of Agricultural Credit

Larger Farmer Channels

3.29 It has been recommended above (para 2.4 and 2.5) that credit programs for large farmers should be separated from those for small farmers. The basic principle behind lending to large farmers should be essentially commercial and allocation of resources to large farmers should be made only if the opportunities they face are more productive than those which can be found in other sectors of the economy. Large farmer programs should be expected to operate according to basic commercial principles, to charge realistic rates and achieve financial viability.

3.30 Where private financial institutions are adequate, they can be used to finance commercial agriculture. Unfortunately, in many developing countries, there is a bias on the part of commercial banks against agriculture, even extending to large-scale farming, and a preference to lend to urban based sectors such as trade and industry. To counter this bias, governments in some countries have attempted to channel the loans of the commercial banks into agriculture through compulsory lending requirements. The advantages of such an approach are deceptive; compulsory lending requirements reduce the ability of the banking system to allocate resources efficiently. Where coupled with low interest charges for agricultural borrowers, this results in low deposit rates, lessening the ability of the banking system to mobilize savings. Commercial banks should be encouraged to innovate and to move away from their traditional orientation of lending almost exclusively to trade and to large industry; but this is better done through persuasion, through preferential rediscount rates employed on a temporary basis to familiarize commercial banks with agricultural lending, or through the creation of new commercial institutions specializing in agricultural credit.

Small Farmer Channels

3.31 Lending to small farmers is considerably more complicated than lending to large farmers: the large number of small-sized loans coupled with geographical dispersion make small farmer credit considerably more expensive to administer. A number of distributive systems have been tried including specialized agricultural banks, cooperatives, and commercial lenders, both organized and unorganized.

3.32 No one approach can be cited as superior to all others and to a large extent the choice of the best channel to deliver credit to small farmers will depend upon conditions specific to each country, or even to regions within a country. While different programs have been used in various countries, few governments have experimented with alternative delivery systems within their country. Because it is feasible to utilize alternative delivery systems at the local level while maintaining a single apex structure, experimentation should be encouraged to determine which systems are most compatible with local social and economic conditions, reasonable in cost and able to achieve the objective of delivering credit to those small farmers with productive investment opportunities.

3.33 Although much has yet to be done in experimenting with alternative channels for particular situations, certain principles have emerged from past experience which serve as guidelines for such work. These may be summarized as 10 basic points:

- (i) Accessibility. The branch office approach has not always proved effective in reaching a small farmer clientele for several reasons; small farmers have difficulty in reaching branches because of limited transportation; they are

unfamiliar with, and intimidated by, offices and office procedures; and branch staff tend to isolate themselves from farmers' problems. Consequently, it is necessary for the institution to go to the villages or even individual farms, to cooperative meetings or small informal groups to make the necessary linkages. The use of field agents who can visit small farmers in their own surroundings has proven successful. So has the use of mobile units or periodically opened village offices, as on market days.

- (ii) Packaging. Credit alone is of little consequence. To be effective in increasing smallholder productivity it must come with details of proven new technology, and timely supply of inputs.
- (iii) Distribution in kind. This has proved to be the most effective means of delivering production credit to small farmers. Even for livestock it has proved to be worthwhile to do this. While this may seem excessively paternalistic, it is on the other hand completely unrealistic to expect people not used to having a cash surplus or to use of purchased inputs to automatically adjust to making the necessary transactions even if the required inputs were readily available.
- (iv) Timing. Especially when credit is provided in kind it is vital that inputs be made available when they are needed. Since smallholders can seldom provide adequate storage, too early delivery often results in losses and wastage of inputs such as seed and fertilizer. Too late a delivery in terms of seasonal requirements is, of course, pointless. Many smallholder development projects have failed for want of the logistic support to get inputs to the farmer on time.
- (v) Selection. Smallholder borrowers should be chosen on the basis of creditworthiness, just as for any other borrower or credit program, but the appropriate criterion for assessing creditworthiness might differ. Three things seem important: the reputation of the individual within his community, the technical feasibility of the proposed investment in the context of his farm situation, and the expected cash flow that is generated by the investment.
- (vi) Individual liability and group responsibility. While loan repayment should be the individual borrower's responsibility, and should be assessed in relation to his expected repayment ability, there is a strong sense of community in most rural

situations which can be used effectively to reinforce the honest performance of individuals. If transactions are made in public for all to see - quite the opposite of conventional financial practice - and the whole village or cooperative society made aware of the possible implications of an individual default (either in damage to their reputation or some form of penalty) group responsibility can become an important influence in ensuring repayment.

- (vii) Control. It is unreasonable to expect people with no knowledge of financial practices to suddenly conform to institutional lending regulations. Payments and repayments need to be scheduled to meet the liquidity shortage and surplus as it arises. If this is done, the supervision of even large groups can become an orderly activity.
- (viii) Flexibility. This is necessary to permit the rescheduling of loans in times of crop failure or other unexpected events. Often individuals' circumstances change, too, and they require some adjustment on the part of the program. There are many things that can go wrong in any program and these increase as the complexity or required precision of the scheme increases. Flexibility in lending criteria is also essential since no two communities or farmers are exactly alike.
- (ix) Continuity. The failure of many programs to continue past a pilot stage of a single year or so, often leaving slow repayments outstanding, encourages mistrust and poor discipline. Continuity of services is essential if programs are to have a positive impact.
- (x) An open-ended approach. Since programs need to be tailored to meet local conditions, no fixed prescription can be set down. A step-wise process of trial and error is necessary, beginning with a simple package and small numbers of borrowers, then consolidating and subsequently replicating this program to reach the whole target group. But an open-ended approach is also needed because agricultural modernization is a continuing process. Just as in Western agriculture, we can expect each new round of technical innovation to require increased amounts of capital. It is unlikely that a single injection of credit will ever create sufficient liquidity to make continuing modernization self-sustaining. Thus programs should be planned so as to provide for their continual adjustment and evolution.

ANNEX TABLES

ABBREVIATIONS FOR INSTITUTIONS
MENTIONED IN ANNEXES

Africa

CADU (Ethiopia) Chilalo Agricultural Development Unit
ADP (Ghana) Agricultural Development Bank
GMR (Kenya) Guaranteed Minimum Return (program)
AFC (Kenya) Agricultural Finance Corporation
SOCAP (Morocco) Societe de Credit Agricole et de Prevoyance
CNCA (Morocco) Caisse Nationale de Credit Agricole
CLCA (Morocco) Caisse Locale de Credit Agricole
WRFC (Nigeria) West Region Finance Corporation
FAID (Nigeria) Fund for Agricultural and Industrial Development
ABS (Sudan) Agricultural Bank of Sudan
BNT (Tunisia) Banque Nationale de Tunisie
COOP (Uganda) Cooperative Credit System

Asia

ADBA (Afghanistan) Agricultural Development Bank of Afghanistan
ADBB (Bangladesh) Agricultural Development Bank of Bangladesh
ADB (Bangladesh) Agricultural Development Bank
BKB (Bangladesh) Krishi Bank
COOP (Bangladesh) Cooperative Credit System
IRDP (Bangladesh) Integrated Rural Development Program
KTCC (Bangladesh) Kotwali Thana Central Cooperative (association)
PCSS (India) Primary Cooperative Credit Societies
PLDB (India) Primary Land Development Bank
BIMAS (Indonesia) Acronym for "Bimbingan Missal" meaning "Mass Guidance"
ACBI (Iran) Agricultural Cooperative Bank of Iran
ADFI (Iran) Agricultural Development Fund of Iran
ACC (Jordan) Agricultural Credit Corporation
BCAIF (Lebanon) Lebanese Credit Bank for Agricultural and Industrial Development
BAAC (Thailand) Bank for Agriculture and Agricultural Cooperatives
SCP (Turkey) Supervised Credit Program
NACF (Korea) National Agricultural Cooperative Federation
TRAB (Turkey) Turkish Republican Agricultural Bank

Latin America

ACAR (Brazil) Associacao de Credito e Assistencia Rural
INDAP (Chile) Instituto de Desarrollo Agropecuario
INCORA (Colombia) Instituto Colombiano de la Reforma Agraria
BCR (Costa Rica) Banco de Costa Rica
BNCR (Costa Rica) Banco Nacional de Costa Rica
DACP (Ecuador) Directed Agricultural Credit Program
DAPC (Ecuador) Directed Agricultural Production Credit (program)
ABC (El Salvador) Administration de Bienestar Campesino
BNF (Honduras) Banco Nacional de Fomento
FONDO (Mexico)
Fondo de Garantia y Fomento Para la Agricultura, Ganaderia y Avicultura
Guarantee and Development Fund for Agriculture, Livestock and Poultry
NBN Rur. Cred. (Nicaragua) National Bank of Nicaragua Rural Credit (program)
NBN (Nicaragua) National Bank of Nicaragua
ADB (Peru) Agricultural Development Bank

Annex Table 1: INSTITUTIONAL LENDING FOR AGRICULTURE
(US\$ million)

<u>Country</u>	<u>Loans Outstanding</u>	<u>New Loans</u>	<u>Dollars Per Capita of Rural Population</u>	<u>Year of Observation</u>
<u>Africa</u>				
Ethiopia	18	6	1	1970
Ghana	19	6	4	1971
Kenya	131		12	1970
Morocco	130	65	13	1971
Tunisia	53	15	20	1970-71
Uganda (Co-op only)		3		1971
<u>Asia</u>				
Afghanistan	2	1	1	1971
Bangladesh	130	4.3	1	1972-73
India	2,400	1,380	3*	1971
Indonesia (BRI only)	72		1*	1971
Iran	159	127	9	1970
Jordan (ACC only)	17	2	17	1971
Korea (NACF only)	236	206	55	1971
Malaysia	200		.20*	1971
Pakistan (West)		33	26	1967-68
Philippines	523	443	4	1971
Sri Lanka	30	9	74	1970
Taiwan	409	225	3	1971
Thailand	73	42	20	1970
Turkey	414		2*	1967
Vietnam		32		1971
<u>Latin America</u>				
Argentina	555		111	1968
Bolivia	15	5	8	1971
Brazil		1,500	40*	1969
Chile		264	106*	1969
Colombia	416	319	52	1970
Costa Rica	110		126	1968
Dominican Republic	57		24	1968
Ecuador		48	13*	1968
El Salvador		78	36*	1970
Guatemala	52		18	1968
Honduras		59	35*	1971
Mexico	1,671		84	1971
Nicaragua	100		77	1970-71
Panama	23		31	1967
Paraguay	33		22	1968
Peru	160		25	1967
Uruguay	18		36	1967
Venezuela	448		179	1968

*Per capita value of new loans extended during the year rather than the per capita debt outstanding.

(cont'd)

NOTE:

Loans outstanding represent the end of the fiscal year portfolio of the lending institutions. As few credit agencies write off bad debts, this figure is inflated by defaulted loans.

New loans represent the amount of lending by institutions in the fiscal year under consideration and not the change in outstanding balances at the year end. Since most credit is meant to be short-term, a low ratio of new loans to outstanding debt probably indicates the institution's portfolio contains a substantial amount of defaulted debt.

Not all country figures are complete; for some countries, it was not possible to find figures for all institutional lenders.

Annex Table 2: DISTRIBUTION OF AGRICULTURAL LOANS BY TYPE OF LENDER
(in percent)

<u>Country</u>	<u>Institutional</u>		<u>Non-Institutional</u>	
	<u>Public</u>	<u>Private</u>	<u>Commercial</u>	<u>Non-Commercial</u>
<u>Africa</u>				
Ethiopia		7		93
Ghana*	75	25		
Kenya*	60	40		
Morocco*	23	77		
Tunisia*	90	10		
Western Nigeria	0	40	25	35
Zambia	0	0	1	99
<u>Asia</u>				
Bangladesh	14	0	34	52
India	26	4	51	19
Iran		57		43
Jordan*	90	10		
Korea	34	0	20	46
Malaysia*	54	46		
Pakistan	14	0	23	63
Philippines	16	26	51	7
Sri Lanka	20		45	35
Taiwan*	12	53		35
Thailand	7	1	36	56
Turkey	38	2		60
Vietnam	23	0	4	72
<u>Latin America</u>				
Brazil	66	17	11	6
Chile	73	12		15
Colombia	27	69	3	1
Costa Rica	70	0	20	10
Ecuador	26	64		10
El Salvador*	15	85		
Honduras*	23	77		
Mexico*	72	28		
Nicaragua*	83	17		
Peru**	23	4	49	24

*For these countries, information is available only on the division of loans within the institutional sector between public and private institutions.

**The distribution is based on the number rather than the value of loans.

NOTE: This table reflects the division of outstanding credit balances among four types of lenders: namely, public institutions; private institutions such as commercial banks; commercial lenders such as storekeepers, middlemen, landlords and moneylenders; and non-commercial lenders such as friends and

(cont'd)

relatives. But available information for some countries was not adequate to break down the funding sources into four classes. In some cases it was difficult to decide on the appropriate classification: for example, should the rural banks in the Philippines which are privately owned but publicly funded be considered public or private? should friends who charged interest on loans be considered commercial or non-commercial lenders? In these two examples, the rural banks in the Philippines were considered to be private; private lenders who charged more than nominal interest rates were considered to be commercial lenders.

The figures are based on information gathered from a small sample of farmers, except in the case of India where the survey on credit was nationwide.

Annex Table 3: FARMERS RECEIVING CREDIT FROM INSTITUTIONAL SOURCES
(percentage of all farm families)

<u>Country</u>	<u>Percent</u>
<u>Africa</u>	
Ethiopia	1
Ghana	1
Kenya	12
Morocco	10
Sudan	1
Tunisia	5
Uganda	3
Western Nigeria	1
<u>Asia</u>	
Bangladesh	15
India	20
Jordan	8
Korea	40
Malaysia	2
Pakistan	5
Philippines	28
Sri Lanka	14
Taiwan	95
Thailand	7
Turkey	23
Vietnam	21
<u>Latin America</u>	
Bolivia	5
Brazil	15
Chile	15
Colombia	30
Ecuador	18
Guatemala	2
Honduras	10
Mexico	15
Nicaragua	20
Panama	4
Paraguay	6
Peru	17

NOTE: These numbers suffer from an upward bias. Some farmers borrow from more than one institution and it was not possible to eliminate such duplication. Secondly, some of the statistics represent potential rather than actual borrowers, as is true in the case of Korea and Taiwan, the only countries with coverage exceeding 30 percent of farm households. For example, in Korea all farmers are members of the NACF, the major source of institutional credit. However, in any

(cont'd)

one year perhaps no more than one-third of farmers actually do borrow from the NACF. Furthermore, some of the statistics are based not on national data but on those reporting institutional loans in a sample survey. If the sample was taken, as often appeared to be true, in an area in which an institution was active, this too would lead to over-estimation of coverage.

Annex Table 4: BANK GROUP AGRICULTURAL CREDIT AND TOTAL BANK GROUP
COMMITMENTS FOR AGRICULTURE, FY 1948-1973
(US\$ million)

<u>Per Capita GNP Borrowing Countries</u> ^{1/}	<u>FY 1948-1963</u>			<u>FY 1964-1968</u>			<u>FY 1969-1973</u>		
	<u>Total Ag.</u> (<u>\$</u>)	<u>Credit</u> (<u>\$</u>)	<u>Credit in % of Total Ag.</u> (<u>%</u>)	<u>Total Ag.</u> (<u>\$</u>)	<u>Credit</u> (<u>\$</u>)	<u>Credit in % of Total Ag.</u> (<u>%</u>)	<u>Total Ag.</u> (<u>\$</u>)	<u>Credit</u> (<u>\$</u>)	<u>Credit in % of Total Ag.</u> (<u>%</u>)
Less than \$150	272.3	10.2	3.7	152.3	63.9	42.0	1,045.0	535.5	51.2
\$151-\$375	85.6	41.9	48.9	165.3	54.8	33.2	831.4	289.6	34.8
\$376-\$700	82.2	24.2	29.4	251.2	107.7	42.9	532.2	469.9	88.3
Over \$700	<u>28.0</u>	<u>13.1</u>	46.8	<u>52.0</u>	<u>52.0</u>	100.0	<u>180.3</u>	<u>127.2</u>	70.5
Total	468.1	89.4	19.1	620.8	278.4	44.8	2,588.9	1,422.2	54.9

^{1/} World Bank Atlas, 1972. The countries with credit projects under each income category are shown in Annex Table 7.

Annex Table 5: BANK GROUP AGRICULTURAL CREDIT OPERATIONS, BY FUNDING AGENCY, FY 1948-1973
(US\$ million)

	FY 1948-63						FY 1964-68						FY 1969-73					
	Number of Operations		Loan/Credit		On-Lending Portion		Number of Operations		Loan/Credit		On-Lending Portion		Number of Operations		Loan/Credit		On-Lending Portion	
	(Nos.)	(%)	(\$)	(%)	(\$)	(%)	(Nos.)	(%)	(\$)	(%)	(\$)	(%)	(Nos.)	(%)	(\$)	(%)	(\$)	(%)
IDA																		
Less than \$150	-	-	-	-	-	-	8	61.5	63.9	77.0	51.7	74.8	39	65.0	507.5	81.8	409.2	82.0
\$151-\$375	1	100.0	20.0	100.0	8.2	100.0	5	38.5	19.1	23.0	17.4	25.2	21	35.0	113.0	18.2	89.8	18.0
\$376-\$700	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Over \$700	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Subtotal	1	100.0	20.0	100.0	8.2	100.0	13	100.0	83.0	100.0	69.1	100.0	60	100.0	620.5	100.0	499.0	100.0
Bank																		
Less than \$150	2	10.5	10.2	14.7	10.2	15.6	-	-	-	-	-	-	4	10.8	28.0	3.9	20.5	3.0
\$151-\$375	5	26.3	21.9	31.5	20.1	30.8	4	26.7	35.7	18.3	35.2	18.8	9	24.3	91.8	12.8	75.6	11.2
\$376-\$700	7	36.9	24.2	34.9	24.1	37.0	7	46.6	107.7	55.1	103.2	55.1	15	40.6	469.9	65.6	455.8	67.5
Over \$700	5	26.3	13.1	18.9	10.8	16.6	4	26.7	52.0	26.6	48.8	26.1	9	24.3	127.2	17.7	123.1	18.3
Subtotal	19	100.0	69.4	100.0	65.2	100.0	15	100.0	195.4	100.0	187.2	100.0	37	100.0	716.9	100.0	675.0	100.0
Blend																		
Less than \$150	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
\$151-\$375	-	-	-	-	-	-	-	-	-	-	-	-	5	100.0	84.8	100.0	78.5	100.0
\$376-\$700	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Over \$700	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Subtotal	-	-	-	-	-	-	-	-	-	-	-	-	5	100.0	84.8	100.0	78.5	100.0
Total																		
Less than \$150	2	10.0	10.2	11.4	10.2	13.9	8	28.6	63.9	22.9	51.7	20.2	43	42.2	535.5	37.7	429.7	34.3
\$151-\$375	6	30.0	41.9	46.9	28.3	38.6	9	32.1	54.8	19.7	52.6	20.5	35	34.3	289.6	20.4	243.9	19.5
\$376-\$700	7	35.0	24.2	27.1	24.1	32.8	7	25.0	107.7	38.7	103.2	40.3	15	14.7	469.9	33.0	455.8	36.4
Over \$700	5	25.0	13.1	14.6	10.8	14.7	4	14.3	52.0	18.7	48.8	19.0	9	8.8	127.2	8.9	123.1	9.8
Total	20	100.0	89.4	100.0	73.4	100.0	28	100.0	278.4	100.0	256.3	100.0	102	100.0	1,422.2	100.0	1,225.5	100.0

**Annex Table 6: ON-LENDING TO FARMERS AND NUMBER OF BENEFICIARIES IN BANK GROUP
AGRICULTURAL CREDIT OPERATIONS, BY SIZE OF FARM, FY 1969-1973***
(US\$ million)

	On-lending to Farmers		No. of Beneficiaries	
	(\$)	(%)	(Nos.)	(%)
East Africa				
0-5 ha	17.7	30.5	483,580	97.9
of which Ethiopia 1/	(5.2)	(9.0)	(400,000)	(81.0)
5.1 ha-10 ha	-	-	-	-
10.1 ha-100 ha	4.2	7.2	9,150	1.9
of which Ethiopia	(2.3)	(4.0)	(350)	(0.1)
Over 100 ha: Private	11.4	19.7	855	0.2
of which Ethiopia	(3.8)	(6.6)	(245)	2/
Government	21.8	37.6	121	2/
Cooperatives	2.9	5.0	43	2/
Subtotal	58.0	100.0	493,749	100.0
West Africa				
0-5 ha	8.4	26.7	100,500	25.4
5.1 ha-10 ha	13.7	43.5	70,000	17.7
10.1 ha-100 ha	9.4	29.8	225,000	56.9
Over 100 ha: Private	-	-	-	-
Government	-	-	-	-
Cooperatives	-	-	-	-
Subtotal	31.5	100.0	395,500	100.0
Asia				
0-5 ha	206.4	57.6	320,090	79.5
of which India	(184.6)	(51.5)	(295,800)	(73.5)
5.1 ha-10 ha	40.5	11.3	38,610	9.6
of which India	(32.8)	(9.2)	(36,000)	(8.9)
10.1 ha-100 ha	106.8	29.8	43,870	10.9
of which India	(58.4)	(16.3)	(17,600)	(4.4)
Over 100 ha: Private	1.7	0.5	63	2/
Government	3.0	0.8	9	2/
Cooperatives	-	-	-	-
Subtotal	358.4	100.0	402,642	100.0
EMENA				
0-5 ha	9.1	4.8	12,000	12.3
5.1 ha-10 ha	-	-	-	-
10.1 ha-100 ha	104.0	55.0	79,815	81.6
Over 100 ha: Private	49.4	26.1	5,696	5.8
Government	-	-	-	-
Cooperatives	26.7	14.1	254	0.3
Subtotal	189.2	100.0	97,765	100.0
LAC				
0-5 ha	-	-	-	-
5.1-10 ha	-	-	-	-
10.1-100 ha	147.7	40.3	44,025	60.2
of which Mexico	(117.0)	(31.9)	(32,900)	(45.0)
Over 100 ha: Private	218.8	59.7	29,075	39.8
of which Mexico	(101.7)	(27.8)	(11,100)	(15.2)
Government	-	-	-	-
Cooperatives	-	-	-	-
Subtotal	366.5	100.0	73,100	100.0
All Regions				
0-5 ha	241.6	24.1	916,170	62.6
5.1-10 ha	54.2	5.4	108,610	7.4
10.1-100 ha	372.1	37.1	401,860	27.5
Over 100 ha: Private	281.3	28.0	35,689	2.5
Government	24.8	2.5	130	2/
Cooperatives	29.6	2.9	297	2/
Total	1,003.6	100.0	1,462,756	100.0

*Based on anticipated results as noted in Appraisal Reports.

1/ Ethiopia Agr. Minimum Package Project.

2/ Less than 0.1%.

**Annex Table 7: BANK GROUP AGRICULTURAL CREDIT OPERATIONS,
BY COUNTRY AND PER CAPITA GNP LEVEL, FY 1948-1973
(US\$ million)**

<u>Country and GNP Group</u>	<u>FY 1948-1963</u> Amount (\$)	<u>FY 1964-1968</u> Amount (\$)	<u>FY 1969-1973</u> Amount (\$)
<u>East Africa</u>			
<u>Less than \$150:</u>			
Botswana			1.7 (1)
Ethiopia			37.2 (4)
Kenya	10.2 (2)	3.6 (1)	9.6 (2)
Malagasy			2.8 (1)
Malawi		9.7 (2)	17.1 (2)
Sudan		(1)	16.3 (2)
Tanzania		5.0 (1)	39.6 (4)
Uganda		3.4 (1)	7.0 (2)
Zaire			8.5 (1)
Subtotal	<u>10.2 (2)</u>	<u>21.7 (5)</u>	<u>139.8 (19)</u>
<u>\$151-\$375:</u>			
Rhodesia	5.6 (1)		
<u>\$376-\$700:</u>			
Zambia			<u>14.0 (2)</u>
Total East Africa	15.8 (3)	21.7 (5)	153.8 (21)
<u>West Africa</u>			
<u>Less than \$150:</u>			
Dahomey			6.1 (1)
Gambia			1.3 (1)
Niger			0.6 (1)
Nigeria			7.2 (1)
Upper Volta			<u>6.2 (1)</u>
Subtotal			<u>21.4 (5)</u>
<u>\$151-\$375:</u>			
Ghana			9.8 (2)
Ivory Coast			7.5 (1)
Senegal			17.9 (3)
Siera Leone			<u>4.3 (1)</u>
Subtotal			<u>39.5 (7)</u>
Total West Africa			60.9 (12)

NOTE: Figures in () are the number of operations.

(cont'd)

<u>Country and GNP Group</u>	<u>FY 1948-1963</u> Amount (\$)	<u>FY 1964-1968</u> Amount (\$)	<u>FY 1969-1973</u> Amount (\$)
<u>Asia</u>			
<u>Less than \$150:</u>			
India		42.2 (3)	306.9 (1)
Indonesia			19.9 (4)
Pakistan			30.0 (1)
Subtotal		<u>42.2 (3)</u>	<u>356.8 (16)</u>
<u>\$151-\$375:</u>			
Korea			17.5 (2)
Papua/New Guinea			11.5 (3)
Philippines		5.0 (1)	31.6 (3)
Subtotal		<u>5.0 (1)</u>	<u>60.6 (8)</u>
<u>\$376-\$700:</u>			
China		13.7 (2)	
Malaysia			25.0 (1)
Subtotal		<u>13.7 (2)</u>	<u>25.0 (1)</u>
Total Asia		<u>60.9 (6)</u>	<u>442.4 (25)</u>
<u>EMENA</u>			
<u>Less than \$150:</u>			
Afghanistan			14.0 (2)
Yemen P.D.R.			3.5 (1)
Subtotal			<u>17.5 (3)</u>
<u>\$151-\$375:</u>			
Jordan		6.0 (2)	
Morocco		10.0 (1)	34.0 (1)
Tunisia			19.2 (3)
Turkey	20.0 (1)		45.5 (3)
Subtotal	<u>20.0 (1)</u>	<u>16.0 (3)</u>	<u>98.7 (7)</u>
<u>\$376-\$700:</u>			
Iran			20.5 (2)
Yugoslavia			31.0 (1)
Subtotal			<u>51.5 (3)</u>
<u>Over \$700:</u>			
Finland			20.0 (1)
Iceland	2.4 (2)		
Ireland			25.0 (1)
Israel			20.0 (1)
Spain			25.0 (1)
Subtotal	<u>2.4 (2)</u>		<u>90.0 (4)</u>
Total EMENA	22.4 (3)	16.0 (3)	257.7 (17)

(cont'd)

<u>Country and GNP Group</u>	<u>FY 1948-1963</u>		<u>FY 1964-1968</u>		<u>FY 1969-1973</u>	
	Amount (\$)		Amount (\$)		Amount (\$)	
<u>LAC</u>						
<u>Less than \$150:</u>	-		-		-	
<u>\$151-\$375</u>						
Bolivia			2.0	(1)	8.2	(2)
Colombia	10.0	(2)	16.7	(1)	43.4	(3)
Dominican Republic					5.0	(1)
Ecuador			4.0	(1)	16.8	(3)
Guatemala					4.0	(1)
Guyana	1.3	(1)			2.2	(1)
Honduras					2.6	(1)
Paraguay	5.0	(1)	11.1	(2)	8.6	(1)
Subtotal	<u>16.3</u>	<u>(4)</u>	<u>33.8</u>	<u>(5)</u>	<u>90.8</u>	<u>(13)</u>
<u>\$376-\$700</u>						
Brazil			40.0	(1)	116.7	(4)
Costa Rica	6.5	(2)	3.0	(1)	9.0	(1)
Jamaica					3.7	(1)
Mexico			25.0	(1)	250.0	(3)
Nicaragua	2.7	(2)				
Peru	15.0	(3)	26.0	(2)		
Subtotal	<u>24.2</u>	<u>(7)</u>	<u>94.0</u>	<u>(5)</u>	<u>379.4</u>	<u>(9)</u>
<u>Over \$700</u>						
Argentina			15.3	(1)		
Chile	2.5	(1)	19.0	(1)		
Panama	1.2	(1)			4.7	(1)
Trinidad & Tobago			5.0	(1)		
Uruguay	7.0	(1)	12.7	(1)	21.5	(3)
Venezuela					11.0	(1)
Subtotal	<u>10.7</u>	<u>(3)</u>	<u>52.0</u>	<u>(4)</u>	<u>37.2</u>	<u>(5)</u>
Total LAC	51.2	(14)	179.8	(14)	507.4	(27)
<u>All Regions</u>	<u>(\$)</u>	<u>(%)</u>	<u>(\$)</u>	<u>(%)</u>	<u>(\$)</u>	<u>(%)</u>
Less than	10.2	11.4	63.9	22.9	535.5	37.7
\$151-\$375	41.9	46.9	54.8	19.7	289.6	20.4
\$376-\$700	24.2	27.1	107.7	38.7	469.9	33.0
Over \$700	13.1	14.6	52.0	18.7	127.2	8.9
Total All Regions	89.4(20)	100.0	278.4(28)	100.0	1,422.2(102)	100.0

NOTE: Figures in () are the number of operations

Annex Table 8

Annex Table 8: CONTRIBUTION TO PROJECT COSTS BY BANK GROUP AGRICULTURAL CREDIT OPERATIONS,
BY PER CAPITA GNP COUNTRY CATEGORIES, FY 1948-1973
(US\$ million)

Per Capita GNP ^{1/} of Borrowing Countries	FY 1948-63						FY 1964-68						FY 1969-73					
	Project		Bank/IDA		Local Cost		Project		Bank/IDA		Local Cost		Project		Bank/IDA		Local Cost	
	Total (\$)	Local Cost (\$)	Amount (\$)	As % of Total Project (%)	Amount (\$)	As % of Project Local Cost (%)	Total (\$)	Local Cost (\$)	Amount (\$)	As % of Total Project (%)	Amount (\$)	As % of Project Local Cost (%)	Total (\$)	Local Cost (\$)	Amount (\$)	As % of Total Project (%)	Amount (\$)	As % of Project Local Cost (%)
Less than \$150	24.7	14.5	10.2	41.3	--	--	153.7	103.8	63.9	41.6	19.0	18.3	912.4	387.8	535.5	58.7	227.5	38.7
\$151 - \$375	102.0	73.9	41.9	41.1	13.8	18.7	102.1	63.7	54.8	53.7	16.9	26.6	552.0	318.1	289.6	52.5	62.5	19.7
\$376 - \$700	49.9	25.7	24.2	48.5	--	--	228.6	166.1	107.7	47.1	44.8	27.0	1,154.3	861.5	469.9	40.7	174.8	20.3
over \$700	27.8	14.7	13.1	47.1	--	--	143.5	97.0	52.0	36.2	5.5	5.7	381.1	255.5	127.2	33.4	21.5	7.8
Total	204.4	128.8	89.4	43.7	13.8	18.7	627.9	430.6	278.4	44.3	86.2	20.0	2,999.8	2,042.5	1,422.2	47.4	486.3	22.9

^{1/} World Bank Atlas, 1972. The countries with credit projects under each income category are shown in Annex Table 7.

Annex Table 9: INTEREST RATES TO FARMERS BY SOURCE OF LOANS
(percent per year)

Country	Nominal Rates		Real Rates	
	<u>Institutions</u>	<u>Commercial Lenders</u>	<u>Institutions</u>	<u>Commercial Lenders</u>
<u>Africa</u>				
Ethiopia	12	70	8	66
Ghana	6	70	0	64
Ivory Coast	10	150	6	144
Kenya	7		7	
Morocco	7		5	
Nigeria	6	200	-2	192
Sudan	7	120	7	120
Tunisia	7		4	
Uganda	12		1	
<u>Asia</u>				
Afghanistan	9	33		
India	10	25	0	15
Indonesia	14	40	3	28
Iran	7		5	
Jordan	7	20	2	15
Korea	16	60	5	49
Malaysia	18	60	16	58
Pakistan	7	30	4	27
Philippines	12	30	6	22
Sri Lanka	12	50	6	44
Taiwan	10		3	
Thailand	11	30	9	28
Vietnam	30	48	2	20
<u>Latin America</u>				
Bolivia	9	100	5	96
Brazil	15	60	-7	39
Chile	14	82	-16	52
Colombia	12	41	4	33
Costa Rica	8	24	4	20
Ecuador	10		7	23
El Salvador	10	25	8	38
Honduras	9	40	6	53
Mexico	10	60	7	
Nicaragua	13		8	
Peru	12		5	

NOTE: The nominal interest rate reported for institutions represents an average rate for different types of loans and various institutions. One uniformity is that private institutions tend to charge about 3 percentage points higher than public institutions. The information on the rates charged by commercial lenders

(cont'd)

can only be taken as suggestive. At best this information was based on sample surveys; often it represents only hearsay evidence authors chose to report. In practice most commercial loans are short-term, one to three months being typical. Multiplying monthly rates by twelve exaggerates both the cost to the borrower and the income to the lender.

Conversion from nominal to real rates was done by deducting from the nominal rates, the average rate of inflation between 1967 and 1970, except in a few cases such as Indonesia where the inflation rate between 1967 and 1970 clearly did not reflect current levels of inflation.

**Annex Table 10: BANK GROUP AGRICULTURAL CREDIT OPERATIONS,
BY MAJOR END USE AND BY REGION, FY 1948-1973
(US\$ million)**

Major End Use	East Africa		West Africa		Asia		EMENA		LAC		TOTAL	
	No. of		No. of		No. of		No. of		No. of		No. of	
	Op. (Nos.)	Amt. (\$)	Op. (Nos.)	Amt. (\$)	Op. (Nos.)	Amt. (\$)	Op. (Nos.)	Amt. (\$)	Op. (Nos.)	Amt. (\$)	Op. (Nos.)	Amt. (\$)
General Ag. Credit												
FY 1948-63	1	5.6	-	-	-	-	-	-	1	1.3	2	6.9
FY 1964-68	2	8.6	-	-	-	-	2	13.0	2	18.0	6	39.6
FY 1969-73	2	11.5	3	14.8	5	107.4	6	76.7	3	29.7	19	240.1
Sub-total	5	25.7	3	14.8	5	107.4	8	89.7	6	49.0	27	286.6
Livestock												
FY 1948-63	-	-	-	-	-	-	2	2.4	1	7.0	3	9.4
FY 1964-68	-	-	-	-	-	-	-	-	10	145.8	10	145.8
FY 1968-73	8	41.9	-	-	3	16.1	4	75.0	19	373.6	34	506.6
Sub-total	8	41.9	-	-	3	16.1	6	77.4	30	526.4	47	661.8
Crop Development												
FY 1948-63	-	-	-	-	-	-	-	-	-	-	-	-
FY 1964-68	1	3.4	-	-	-	-	-	-	-	-	1	3.4
FY 1969-73	4	35.3	5	35.5	3	14.3	1	20.0	-	-	13	105.1
Sub-total	5	38.7	5	35.5	3	14.3	1	20.0	-	-	14	108.5
Irrigation												
FY 1948-63	-	-	-	-	-	-	1	20.0	-	-	1	20.0
FY 1964-68	-	-	-	-	1	5.2	1	3.0	-	-	2	8.2
FY 1969-73	-	-	-	-	4	141.0	-	-	-	-	4	141.0
Sub-total	-	-	-	-	5	146.2	2	23.0	-	-	7	169.2
Farm Machinery												
FY 1948-63	1	5.6	-	-	-	-	-	-	12	42.9	13	48.5
FY 1964-68	-	-	-	-	3	42.0	-	-	-	-	3	42.0
FY 1969-73	2	16.3	-	-	3	92.5	-	-	-	-	5	108.8
Sub-total	3	21.9	-	-	6	134.5	-	-	12	42.9	21	199.3
Fisheries												
FY 1948-63	-	-	-	-	-	-	-	-	-	-	-	-
FY 1964-68	-	-	-	-	2	13.7	-	-	-	-	2	13.7
FY 1969-73	-	-	1	1.3	2	15.1	2	5.5	1	5.3	6	27.2
Sub-total	-	-	1	1.3	4	28.8	2	5.5	1	5.3	8	40.9
Agro-Business												
FY 1948-63	-	-	-	-	-	-	-	-	-	-	-	-
FY 1964-68	2	10.7	1	3.7	3	26.0	3	60.5	2	84.0	11	184.9
FY 1969-73	2	10.7	1	3.7	3	26.0	3	60.5	2	84.0	11	184.9
Sub-total	4	21.4	2	7.4	6	52.0	6	121.0	4	168.0	22	369.8
Integrated Ag. Devt.												
FY 1948-63	1	4.6	-	-	-	-	-	-	-	-	1	4.6
FY 1964-68	2	9.7	-	-	-	-	-	-	2	16.0	4	20.3
FY 1969-73	3	38.1	2	5.6	2	30.0	-	-	2	14.8	7	88.5
Sub-total	6	52.4	2	5.6	2	30.0	-	-	4	30.8	14	113.6
Forestry												
FY 1948-63	-	-	-	-	-	-	-	-	-	-	-	-
FY 1964-68	-	-	-	-	-	-	-	-	-	-	-	-
FY 1969-73	-	-	-	-	-	-	1	20.0	-	-	1	20.0
Sub-total	-	-	-	-	-	-	1	20.0	-	-	1	20.0
Total	29	191.3	12	60.9	31	503.3	23	296.1	55	738.4	150	1790.0
Percent of Total (No. of Op.)	19		8		21		15		37		100	
Percent of Total (Amount)		11		3		28		17		41		100

Annex Table 11: DURATION OF LOANS MADE BY SELECTED INSTITUTIONS
(percentages)

<u>Country</u>	<u>Institutions</u>	<u>Duration</u>		
		<u>Less than 2 years</u>	<u>From 2 to 5 years</u>	<u>More than 5 years</u>
<u>Africa</u>				
Ethiopia	All	100		
Kenya	All	26	31	43
Morocco	All	73	27	
Tunisia	BNT	62	38	
Uganda	COOP	100		
<u>Asia</u>				
Bangladesh	ADB	44	48	8
India	COOP	76	24	
Iran	ACBI	30	70	
	ADFI	-	10	90
Jordan	AGC	25	75	
Korea	NACF	90	10	
Malaysia	BPM	60	40	
Pakistan	COOP	88	12	
Philippines	Rural Banks	93	7	
Sri Lanka	All inst.	95	5	
Taiwan	All inst.	50	28	22
Thailand	All inst.	71	28	1
Turkey	SCP	23	53	24
Vietnam	Rural Banks	100		
<u>Latin America</u>				
Brazil	Fed. Banks	78	19	3
Bolivia	Agr. Banks	95		5
Chile	INDAP	70	30	
Colombia	Gaja Agraria	42	39	19
Costa Rica	State Banks	40	60	
Ecuador	DACP	100		
El Salvador	All inst.	96	4	
Honduras	BNT	45	37	20
Mexico	FONDO	90	5	5
Nicaragua	NBN	62	18	

NOTE: This table shows for specific institutions the cumulative distribution of loans by duration. In most short term production credits constituted the bulk of all loans. In some cases the institution initially made longer term loans but unpaid loans were usually rescheduled for one year. Thus, in part the short term nature of the portfolio reflects the degree of rescheduling as well as the emphasis on production credits.

Annex Table 12: MEASURES OF LOAN DELINQUENCY OF SELECTED INSTITUTIONS
(percentage)

<u>Country</u>	<u>Institutions</u>	<u>Arrears to Portfolio</u>	<u>Arrears* Rate</u>
<u>Africa</u>			
Ethiopia	**Wolamo		3
	**CALU		50
Ghana	ADB		55
Ivory Coast	BNDA		15
Kenya	GMR	25	33
	**AFC	51	36
Malawi	**Lilongwe	-	2
Niger	**CNCA	11	29
Nigeria	WSACC	52	80
	FAID		95
Morocco	SOCAP		50
	**CNCA	13	5
Sudan	COOP		26
	ABS		13
Tanzania	**NDCA	28	50
Tunisia	**BNT	66	50
	Local Credit Unions		50
Uganda	Co-op Credit Scheme	10	
<u>Asia</u>			
Afghanistan	**ADBA	37	77
Bangladesh	AB	43	76
	IRDP		40
India	PCCS	34	7
	**PLDB	12	20
Iran	ACBI		44
Jordan	**ACC	41	82
Korea	**NAFC	7	15
Malaysia	BPM	6	21
Pakistan	**ADB	36	65
Philippines	**Rural Banks	20	18
Sri Lanka	New Credit Scheme	50	41
Thailand	BAAC		50
Turkey	ABT	29	43
Vietnam	Rural Banks		5
<u>Latin America</u>			
Bolivia	**Agr. Bank	1	68
Chile	INDAP	16	60
Colombia	**Caj. Agr.	19	
	**INCORA	4	16
Costa Rica	BNCR, BCR	35	
El Salvador	ABC	37	81
Honduras	BNF, Sup. Credit	10	18
Jamaica	ADB	31	10
Peru	Plan Costa	33	
	**BFA	30	

* The arrears rate is equal to 100 minus the repayment rate.
 ** Institutions involved in Bank Group projects.

(cont'd)

NOTE: These measures have various shortcomings. Most agencies consider rescheduled loans as having been repaid. A low ratio of arrears to portfolio may not mean much when loans are expanding rapidly and not yet due while at the same time the repayment rate on previous loans is poor.

[The table content is extremely faint and illegible. It appears to be a multi-column table with several rows of data, possibly representing different categories or time periods. The text is mirrored and difficult to read.]

Annex Table 13: ADMINISTRATIVE COSTS FOR SELECTED INSTITUTIONS

<u>Country</u>	<u>Institutions</u>	<u>Cost as a Percent of New Loans</u>	<u>Cost as a Percent of Total Resources</u>
<u>Africa</u>			
Ghana	ADB	10	10
Ivory Coast	CNCA		9
Kenya	*AFC		3
Morocco	*CNCA	10	3
Senegal	BND		3
Uganda	Cooperatives	50	
<u>Asia</u>			
Bangladesh	KTCC	17	10
	BKB		3
India	*LDB		3
Indonesia	BIMAS (improved)	25	
Jordan	*ACC	30	3
Korea	*NACF	6	4
Lebanon	BCAIF		3
Malaysia	BPM	20	
Pakistan	*ADB		3
Philippines	*Rural Banks	5	5
Thailand	BAAC	13	8
Turkey	SCR	5	2
	BAT		6
Taiwan	Farmers Association		2.5
	Coop. Bank		(2.5)
	Land Bank		(1.5)
<u>Latin America</u>			
Brazil	ACAR	10	
Colombia	*INCORA	10	7
Costa Rica	BNCR	7	3
Ecuador	DAPC	4	
El Salvador	ABC	16	11
Mexico	*FONDO	3	1
Peru	ADB		6

* Institutions involved in Bank Group projects.

NOTE: Capital and to the extent possible supervisory costs have been excluded from the cost information in this table. However, it was not possible to get comparable figures for different institutions. The very low cost figures reported by such institutions as the KTCC in Bangladesh reflect only the cost of the final lender and not that of the entire agricultural credit system. On the other hand, institutions with very high cost figures are probably providing farmers more services, the cost of which it was not possible to eliminate with the available data. Other reasons for high costs in some institutions are that the programs are new and of small size but have already hired the staff that will enable them to expand. The BPM in Malaysia is such an institution.

Annex Table 14: BANK GROUP AGRICULTURAL CREDIT OPERATIONS, BY LENDING CHANNEL TO ULTIMATE BORROWER, FY 1948-1973

	FY 1948-63				FY 1964-68				FY 1969-73			
	No. of Operations		Amount		No. of Operations		Amount		No. of Operations		Amount	
	(Nos.)	(%)	(\$)	(%)	(Nos.)	(%)	(\$)	(%)	(Nos.)	(%)	(\$)	(%)
Commercial Channel	4	20.0	14.7	16.5	6	21.4	101.0	36.3	27	26.5	546.5	38.4
Agricultural Banks	9	45.0	53.0	59.3	15	53.6	129.4	46.5	33	32.3	354.9	25.0
Cooperatives	-	-	-	-	-	-	-	-	11	10.8	266.9	18.8
Development Banks	3	15.0	12.1	13.5	5	17.9	39.1	14.0	17	16.7	117.4	8.2
Project Authority, Ministry or Special Entity <u>1/</u>	4	20.0	9.6	10.7	2	7.1	8.9	3.2	14	13.7	136.5	9.6
Total	20	100.0	89.4	100.0	28	100.0	278.4	100.0	102	100.0	1,422.2	100.0
Average Size of Operation			4.5				9.9				13.9	

1/ British Guiana: Credit Corporation; Korea: Dairy Beef Company; Malagasy: Ranch State Farm; Spain: Instituto de Credito a Medio y Largo Plazo.
Sudan: Mechanized Farming Corporation; Zaire: The National Ranching Development Authority.

Bank Policy on Agricultural Credit

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Bank Policy on Land Reform

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PREFACE

1. Land reform is concerned with changing the institutional structure governing man's relationship with the land. At present the livelihood of more than half of mankind is directly dependent on agriculture -- a land based industry. Nine-tenths of this total agricultural population is in the developing countries, where questions of access and rights to land are of paramount interest to more than two billion people.
2. Land is, of course, one of the basic factors of production for food and other agricultural products. With food production rising in the LDC's at about the same rate as population growth, there is growing pressure on land resources to increase output. Much of this increase will have to come from a higher output per hectare. Changing the pattern of land ownership and redistributing land can contribute to increases in output in some country situations but will make little difference in others.
3. The conditions governing agriculture vary enormously among the developing countries. There is one characteristic, however, which is common to all: a very rapid growth in rural population. Pressure on the land is thus increasing and the average man-land ratio is worsening. This is at a time when non-agricultural employment opportunities are not expanding rapidly enough to provide adequate incomes for all entrants to the labor market. In some countries, however, there are prospects for expanding the frontier of cultivation to absorb more labor; in others more labor could be employed in the rural sector through a redistribution of land; but in yet other countries changing the rights to land will make little direct contribution toward increasing labor absorption.
4. The distribution of land in terms of size of holdings varies from country to country. The greatest disparities are found in Latin America. Where the pattern of land control is skewed the distribution of income is generally uneven, although to some extent it is the poorer land that makes up the larger holdings. In Asia and the Middle East maldistribution is reflected in the landlord-tenant problem. Here the population is more evenly spread, but rights of access to land are restricted. Much of Africa presents a different problem as the traditional pattern of group ownership and communal rights is eroded in favor of individual ownership with varying degrees of equality.
5. In terms of land reform policy, therefore, we are confronted with a range of cultural and political situations -- based on different patterns of social organization and customs -- and with different levels of development. As shown in Chapter 1, at least six land tenure situations can be delineated. The differences among these types point to the varying reforms necessary to achieve more equitable land access and improved productivity in specific country situations. Accordingly, while

it is possible to identify the need for land reform, it is difficult to make general prescriptions with regard to the form of land holding or pattern of distribution necessary to achieve the multipurpose objectives of development.

6. Further, we are dealing with a dynamic situation, where rural population growth and changing technology interact with the existing institutional structures of rural society. The manifestations of this interaction are seldom benign for the majority of the land based population. A situation that has seemed relatively stable and equitable for decades can become untenable. This dynamism means that a solution which was appropriate ten years ago may be inappropriate today. Not surprisingly, therefore, we find many LDC's experimenting with a variety of possible solutions -- with different forms of rural organization ranging from communes to private ownership.

7. While recognizing the broad context of the land reform issue, the concern here is with a much narrower aspect, that is the appropriate role of the Bank Group. In pursuing this question Chapter I looks at the characteristics of land reform in terms of both its rural context and its component elements. Chapter II examines the economic implications of land reform in relation to the goals of development. Chapter III reviews Bank Group policy in relation to land reform. The quantitative background to land reform in terms of population patterns and land distribution is outlined in Annex I, while some experiences with land reform programs are summarized in Annex II. The policy recommendations are presented at the end of the Summary.

SUMMARY AND RECOMMENDATIONS

Definition and Setting

1. Land reform involves intervention in the prevailing pattern of land ownership, control, and usage in order to change the structure of holdings, improve land productivity, and broaden the distribution of benefits. In practice, land reform is pursued in response to political pressures for socio-economic change arising from factors such as increased population, pressure on a limited land base, or an ideology of egalitarianism based on more even distribution of land or income. Land reform, by its very context, has interlinked political, economic, and social dimensions which in turn have significant implications for development.
2. The systems of land control in developing countries can be classified into six types, as presented in Chapter 1, though in many countries examples can be found of more than one type. Three of the six types are found in a traditional context: the feudalistic landlord and tenant system of some Asian countries; the feudal Latin American system of large farms; and the communal land ownership patterns of many tribal groups (especially in Africa). The other three major types have a modern context: the private ownership of land common in most market economies; the state or collective ownership of socialist countries; and the plantation or ranch type, which is often interspersed with other forms of tenure.
3. Landreform necessarily implies many different kinds of adjustments in an array of situations where there are great variations in individual equity and agricultural productivity. In most instances social or equity considerations are the main concerns. Thus when there are exploitive landlord tenant systems of the Asian or Latin American feudal type, reform incorporates changes in the rights of tenants, redistribution of ownership to existing tenants, or the replacement of the landlord by the tribe or the community. When individual ownership of the market economy type is the norm but the distribution of land is skewed, reform may require subdivision of large holdings or transfer to the state. In contrast to this, reform in highly controlled government states may involve the transfer of some land from the state to individuals.
4. There are other variations of land reform that focus more on the economic use of resources than on equity. Where there is fragmentation of holdings an appropriate reform might involve consolidation of holdings without change in the patterns of ownership of land. Where there is erosion or depletion of communal lands the appropriate reform might involve a program of supervised cooperative land management without changing the distribution of land. Elsewhere land reforms might involve changing tenancy arrangements with the emphasis on providing security of tenure so as to encourage on-farm investment. Again, these do not require redistribution but eventually lead to more economic use of resources.

5. The typology outlined in Chapter 1 makes it clear that there are situations where land reform is a necessary precondition for modifying the structure of a society and raising agricultural output. However, while land reform in itself may be necessary, it is not a sufficient condition for improving land productivity and distribution of income. Changes in patterns of land ownership will not automatically lead to an increase in output or technological change in agriculture. These will come about only if adequate provision is made for the supply of necessary inputs and mandatory services to the users of the land. Indeed, as stressed in Chapter II, the organization of the supply of inputs to accompany any land reform program is essential, especially where the process of reform leads to a breakdown of the institutional structure of agriculture and leaves nothing in its place.

6 Finally, it must be recognized that a policy for land reform for a given situation cannot be simply stated. Any policy involves fundamental judgments about the adequacy of an existing system and the most appropriate alternative. The judgments of policy makers differ. The case studies in Annex II show that reform minded governments such as Kenya and Peru have pursued different approaches. Some governments favor individual ownership of land; others favor communal or collective control over land. Clearly the policies followed are not a matter of economics alone. They also reflect politics and ideology and reach far beyond any purely economic calculus.

Distribution of Land and Income

7. Although few data are available, the distribution of land ownership is known to be skewed; the degree of concentration varying with the tenure situation types. The Asian and Latin American feudal and the plantation-ranch types have high degrees of property concentration while the socialist and traditional communal types have low concentrations, with the market economy type somewhere in between. Individual countries are classified on the basis of land ownership concentration in Annex I, Table 9.

8. The distribution of land by size of holding is also highly skewed throughout the world. As shown in Annex I, Table 6, an estimated 80 percent of all holdings are less than five hectares in size with about 40 percent less than one hectare; these holdings account for approximately 20 percent of all cultivated land, and only seven percent of all land in holdings. Considered separately, Latin America has a particularly skewed pattern--less than 20 percent of holdings (those over 50 hectares) accounting for over 90 percent of the total area held in holdings, and more than one-third of all holdings (those less than five hectares) accounting for only one percent of area held. (Annex I, Table 8.) For Asia, in contrast, 40 percent of the land (accounting for almost 80 percent of holdings) is in holdings of less than five hectares.

9. The distribution of holdings by size is frequently used as a proxy for the distribution of wealth and income in the agricultural sector. The skewness of the distribution of holdings, though, does not reflect precisely the patterns of distribution of wealth or income. First, all land is not homogenous; a concentration of large holdings in a semi-arid region may reflect a smaller concentration of wealth than a concentration of small holdings in an irrigated area. Second, the distribution of holdings by size is not the same as the distribution of ownership of land; in general there is a greater concentration of land ownership than of holdings, as evidenced by widespread tenancy especially in parts of Asia. (See Annex I.) The distribution of income in these regions will depend largely on the contractual arrangements between owners and tenants or sharecroppers. But, in most cases, the distribution of income will be more skewed than the pattern of holdings. Frequently the income of sharecroppers and renters may be little different from that of landless labor.

Social and Economic Issues

10. Rural population in the LDC's continues to increase at over two percent a year, adding to the already heavy population pressure on the land. With few exceptions, the frontier of virgin cultivatable land has already disappeared, so that the absorption of more people into agricultural activity will require more intensive cultivation of land already in use. The need to absorb more people in the rural areas differs among LDC's. In many countries, massive rural underemployment is accompanied by high rates of open unemployment in the cities and growing inequality in the overall distribution of income. Where the problems are most acute -- as in parts of Asia -- the emergence of substantial numbers of landless labor in rural areas suggests that the family farm system as a means of spreading work among family members may be breaking down.

11. The extreme poverty of many who live on the land, and the increasing pressure on the land through population growth, highlight the double challenge of rural development, to raise productivity and income in agriculture while at the same time absorbing more people into employment in the sector. Access to land, and the conditions that govern access, are questions of major importance in these circumstances. Where land is marketable, increasing population pressure must inevitably drive up the price of land, thus benefiting those who own land; where land ownership is skewed this will tend to exacerbate inequality in income distribution.

12. These same circumstances (relating to employment and income distribution) give rise to questions about the efficiency of land use under existing arrangements. Landowners often prefer for various reasons to underutilize land, either by working it themselves on an extensive basis instead of through tenants on an intensive basis, or by leaving it unused. In other cases tenancy arrangements are such that landlords are discouraged from making investments, and tenants are discouraged from applying variable inputs, because half the benefits will go to the other party. In some situations, too, the fragmentation of holdings causes great inefficiencies in land use associated with

transportation, irrigation, and mechanized operations (even on a small scale). In general terms, increases in the population of working age create additional demands for work and income; at the same time, however, the additional labor available, if used productively, could serve to augment output. There is a strong case for land reform (including tenancy reform and consolidation) in situations where land would otherwise be underutilized in terms of its production potential.

13. Evidence on the effects of changing farm size (examined in Chapter 2) indicates that the productivity of land -- defined as yield per hectare -- is generally higher on smaller holdings than on larger holdings. The main reason for this is that smaller holdings are worked with bigger inputs of labor than are large holdings, so that greater land productivity is attained. Often the economic benefits will depend, however, on the effectiveness of new technology when used on small as compared with large farms; mere redistribution of land may not suffice to raise farmer output substantially without accompanying agrarian reforms and new services.

14. These effects on output may be reinforced by some of the possible side effects following land reform. Smallholders tend to consume more of their own produce and therefore market less, per unit of output, than do large farmers; this may necessitate food imports to meet the needs of urban consumers. On the other hand, the additional food consumed by small farm families might have otherwise been purchased if members of the family had moved to the city. The consumption of food by poor growers may also be less costly than the consumption of imported or capital-intensive consumer goods by the better-off farmers. Small farmers may also save less per unit of income. Evidence suggests, however, that small farmers save proportionately more than urban dwellers and that in the aggregate they may also have larger savings than large farmers, though these may be directly invested in the smallholding.

15. On the other hand, while "the benefits should go to those who till the soil" is often a reasonable program in an agrarian society, in a partly urbanized one those who do not work on the land still require and have some rights of access to the products of these land resources. The food and fibre needs (and the spatial requirements) of the non-farm population are not infrequently overlooked by the proponents of land reform. In this respect, there is a case for considering both a minimum and maximum farm size. These might be designed first, to ensure that smallholdings are large enough to provide food sufficient to meet with a high degree of certainty the minimum physiological limit of the farm family; and second, to ensure a scale large enough to provide a saleable surplus to meet the needs of urban consumers, especially for fresh produce. Few land reform programs provide for such a minimum limit despite evidence, from many areas, that allowing farms to become too small (relative to the best available technology) may be just as unsatisfactory in terms of equity and efficiency as an uncontrolled tenancy situation.

Recent Experience with Land Reform

16. A primary conclusion from examination of past experience with land reform is the over-riding importance of the political factor in

securing meaningful change. The concentration of control over land provides a power base for many groups in the LDC's. Land is a symbol of authority and a source of political power, especially where the land owner controls the access of peasants to their only source of security -- the land. A meaningful land reform program will inevitably destroy or limit the power base of many persons. It is not surprising, therefore, that land reform is often a central issue in political debates and that these debates are often couched in terms of redistributing political power as well as wealth. Ambitious programs of land reform will seldom be implemented unless there are shifts in political sentiment and power. Many countries have legislated land reform but only a few can be said to have achieved real land reform -- and these reforms were only implemented when there was a change in government in the context of circumstances that favored drastic change, as in Mexico, Japan, Taiwan, and Kenya.

17. A second factor of importance in making reform effective is the creation of institutions to implement the reforms once legislated, and to press for continuing development. This has usually involved organizing the beneficiaries to create follow-up pressure. For example, in Japan, Taiwan, and Venezuela suitable institutions were established to ensure that land was indeed transferred. In other countries, a community of interest between landowners and officials, combined with an absence of organized pressure from the beneficiaries, largely nullified positive reform efforts. The land reform experience in much of Asia and Latin America suggests that some form of rural organization especially involving local representation, may be a critical condition for successful land reform.

18. A third conclusion is that land reform is rarely undertaken without considerable upheaval and loss of production, although there is evidence to suggest that these costs can be kept small and temporary. The restructuring of land holdings is often accompanied by the destruction of traditional delivery systems for input needs and marketing, since these systems are almost always tied to the operations of the larger farmers that are dispossessed. Because of this, rather than because of any deficiency inherent in the small relative to the larger farmers, land reform has often proved costly in terms of lost output. Minimizing such costs necessitates the provision of services concurrently with reform implementation incorporating as much forward planning as feasible.

19. A fourth consideration relates to the problem of perspective over time in assessing the effects of land reform. As the country experiences summarized in Annex II reveal, the effectiveness of land reform may be relatively limited in the short run, and many socio-economic benefits, such as are associated with greater social mobility and improved political stability, emerge only in the longer run and accrue for many years subsequently. The cases of Japan and Mexico are particularly significant in this respect. While the direct short run effects of the land reforms in these countries have not been considered wholly beneficial, there is little doubt that the long run

effects for their total societies have been overwhelmingly favorable, contributing substantially to the ultimate economic development of both countries.

The Bank and Land Reform

20. The Bank Group has taken an active interest in land reform on a number of occasions. Concern has usually been focussed on new or improved possibilities for production following changes in the tenure situation, with emphasis on security of tenure being a particularly important theme. More recently, the extent and gravity of the employment problems and income disparities in the LDC's have caused a new concern over land reform, from an equity as well as a productivity standpoint.

21. Bank Group experience through project financing of land reform has been very limited. In part this may be because there have been relatively few land reforms, particularly in areas where the political situation was reasonably stable and otherwise conducive to Bank Group involvement. But also relevant is the fact that the financial requirements of land reform tend to be relatively limited. Even where the land transferred is purchased from the previous owners, the amounts involved are usually small, especially where payments are in the form of bonds. In addition, such payments usually constitute an internal transfer (unless foreign owners are involved) and thus are not attractive for external financing. Some examples of Bank Group involvement in land reform programs, notably in Tunisia and Malawi, are discussed in the main report.

22. In general, this report concludes that land reform is consistent with the development objectives of increasing output, improving income distribution, and expanding employment, and that the Bank Group should support reforms that are consistent with these goals. However, it is recognized that the Bank cannot force structural change but can only support appropriate efforts within existing structures. Although the Bank's direct action must be limited, its preferences regarding national policy choices and those which are considered consistent with the Bank's development goals are set out below as country guidelines. These same conclusions are reflected in the subsequent Bank policy recommendations.

Country Guidelines

1. Governments which accept a basic commitment to land reform should consider three components: (i) redistribution of land ownership to reduce the present mal-distribution; (ii) tenancy reform; and (iii) consolidation, where necessary.

2. A commitment to land reform implies simultaneous action to create or develop an input supply system to meet the special needs of the beneficiaries of land reform. This may require either the creation of new institutions or special branches or fund allocations within existing

organizations to supply credit, inputs, and technical services, including research and extension.

3. In sparsely populated regions (countries), specially structured settlement schemes can serve as second-best substitutes for, or supplements to the redistribution of land currently in use.
4. It should be recognized that a small farm structure can generate employment to absorb underemployed labor in crowded regions where there is no short term prospect of absorbing it in non-farm or large farm employment. With the scale-neutral seed-water-fertilizer technology now available, such a structure can produce at least as much per unit of land as a large farm structure.
5. Equity-oriented land reform should be so programmed that (i) the effective ceiling on holding size is low; (ii) the beneficiaries belong to the poorest group; (iii) the extension and (non-land) input distribution system favors the beneficiaries; and (iv) owned and self-operated land, as well as leased land, is redistributed.
6. Where efficient large scale plantations or ranches exist, they need not be broken up, but it should be accepted that in such cases the objectives of reform can only be realized if the enterprises are covered by a progressive tax system and the workers participate adequately in the benefits of the enterprise.
7. Research should be organized to evolve a low-cost settlement policy. Wherever settlement policy is used to supplement land reform, settlement schemes should be planned to have approximately the same effects as the redistribution of existing holdings. These effects can accrue if (i) the settlers are the really poor small farmers or landless workers and an input supply system is available to support their operations; (ii) the size distribution of the new holdings is equitable; and (iii) tenancy is discouraged, and allowed only under specified types of contracts.
8. Where the shortage of land is so acute that even with a low ceiling both smallholders and landless workers cannot be given minimum holdings, preference should be given to the smallholders in the allotment of land, and a rural works program should be organized for the landless.
9. Experience in Far Eastern and some Latin American countries clearly shows that the organization of beneficiaries both before and after the enactment of reform is an indispensable condition for its success.
10. It should be recognized that landless recipients of land who take up independent farming for the first time may need to be provided with their entire short term and long term credit requirements and perhaps some consumption credit for three or four initial crop seasons.

There may also be a need for special training facilities, research activities, and field demonstrations in such circumstances.

11. The abolition of tenancy may not be a feasible policy in many countries (regions) where the demand for land by the landless and small farmers far exceeds the available supply. In such cases regulation of tenancy might be a more efficient policy. Generally, fixed cash-rent contracts are superior to crop-sharing contracts because they encourage the use of inputs to the optimal level. But where crop-sharing cannot be eliminated because it provides risk insurance to crop-sharers, it can be made more efficient and equitable if it is combined with cost-sharing. Such contracts should be promoted with a system of incentives and deterrents. The incentives can include the accrual of legal rights in land and the availability of credit and other inputs only if preferred types of tenancy contracts are implemented.

12. When the land-labor ratio becomes favorable the conversion of tenants into owners of the land they cultivate, preferably against very low compensation payments, should be undertaken because, in general, owner-operated farming is likely to be more efficient and equitable than tenant farming.

Bank Policy Recommendations

1. The Bank should give priority in agricultural lending to those member countries that pursue broad based agricultural strategies directed toward the promotion of adequate new employment opportunities, with special attention to the needs of the poorest groups. The Bank should support policies of land reform designed to further these objectives.

2. The Bank should make it known that it stands ready to finance special projects and programs that may be a necessary concomitant of land reform, so long as the reforms and related programs are consistent with the objectives stated above. These programs should include credit, technical services, and infrastructure projects designed to meet the special needs of land reform beneficiaries.

3. The Bank should cooperate with FAO, UNDP, and other organizations to provide support and assistance to member governments seeking help with the specification and design of land reform programs where these are in keeping with Bank objectives. This support should include financial and technical aid with cadastral surveys, registration of land titles, and similar services.

4. The Bank should continue to explore, through its agricultural and rural development projects, ways of providing for a distribution of benefits consistent with the goals outlined under (1) above, including appropriate tenurial arrangements and projects designed to serve the needs of small farmers and settlers.

5. The Bank should intensify efforts through sector and country economic work to identify and draw attention to the need and opportunities for land reform with respect to existing tenurial situations and their economic effects.

6. The Bank should support and encourage research related to the economics of land reform in its broadest aspects, including its social dimensions. It should continue its support for programs of economic and technical research directed toward the special needs of the type of small farmer likely to emerge from land reforms.

7. The Bank should undertake studies of the costs and benefits of settlement projects, with particular attention to developing approaches which will lower the cost per family settled.

8. The Bank should support projects where land rights are such that a major share of the benefits will accrue to high income groups only if increases in output and improvements in the balance of payments are over-riding considerations; in such cases it should carefully consider whether the fiscal arrangements are appropriate to ensure that a reasonable share of the benefits accrues to the government.

9. In circumstances where increased productivity can effectively be achieved only subsequent to land reform, the Bank should not support projects which do not include land reform.

10. Where land is held under some form of tenancy, the Bank should foster the adoption of tenancy conditions and share-cropping arrangements that are equitable and conducive to the optimal use of resources.

11. Where land is communally held without regulation of access, the Bank should encourage sub-division, if sedentary forms of agriculture are possible, or pursue land usage and access arrangements that are compatible with long run productivity of the land and the welfare of the resident population.

12. The Bank should pay particular attention to the consequences of the interaction of new technology and the prevailing institutional structures, as reflected in the pattern of land ownership, in order to avoid adjustments which will increase the mal-distribution of income and cause economic hardship.

I. CHARACTERISTICS OF LAND REFORM

Man and the Land

1.1 Man's relationship to the land, and patterns of land-holding and land use, are shaped by the interaction of a complex of forces--climatic, economic, cultural, religious, and political. In East Africa, for instance, the physical conditions in the temperate areas are suited to a sedentary agriculture, whereas the more tropical and arid areas are better suited to shifting cultivation or livestock herding. As a result, different systems of land management and patterns of holdings have emerged in adjacent zones in this part of Africa. Similarly, laws and customs governing inheritance have an effect on the distribution of land. Where land is inherited by the oldest heir and not sub-divided, the pattern of holdings is less fragmented than in societies where the custom is to divide holdings equally among all heirs. In addition, many socio-economic factors affect customs of usufruct, traditions of crop sharing, and other arrangements surrounding land use in varying situations.

1.2 The political ideologies of governments also have a bearing on the relationship between people and the land. The right of the individual to own, sell, and accumulate private property--including land--is one of the cornerstones of the market economy. While this right might be constrained in the public interest, land can in general be exploited, accumulated, and traded by individuals for private gain. Under some other ideologies there is no opportunity for individuals to acquire and accumulate land; the right to own land may be vested solely in the state or in semi-public institutions, and it is the state which organizes and controls the land according to its own criteria. To the extent that the state controls the land, the allocative process may serve any number of ideological ends. Some governments have used control over land to implement policies of geographical separation of racial groups. The People's Republic of China, on the other hand, has changed rights to land and the organization of work several times over the past twenty-five years as part of a drive to eliminate rural inequality.

1.3 The level of economic development of a country has a strong influence on attitudes toward the land. The more industrialized a country, the smaller the proportion of the population in agriculture and the less significant the role of land in the economy. Where there is a mobile population with ample alternative opportunities, land is often seen merely as one factor of production in a highly developed commercial agriculture. However, in less developed countries where there is a large rural population, limited alternative opportunities, and increasing pressure on the land, access to land may provide at least a subsistence income. In these circumstances producers see the land as more than a factor of production; it may well provide the margin between destitution and subsistence.

1.4 The established pattern of land ownership is basic to both the social organization and institutional structures of rural areas. The social hierarchy in most agrarian societies reflects the kind of access that different groups

have to land, while individual status within these groups depends on the amount and quality of land commanded. The institutional structures which formalize the various means of control and the relationship between categories of land users, also determine the accessibility of external institutions and services to the various groups.

Context of Land Reform

1.5 The many complex factors that influence the patterns of land ownership and land use in different regions of the world may be summarized as: (i) the political system and situation; (ii) the structure of the economy; (iii) the social system; (iv) the legal system; (v) the demographic situation; (vi) the agricultural system; and (vii) the national resource base. When these interacting elements are taken into account, it is possible to delineate six main land tenure-land use categories. These are characterized as follows:

(a) Feudal Asian Type

- high property concentration
- great social inequality
- great economic inequality
- low land productivity
- low labor productivity
- low level of technology
- mainly operated by sharecroppers
- high labor intensity
- low capital intensity
- production mainly for subsistence
- land very scarce
- institutional structure centralized

(b) Feudal Latin-American Type

- high property concentration
- great social inequality
- great economic inequality
- low land productivity
- low labor productivity
- low level of technology
- labor provided by squatters, neighboring smallholders,
and migrant workers
- capital-extensive
- labor-extensive
- operated by owner or manager plus hired labor, serfs,
or sharecroppers
- production for subsistence and export
- institutional structure highly centralized

(c) Traditional Communal Type

low property concentration - sovereign rights vested in
community
decentralized cultivation - usufruct rights for members
of group
moderate or high socio-economic equality
low labor productivity
low land productivity
low level of technology
medium labor intensity
low capital intensity
production for subsistence
supporting service structure underdeveloped

(d) Market Economy Type

medium property concentration
decentralized cultivation
medium socio-economic inequality
high land productivity
high labor productivity
high level of technology
capital-intensive
labor-extensive
market production oriented
institutions and services dispersed

(e) Socialist Type

property right vested in the state or a group
centralized or decentralized cultivation
low, medium or high socio-economic equality
low, medium or high land productivity
low, medium or high labor productivity
medium level of technology
production for market or subsistence
supporting systems centralized

(f) Plantation-Ranch Type

high property concentration; owned by state or foreigners
great social inequality
great income inequality
high land productivity
low or medium labor productivity
medium or high level of technology
operated by manager plus wage labor
production mainly for export

1.6 In a traditional context, extremes in the pattern of land control are exemplified, on the one hand, by the feudalistic landlord and tenant system found in some Asian and Latin American countries and, on the other, by the communal land ownership pattern of certain tribal groups in Africa. In the landlord-tenant system, land ownership is vested in an elite minority with the majority having access through tenancy arrangements of various kinds. The ownership of property is generally highly concentrated, more so than the pattern of land holdings. However, since holdings (the only category for which we have data) involve leasehold units for which rent is paid on a share basis, the distribution of income is also highly skewed. (See Annex I, Tables 6 and 8.) In the communal system, by contrast, land is common property and access to it relatively unrestricted. Whereas in the feudalistic system the distribution of land ownership and benefits are highly skewed and class differentiation is marked, the communal system has relatively egalitarian land access and class differentiation is less marked.

1.7 Both systems are relatively stable under favorable conditions, but have difficulties as the man-land ratio declines through population growth, unless there are off-setting changes in technology. In the landlord-tenant system land pressures are reflected in a growing army of landless people and widening income differentials. (See Annex I, Table 11.) The communal system manifests the same pressures by compressed fallow periods and declining soil fertility, overgrazing and increased erosion, accompanied by extensive poverty and vulnerability to seasonal effects.

1.8 The two systems differ in ability to respond to changing external conditions and especially to new technology. The landlord elite, by virtue of its privileged position and power, can, and often does, become educated and innovate both through experimentation and the adoption of external ideas. (In doing so, however, its primary concern may be to promote its own narrow interests in terms of wealth and power, for instance, by displacing tenants through mechanization.) The communal system generally lacks such an institutional mechanism and tends to be both static in its technology and relatively insular, but such communities seldom manage to remain completely isolated from external influences.

1.9 In a modern context, the extremes in patterns of land control are seen respectively in the private ownership of land, which is a fundamental aspect of the market economy and common in most Western countries, and the state or collective ownership characteristic of socialist countries. Under private ownership, land is held by individuals and, while usually subject to special restrictions, can be bought or sold like any other commodity. Such holdings are typically operated as family units with little hired labor. However, a range of sub-types exists within this category which reflects a gradation in size from the predominantly subsistence smallholdings of many of the LDC's to the broad acres of North America and Australia. Although similar in legal and institutional respects these differ significantly in technology and input mix as well as degree of market orientation. In the socialist system, on the other hand, there is little or no provision made for individuals to acquire or accumulate land, this right being vested in the state, with control determined in accordance with the objectives of the state.

However, some variations remain within many socialist systems, often providing for the existence of private smallholdings in parallel with larger social units. A special type found in a modern context is one which includes the plantations and large ranches which often operate in the LDC's as well as in some developed countries. These form in some respects a special category of the market economy type, but the tendency toward a corporate legal structure and dependence on hired labor differentiate them from privately owned family farms.

1.10 While private ownership has generally been compatible with technological progress and the economic adjustment of agriculture, it has often created inequities as people have been compelled to move from rural pursuits or have been squeezed into land scarce rural enclaves. Generally, private control has been most satisfactory where population pressure could be offset by colonizing virgin land or moving people out of the rural sector. It has been most unsatisfactory where ownership patterns have become skewed because of the growth of large farms, combined with limited opportunities for people to move out of agriculture, and the subsequent emergence of economic dualism. State or communal control has led to fewer interpersonal inequities though in most cases not without some broader economic inefficiencies.

1.11 Land reform becomes an equity issue in the context of both the traditional landlord-tenant relationship and the modern skewed ownership pattern. In both of these contexts it is often a highly political concern especially in the traditional feudalistic and communal systems. There are many situations where the prevailing tenure conditions are the major impediment to development. For example, a high level of fragmentation can make canal irrigation virtually impossible and seriously impede mechanized operations even when on a very small scale. In other cases the contractual share arrangement is such that neither landlord nor tenant are able to introduce new technology because, on the one hand, the landlord cannot capture a profitable share of the return on his investment, and on the other, the tenant cannot find the capital for investment or lacks the security of tenure that would guarantee a return from it. Further, there are some situations where the social environment is characterized by inequity and oppression to the extent that there exists no human motivation toward improved productivity or the resolution of any problem within the existing structures. In such circumstances land reform may become a prerequisite of development. But, whether primarily an equity or a production concern, it is clear that land reform will involve different changes in different type situations.

Dimensions of Land Reform

1.12 Land reform is thus concerned with interrelated productivity and equity aspects of land use. It is frequently pursued as a goal in itself, but in a development context is usually seen as a concomitant of agrarian reform or of rural development programs. Land reform differs from political, administrative, fiscal, or monetary reforms in that it normally relates to one sector and involves changes in control of a tangible asset which is both fixed in supply and provides the basic factor on which most of the people in the LDC's are dependent for their livelihood.

1.13 Land reform can involve varying degrees of change including some or all of the following:

- (a) Redistribution of public or private land so as to change the patterns of land distribution and size of holdings. Usually this involves an increase in the number of small or medium-sized farms and a reduction in the number of large holdings. Alternatively all land can be nationalized and regrouped into state-owned holdings, all of which might be large.
- (b) Consolidation of individual holdings, thereby reorganizing the physical pattern of control. Fragmented holdings can be regrouped into contiguous blocks of land. This can be done with or without changing the distribution of land ownership in terms of acreage or value belonging to each individual.
- (c) Changes in land ownership and tenurial rights, with or without physical redistribution of land. Redistributed land can be allocated to new owners or to farmers working on the land. Alternatively, there need be no redistribution of land but tenants or workers can be made owners of the land they work. In this case, there is generally a redistribution of income away from the former owners of the land to the new owners. The new owners may farm cooperatively or as individuals.
- (d) Changes in conditions of tenure without changing ownership or redistributing land. The rights of those working on the land can be safeguarded by law without a change in ownership. Changes in conditions of tenure would include providing security of tenure, introducing equitable crop sharing arrangements, cooperative land management, and so forth. These changes would also include the conversion from customary to legal rights to land.

1.14 Structural Change. In the main, land reform is seen as a means of bringing about structural changes in the agricultural sector thereby altering the size distribution of holdings or the distribution of income. By definition, therefore, pilot projects cannot be considered to be land reform for they operate within an existing structural framework, even though they might be useful in identifying problems of management or the economics of various "models", or arrangements that might be part of a subsequent reform. Similarly, land settlement on the frontier does not usually constitute land reform, although land settlement might be a means of bringing unused land into production. Land settlement, by itself, may or may not have an impact on the structure of land holdings in a country, depending on the manner in which the settlers are selected and the size distribution of the new holdings. The kind of structural change involved depends on the prevailing tenure type and the proposed alternative. As reflected in the country experiences summarized in Annex II, most changes involve a shift from traditional to modern types. Thus Japan, Taiwan, and Korea moved from a "feudal Asian" to a "market modern-smallholding" type; India and Iran moved from a "Feudal Asian" toward a

"market modern", with some traditional farms retained and some "plantation-ranch" type variations in certain areas. Morocco and Kenya redistributed the large-scale alien owned "market economy" type holdings of their colonial eras, some going to smallholdings of the "market economy" type and some to "plantation-ranch" type units. Mexico and Peru moved from a "feudal Latin American" type to a "market modern-mixed large and small holding" type, and a mixed "market modern" and "socialist" type structure, respectively. These tenure system changes were in all cases accompanied by changes in related organizations and services.

1.15 Fiscal Measures. Land taxes and pre-emptive taxes on income earned from land are often cited as instruments that will obtain the same ends as land reform. An effective land tax may have an impact on land use but its main purpose is usually to encourage more intensive production by making it costly to either leave productive land idle or use it below its productive capacity. On the other hand, such taxes may provide a disincentive to investment with the potential of increasing productivity or bringing new land into production. In any event, the use of a fiscal instrument such as a land tax will not lead to structural changes in agriculture-- at least not in the short run. A more likely fiscal instrument to encourage structural change is a graduated estate tax which would force estates to dispose of land to meet their financial obligations. But this is likely to bring about structural change only over a long period of time. While land taxes and estate taxes are often considered significant elements in fiscal policy intended to redistribute income, they cannot ensure the same degree of structural reform as can land reform and have, in general, been quite ineffective. In situations where fiscal measures--whether of a redistributive kind or a type which provides a return to the state on its investment--are found to be ineffective, land reform may be the only alternative option if economic development is to be pursued.

1.16 Agrarian Reform. Agrarian reform is a much more comprehensive concept than land reform, since it involves modification of a wide range of conditions that affect the agricultural sector. These modifications might include changing price policies so as to turn the terms of trade in favor of the agricultural sector; increasing allocations to the agricultural sector in order to expand research, extension, training, and storage facilities; making physical supplies such as fertilizers available and increasing credit for their purchase, or providing infrastructure to facilitate agricultural production. Agrarian reform may or may not include land reform; in some instances there may be no need for land reform since land is already evenly distributed. In other cases, it may not be politically feasible to have land reform--though it might be both politically and economically feasible to raise output through the measures involved in agrarian reform. The point is that land reform may be a necessary conditions for agrarian reform, but it is seldom a sufficient condition for increasing agricultural output, given that land is only one factor of production.

1.17 Rural Development. Broader still is the concept of rural development, since it embraces all dimensions of the rural sector (agricultural and non-agricultural) and is more concerned with the welfare of rural people than with

agricultural output or productivity as an end in itself. Since it has significant equity implications land reform may be necessary concomitant of successful rural development, depending on the prevailing pattern of land control. Where the ownership of land directly affects the nature of local institutions and the participation in them of the majority of rural people, land reform may be essential. However, in terms of implementation it may be that in some situations the preparation of local institutions and smallholder services may be a prerequisite of land reform rather than vice versa. Where the existing service systems and administrative structure is geared to working with large scale farmers, land reform without concurrent rural development activity might cause hardship and economic losses which would outstrip the equity gains associated with the land redistribution. Tenancy reform, on the other hand, insofar as it stabilizes the existing relationship between landowners and renters may be a useful precursor of rural development programs.

1.18 Political Dimensions. Substantial reform of the structure of holdings and the distribution of income from the land cannot be achieved without political action. For instance, where semi-feudal conditions prevail, patterns of land rights and tenurial conditions have been established by tradition, and these cannot be changed through market operations as there is virtually no organized market for land. Elsewhere large land holders have accumulated capital and expanded land holdings acquired through the market; in most market-oriented economies with a skewed distribution of land, the tendency is for the skewed distribution to worsen. Whatever the prevailing situation, it can seldom be changed without actions that emanate from outside the market. Since these actions are based on policies deliberately intended to alter the distribution of land and change tenure, the implementation of these policies depends on the political will of the policy makers and the ability of the administrators to execute this will.

1.19 The concentration of control over land provides the base for powerful elements in many non-industrialized societies. Where groups derive authority from their land, a meaningful land reform program will inevitably destroy or limit the power base of these groups. Land reform can change the political balance and the power structure in a country. Reforms have stripped large landholders, whether they were military, religious or private, of their power. It is not surprising, then, that land reform is often a central issue in political debates and that these debates are often coached in terms of redistributing political power as well as wealth. The political implications of land reform must be taken into account; ambitious programs of land reform will seldom be implemented unless shifts are made in political sentiment and power. Many countries have legislated for land reform but relatively few have achieved them--and these only with a change in government.

1.20 Frequently the implementation of massive reform legislation has depended on the effective organization of the beneficiaries. In Japan, Taiwan, and Venezuela--to name three countries--suitable organizations were established to ensure that land was indeed transferred. In other countries, such as India and Pakistan, the official bureaucracy was the only implementation agency

contemplated by the reformers. Because of the community of interest between the bureaucrats and the landowners, and the absence of organized pressure from the beneficiaries, the massive legislation has produced no significant reform. Experience in much of Asia and Latin America suggests that effective popular participation of rural people may be a critical condition of successful land reform.

1.21 Implications for Social Justice. The imbalance between the distribution of control over the land and the numbers dependent on it has historically led to increasing pressures for change. While the focus on land reform is related to economic development, the concept of an overriding social function of land justifying the imposition of limitations on private rights, appears to be gaining the support of many groups, including the Catholic Church. Formerly one of the largest landholders in the world, the Church in Europe as well as in Latin America has increasingly put its weight behind this new concept, both in precept and practice. The Church's new philosophy regarding the relationship between man and the land declared that "private property does not constitute for anyone an absolute and unconditional right". And the immediate extension of this postulate to the world's agrarian problem is that, "if certain landed estates impede the general prosperity because they are extensive, unused, or poorly used, or because they bring hardship to peoples or are detrimental to the interests of the country, the common good sometimes demands their expropriation".

1.22 A further facet of land reform that warrants consideration in this respect is the potential of a new societal structure following a reform. Mexico, and more recently Egypt and Bolivia, had semi-feudal societies similar to many which still prevail in other parts of the world. In these societies, large numbers of tenants and laborers were tied to the land and were held in forms of human bondage; this arose from custom, tradition, or sheer indebtedness to landlords. The reforms that have taken place in these countries have changed this. The reform in Mexico broke a system that denied many people any range of choice in the pursuit of a livelihood. If the experience of Mexico--which has had the longest period of reform--is any indication of the long run outlook, the reforms have led to an increase in social mobility.

1.23 In summary, from this brief overview of its characteristics, it is apparent that land reform is a complex subject. The issues involved are diffuse and the reform measures appropriate vary according to the situation. It is also evident that land reform is in practice predominantly an equity concern and therefore one that is often highly political. Nevertheless, it has, too, significant implications for economic development, and these in turn are relevant concerns in the formulation of Bank Group policy.

II. LAND REFORM AND ECONOMIC DEVELOPMENT

2.1 Economic development has three basic objectives: rapid economic growth, full employment and distributive justice. Some policies and related investments, such as those affecting power plants or large-scale industry, are primarily growth oriented; others, for example, those for rural works, are employment oriented; still others, such as those related to land reform, are essentially equity oriented. Each set of policies and investments aimed toward one objective has important repercussions with regard to the other two objectives, and these must be taken into account when weighing the potential impact of particular policies on economic development. For this reason, it is important to determine to what extent land reform might be costly in terms of growth and employment.

2.2 There are manifold problems in assaying the costs and benefits of land reform. These include the definition of an acceptable time frame for measuring the effects of the related structural change in the agricultural sector. The available evidence suggests that a well-designed land reform program need not entail unacceptable costs in terms of other objectives; its contribution to output and employment -- as well as to equity -- depends on the speed and effectiveness of the reform and complementary investments. However, the effects of land reform can best be examined by focusing on particular measures, such as the effects of farm size on productivity, equity and employment as well as on savings and market surplus. These measures are interrelated but, for analytical convenience, are here treated separately.

Implications for Productivity

2.3. The effects of land reform on productivity might best be isolated by comparing productivity in a given area before and after reform. Unfortunately, that is not possible as there is no situation where change has occurred in only one variable -- size of farm -- over time. The nearest alternative is the comparison over a defined period of the productivity of groups of different sized farms in a given area. The ideal measure for comparison would take into account the contributions of all factors of production and so measure total factor productivity. Since data are not available to derive this measure, changes in yields per hectare are considered to be the most appropriate proxy.

2.4 There have been several multi-country, comparative analyses of the effect of differences in distribution of size of holdings on yields. One 13 country study undertaken by the FAO analyzed the relationship among size of holding concentration of land, and productivity. A similar study of 41 countries was undertaken by the Bank Group. (See Table 2.1.) Both studies indicated that smaller average size of holding and a lower concentration of land ownership were associated with an increase in output per hectare.

2.5 Similar findings can be cited from cross section studies in a number of individual countries. In Ceylon, for example, in 1966-67, the yield of paddy averaged 36 to 37 bushels per acre on farms of up to one acre and 33 to 34 bushels on larger holdings. In Central Thailand, yields were reported to decline from 306 kilograms per rai, on holdings of two to six acres, to 194 kilograms per rai, on holdings of 140 acres or more. Small farms in the Philippines -- that is, less than two hectares -- produced 2.9 tons of paddy per hectare, while farms of more than four hectares produced 2.2 tons per hectare. In a systematic analysis of the differences between large "multi-family" farms and small "sub-family" farms in Argentina, Brazil, Chile, Colombia, Ecuador and Guatemala, output per hectare was found to be three to 14 times greater, on the average, on the small farms than on the large. (See Table 2.2.)

2.6 There is other evidence to support these findings, including the results of Bank-sponsored analysis in Mexico, as well as studies on Japan and Taiwan. However, there is no claim that all conditions were identical; the studies simply indicate that yields were higher on small farms than on large farms.

2.7 The important implication is that reductions in neither the size of holdings nor land concentration need be associated with a reduction in output per hectare. On the contrary, it appears that under controlled circumstances output per hectare is likely to be higher. There are two associated reasons for this assumption. First, there are limited economies of scale in most agricultural production. Second, small-scale producers tend to maximize output by applying labor intensively, while large-scale operators tend to maximize profits by using hired labor only until incremental production covers incremental costs. This is usually short of the output per hectare that would be produced if the goal were maximization of output.

2.8 In broad terms, land reform can be consonant with development from a point of view concerned purely with productivity, with output per hectare as the relevant criterion. Output per worker, however, is likely to decrease for the simple reason that, as pointed out below, smaller farms would employ more labor per hectare. In other words, the larger income would be shared by an even larger number of families. This decline in labor productivity only reflects the employment and equity benefits of land reform: the same land would supply more people and the income generated would be more widely shared.

Land Reform and Employment

2.9 There is also evidence that there is greater labor absorption per hectare on smaller holdings than on larger holdings. The cross sectional analysis of the 13 countries previously mentioned showed that manpower per hectare of agricultural land was significantly correlated with the size of the holding -- the smaller the holding, the greater the input of manpower. This cross section evidence of the higher productivity of small farms indicates their long-run equilibrium potential.

But the realization of this potential is contingent on non-land being inputs increased as soon as farm size is decreased.

2.10 There have also been a limited number of studies in Asia and Latin America that confirm these findings. In the Ferozepur District in Punjab (India), for example, in 1968, labor absorption varied between 33 and 39 man-days per acre on holdings of less than 30 acres. On larger holdings it ranged between 20 and 23 per acre. In Colombia, man-years per hectare declined continuously from 2.7 on small holdings (less than 0.5 hectare) to 0.17 on large farms (500 to 1000 hectares) in 1960. In other Latin American countries also (Argentina, Brazil, Chile and Guatemala), the number of workers per hectare of agricultural land on the smallest farms (sub-family units) has been estimated to be 30 to 60 times greater than on the largest (multi-family) farms.

2.11 More intensive labor use is, of course, the main reason why small farms are able to produce more per unit of land than the larger farms. But inputs other than labor are also likely to be applied more intensively on small farms, unless access to these inputs is blocked by institutional arrangements. Unfortunately, the relationship between these other inputs and farm size cannot be studied in many developing countries for want of data. It is interesting to note, however, that in the cross section of developed countries, in 1961, fertilizer consumption and gross fixed capital formation per unit of land were relatively higher in countries with a smaller average holding.

2.12 In developing countries, too, small farms undoubtedly need much more non-labor input in order to raise productivity. The mere redistribution of land and augmentation of employment may not suffice to raise output substantially. Therefore, the organization of an effective extension-cum-input supply system for small farmers must accompany land reform. Where there is such a system --as in Japan, Taiwan and Korea--the absorptive capacity of agriculture tends to be high even though holdings are small; at the same time output per hectare is high. Small holdings can yield high returns to labor provided output per hectare is high; a condition that can only be fulfilled by the application of high-yielding, labor intensive technologies.

Land Reform and Equity

2.13 The more radical the land reform and the more important the share of agricultural land in total tangible wealth, the larger will be the equity effect of the reform program. In the rural areas, agricultural land accounts for such a large proportion of total wealth that it is usually the single most significant determinant of the distribution of both income and power. Evidence of this can be seen in many Latin American and Middle Eastern countries where the large landowners often dominate both commerce and government. Here land reform could have a major equity impact. However, where much of the wealth exists in the form of financial assets, real estate and other investments apart from farm land, and commodity stocks in the hands of traders, the redistribution of farm land alone may not improve the distribution of total wealth substantially. Landowners may easily change the composition of their assets on the eve of land reform if agricultural land alone is the target of redistributive zeal.

2.14 If the rural and urban areas are considered together, the limitations of redistributing farm land alone appear even more serious. The distribution of real estate, financial assets, and commodity stocks in the urban areas is even more skewed than the distribution of farm land in the rural areas. If, therefore, urban property reform or a highly progressive taxation program on urban wealth does not accompany land reform in countries with a substantial and prosperous industrial-commercial urban sector, land reform alone is not sufficient. Alone, it may not only not decrease but may even increase the inequity of the distribution of total wealth in the country as a whole -- in particular, the inequity between the town and the village -- since it will freeze the maximum permissible ownership of the main rural asset, without freezing the maximum permissible ownership of urban assets.

2.15 Even with this broader focus, the equity effect of land reform will be significant only if: (i) the effective ceiling is low; (ii) the beneficiaries belong to the poorer groups; (iii) the extension and (non-land) input distribution system favors the beneficiaries; and (iv) owned and self-operated land as well as leased land is redistributed.

2.16 Opportunities for the redistribution of land depend to a great extent on the existing pattern of distribution of holdings and population density. As will be shown further on, there are some countries, notably in the Americas, where land distribution is skewed and population is not dense. Here are ample opportunities for redistributing land so that inequalities can be diminished and the recipients of the land can generate an acceptable minimum income. In other areas, however, the pressure of population is such that there is not enough land to meet the minimum requirements of all claimants. The density of the farm sector is so high in some countries in Asia that, even if holdings above a certain size were completely eliminated, there would not be enough land to either raise the acreage of the mini-farms to a tolerable minimum or provide for the landless.

2.17 In India, even if the maximum holding was 20 acres, the available land (43 million acres) would be barely sufficient to bring up the size of mini-holdings to a minimum of five acres, and no land would be available for the landless (20-25 million households). In Bangladesh, a low 10 acre ceiling would not suffice even to bring up all mini-holdings to a minimum two acre size. The millions of landless families could not be provided for at the same time. In Ceylon, too, even with a low ratio between the ceiling and the floor holding (5 to 1), there would be enough land only to give two acres to each mini-farmer. In Haiti, only 1.5 hectares is available for the average rural family of five. The solution to rural poverty clearly cannot be found exclusively in the agriculture sector. In these situations it might be wise to give land only to the mini-farmers and to attack the poverty problem of the landless by means of a massive rural works program. (Settlement of the landless on new land, where available, and their migration to urban areas, when possible, are the other obvious alternatives.)

Effects on Marketed Surplus and Savings

2.18 The redistribution of land can have a pronounced impact on both availability of a marketable surplus and aggregate savings in the agricultural sector. Although the total effect of the redistribution process will depend to a large extent on the costs of increased output after the redistribution, the change in the size distribution of holdings will shift the distribution of the source of marketable surplus and savings. As the marketed surplus generates agricultural incomes and so potential cash savings, it determines the size of the rural market for domestically produced industrial products. The marketed surplus also represents the supply of agricultural products, mostly food, for the urban population. A fall in surplus could thus necessitate imports and put an added strain on the balance of payments. But increasing the marketed surplus need not necessarily increase savings, and where it does these need not be monetized but rather may take the form of increased on-farm investment in items such as improved housing, wells, and access roads.

Marketed Surplus

2.19 A reduction in land concentration through land reform could lead to a fall in the marketed surplus -- at least in the short run. Small farm households tend to consume a larger proportion of their small output than do households which have a large enough acreage to produce in excess of domestic requirements. Thus, the ratio of marketed surplus to production falls as farm size decreases. Data from India show, for example, that small farms (2.5 acres or less) sell only 24.5 percent of their output whereas large farms (50 acres or more) sell 65.4 percent. But these farm groups produce only 9.5 percent each of the national output. If output remained the same but, hypothetically, farms above a certain size were eliminated and their land transferred to the small class, the surplus-output ratio would probably decline. The rate of decline, however, might not be very great given that the largest and the smallest farm size groups account for only small proportions of total output.

2.20 But the surplus-output ratios of different farm-size groups, and their shares of total output and sales, can differ widely across countries and regions. Sixty-one percent of the maize farmers in Puebla, Mexico, for example, sells no maize at all; and another 16 percent sells 25 percent or less of its output. In Chile, on the other hand, a typical crop sharer sells as much as 43 percent of his output. In Mexico, 6.6 percent of the marketed surplus comes from 70.7 percent of the farmers; and 55.4 percent comes from only 1.7 percent. In India, 48 percent of the farms (less than 2½ acres) contribute only 6 percent of sales, 1 percent (more than 50 acres) contribute 16 percent and 51 percent (with 2.5 - 50 acres) contribute the bulk (78 percent) of the total surplus.

2.21 These differences would determine how much the surplus ratio would fall after land reform; but there can be no doubt that it would fall, with subsequent deleterious effects on the economy. However, this decline in the market surplus ratio need not result in a decline in total

surplus, provided that there is a compensatory increase in total output. Since per acre yields on small farms can be higher than on large farms, a sufficient increase in output can materialize if, after reform, the necessary conditions are fulfilled whereby small farms can realize their full production potential. In addition, from the welfare point of view, a decline in the market surplus ratio has a direct distributive dimension which should be offset against the decline. As the surplus-output ratio falls, the subsistence consumption of small farmers increases -- the extra consumption in kind representing a direct increase in their incomes (nutrition). Insofar as the productivity of small farmers was previously constrained by inadequate nutrition, there should also be a positive productivity effect.

Savings

2.22 In considering the productivity effect of land reform, it is necessary to examine the implications of a change in farm size structure on the aggregate savings rate of the farm sector as a whole, since the savings rate represents the contribution of the sector to the long run growth of both its own productive capacity and that of the rest of the economy. Although there is scant evidence on savings rates of different classes of farm households in developing countries, it can be expected that the behavior of the savings rate will be similar to that of the marketed surplus. At the lowest end of the farm size scale, the subsistence farmers can be expected to be net "dissavers" (for instance, by running down the existing soil fertility). As farm size increases, the savings rate can be anticipated to become positive and increase along with farm size (though large farmers can be "dissavers" too, by using capital for consumption). A recent study in the State of Haryana, India, tended to confirm this: the savings ratio was found to be -0.24 percent for small farmers, 8.5 percent for medium farmers, and 16.3 percent for large farmers. In a further study in Orissa, India, there was no direct measure of the savings made, but the ratio of net capital formation as a proportion of income was found to be 5.5 percent in the smallest farm size group (0-2 acres) and 19.3 percent on larger farms (8 acres and above). For unirrigated villages, the corresponding figures were lower -- 2.6 percent on the smallest farms, and 11.2 percent on the larger farms.

2.23 It follows that a reduction in concentration of land will reduce the average savings rate of the farm sector. But, again, if a compensatory increase in total income can be secured by intensifying inputs per unit of land soon after land reform, the aggregate savings can be prevented from falling. This adds to the urgency of introducing effective agrarian reform (including improved technology and services) along with land reform.

2.24 A policy implication, from the above, is that the farm size structure created by any land reform program should fix a minimum as well as a maximum farm size. The minimum farm size clearly should be determined on the basis of the current national norm of minimum family income. But one of the criteria for determining the minimum income itself should be that it at least enable the smallholder to cease to be

a "dissaver." An analogous criterion can also be derived from the known behavior of marketed surplus: the smallholder should have at least enough land for positive sales.

Tenancy Reform

2.25 The most successful land reforms include those whereby tenants become owners of the land they operate, as in Japan, Taiwan, and some parts of Europe. Ownership control and income from the land is thus redistributed. However, if landlords are allowed to retain land that might be self-operated, and tenants become owners of the land that they operate, then the size distribution of operational holdings may not change. With the conversion of tenants into owners, there is greater security of tenure and larger incomes for the farmers. This, in turn, encourages increased savings and so on-farm investment and higher output.

2.26 The conversion of tenants into owner-operators generally leads to a more efficient and more equitable form of production organization than tenancy. This is evidenced not only from the reforms in Japan and Taiwan, but also from experience in parts of Africa where "customary" tradition is converted into freehold. In Kenya, the provision of security of tenure, especially in the temperate production areas, has increased on-farm investment and helped raise output.

2.27 There may be situations where tenancy reform aims at stabilizing the position of tenants with respect to rent paid, security of tenure, and labor objectives, without transferring ownership rights to them. Here the problem is to promote more efficient types of tenancy, with contracts having well-defined incentives and deterrents. Expert consensus is that fixed cash-rent contracts are superior to the more common crop-share contract, for the whole income in excess of the fixed rent accrues to the actual cultivator. Crop sharers, though, often have a preference for crop sharing because it provides risk insurance. Crop sharing, however, can be made more efficient and equitable if it is considered with cost sharing. There is growing evidence from the Philippines, for example, that since the onset of the spread of the seed-fertilizer technology, landlords and crop sharers spontaneously have begun trying to combine cost sharing with crop sharing because the combination is profitable to both.

2.28 Tenurial reforms, whether through the distribution of the land to those working it or the provision of greater security of tenure and improved rental contracts, have an effect on development. They improve income distribution by shifting income away from the landlords to small-scale producers, often those among the lowest income groups. The more secure producers tend to invest part of their higher earnings in their holdings -- thus raising the level of investment in agricultural production -- whereas absentee landlords frequently invest in off-farm activities. Finally, greater security enables tenants to benefit from appropriate technological changes instead of being displaced when landlords find it to their advantage to adopt a different technology. The financial returns to the landlord may be high from using machines and hired labor, but the returns to the economy are usually higher from labor-intensive operations undertaken by smallholders.

Implementation Issues

2.29 If reforms are to generate the anticipated benefits, several important considerations must be taken into account. First, since agriculture is a private sector activity in most countries of the world, production and investment decisions are made by millions of individuals operating in their own interests. Very often the greater part of national output comes from medium-sized farmers. These farmers, as with all investors, weigh the risks as they perceive them before making on-farm investments -- the major component of total investment in agriculture. Sustained uncertainty about a government's intentions with regard to the distribution of land adds to the risk of investment and can have a negative impact on capital formation and production. In some instances, continued uncertainty has led to disinvestment in agriculture by owner-operators and capital flight from the country. It follows that the more specific the plans and the more clearly defined the policies regarding land reform, the less likely the acceleration of disinvestment by land owners and, so, the lower the "cost" of the reform.

2.30 Second, the introduction of a major land reform program usually disrupts the system of logistical support from the commercial sector to the farmers. In most countries in the world, there is a well-established link between commercial bankers and suppliers in the private sector and the larger agricultural producers. This linkage is based on mutual interests and, often, on long-standing business association. The redistribution of land frequently leads to a breakdown of this system. There is often a long hiatus before the public sector can undertake the role previously filled by the private sector or the private sector adjusts to its new situation. Without an appropriate organization for the provision of inputs there will be a decline in productivity and a fall in output. Thus, the reduction of the costs of a land reform program -- in terms of production foregone -- depends on the rapid reorganization of the input supply system.

2.31 Third, the nature of the organizations providing for both the supply of necessary inputs and the marketing of production surpluses is crucial in a post-reform period. There are many different forms of organization: cooperatives, agricultural development banks, special credit institutions, marketing authorities, and the like. Whatever the organizations that prevail, it is essential that they be designed specifically to assist the beneficiaries of a reform. In many instances, the institutions that have provided services in a post-reform period have continued with a bias in favor of larger size operations. Part of the reason for this is that these institutions have not been able to adapt their methods of operation to the needs of large numbers of small farmers. Unless this is done, the beneficiaries of the reform may not be in a position to increase their outputs. Indeed the appropriate organization of supplies and the evolution of a low-cost delivery system to reach small-scale producers is a sine qua non for sustained increased productivity.

2.32 Fourth, there are situations where land reform programs might need adaptation if they are to fulfill the objectives of development.

When land is fully utilized and yields are already high, there may be some question as to the impact of redistribution of land on productivity and employment. In this context, it is important to determine the reasons for high yields. In much of agriculture, most of the inputs are "divisible," thus reducing the importance of scale of operations as a factor in raising productivity. There are some situations where high yields and efficient operations may be directly associated with a system organized to function on a large scale (as in certain types of sugar plantations). The breaking up of such holdings may well reduce yields and lower output. A more realistic approach to obtaining widespread benefits would be to leave such operations intact and redistribute the profits from the enterprise. This can be done through taxation, by raising the wages of the workers, or -- as in Peru -- converting the operation into a worker-owned corporation and distributing dividends, out of profits, to the participating stockholders.

2.33 Finally, land reform leads to structural changes within the agricultural sector. The post-reform structure will depend on the ideology of the government. In some instances, there will be an increase in the number of small-scale owner operations; in others, producers cooperatives, or communes, or large-scale state farms will emerge. The pattern that evolves may also be tailored to fit the economic environment: the organization might be based on a system which can use surplus labor for direct capital formulation; other organizations (such as large-scale state farms) might be intended to save labor. Experience has indicated, however, that:

- (a) Government reorganization can generate enthusiasm and provide opportunities for mobilizing laborers, but raising output depends on more than land and labor. There must be an appropriate supply of other inputs.
- (b) No matter what the structure, an appropriate system of management is necessary which enables the managers of land to make decisions in a timely fashion -- a most important condition in agriculture and one that is dependent on weather. This is a condition, however, that is often unfulfilled in rigidly controlled societies.
- (c) There must be an adequate system of incentives and rewards if there is to be an increase in productivity in agriculture. This applies both to the agricultural sector as a whole and to the units in which beneficiaries of reforms are organized. Many communes, producer cooperatives, and other units of production have floundered over the developing of a system that contains both equity and incentives. The creation of adequate incentives is particularly important in a situation where labor is the major input.

2.34 Land reforms, although equity oriented, can be consistent with all the goals of economic development: raising productivity, increasing employment, and providing wider equity. In the long run, land reform need not lead to a reduction in marketed output or savings. Tenancy reforms can redistribute incomes and, through providing security of tenure, can encourage increased on-farm investment. However, sustained increases in output depend on complementary investments and policies. The most important of these concern the organization and provision of an adequate supply of inputs for the beneficiaries and the creation of appropriate incentives to use these inputs to raise output.

Table 2.1 **Productivity, Employment and the Distribution of Land in Different Countries**

Country	Date Year	Farm GDP per Hectare (US\$)	Farm GDP per Worker (US\$)	Employment per Hectare	Average Holding Size (Hectare)	Gini's Index of Land Concentration
Europe						
Greece	1961	424	848	0.50	3.28	.597
Spain	1962	90	980	0.09	14.85	.832
Central America						
Costa Rica	1963	783	951	0.09	40.74	
Dominican Rep.	1971	129	463	0.28	8.64	
El Salvador	1961	186	489	0.28	6.95	
Guatemala	1964	144	492	0.29	8.17	
Mexico	1960	22	569	0.04	123.9	
Nicaragua	1963	55	580	0.09	37.24	
South America						
Argentina	1970	16	1903	0.01	270.1	.873
Brazil	1960	14	285	0.05	79.25	.845
Chile	1965	18	692	0.03	118.5	
Colombia	1960	67	663	0.10	22.60	.865
Paraguay	1961	11	479	0.02	108.7	
Peru	1961	50	477	0.10	20.37	.947
Uruguay	1966	14	1333	0.01	208.8	.833
Venezuela	1961	31	925	0.03	81.24	.936
Asia						
India	1960	172	141	1.22	6.52	.607
Indonesia	1963	323	149	2.17	1.05	
Iran	1960	187	581	0.32	6.05	.624
Korea, Rep. of	1970	1085	377	2.88	0.85	
Japan	1960	1720	1188	1.45	1.18	.473
Nepal	1961/62	352	138	2.54	1.23	
Pakistan	1960	240	249	0.96	2.35	.607
Philippines	1960	250	200	1.25	3.59	.580
Sri Lanka	1962	376	337	1.12	1.61	
Taiwan	1960/61	841	410	2.05	1.27	.474
Thailand	1963	166	137	1.21	3.47	
Turkey	1963	155	243	0.64	5.03	.611
Vietnam, Rep. of	1960	355	127	2.79	1.33	
Africa						
Botswana	1969/70	168	142	1.18	4.75	
Kenya	1969	183	140	1.31	871.3	
Malagasy	1961/62	293	88	3.32	1.04	
Mali	1960	98	48	2.06	4.35	
Morocco	1961	144	295	0.49	4.62	
Senegal	1960	209	174	1.20	3.62	
Tanzania	1960	485	94	5.16	785.7	
Togo	1961/62	189	180	1.05	2.62	
Tunisia	1961/62	42	341	0.12	15.41	
U.A.R.	1960/61	681	360	1.89	1.59	.748
Uganda	1963/64	167	198	0.84	3.29	
Zambia	1960	68	101	0.67	11.73	

Sources: Unless otherwise footnoted below, cols. 1 and 3 are based on FAO, Production Yearbook, 1971, pp. 10-11, 21-23, and col. 4 on UN, Monthly Bulletin of Statistics, XXVI, No. 4, Apr. 1972 and XXVII, No. 11, Nov. 1973. For currency exchange rates, see ibid. and IMF, International Financial Statistics, XAVI, No. 8, Aug. 1973. GDP in agriculture shown here includes, unless otherwise indicated, agriculture, hunting, forestry, and fishing.

Table 2.2: AGRICULTURAL OUTPUT PER HECTARE & PER WORKER
BY FARM SIZE, LATIN AMERICA

Country	Year	1	2	3
		Smallest Sub-family Farms	Largest Multi-family Farms	Ratio Col. 1 to Col. 2
(National Monetary Unit Per Agricultural Hectare)				
Argentina	1960	2492	304	8.2
Brazil	1950	1498	170	8.8
Chile	1955	334	41	8.2
Colombia	1960	1198	84	14.3
Ecuador	1954	1862	660	2.8
Guatemala	1950	63	16	3.9
(National Monetary Unit Per Worker)				
Argentina	1960	40	192	.21
Brazil	1950	1197	8237	.14
Chile	1955	268	1171	.23
Colombia	1960	972	9673	.10
Guatemala	1950	74	523	.14

Source: Barraclough and Collarte (1973), Table B-2.

III. THE BANK AND LAND REFORM

Changing Concerns

3.1 The position of the Bank Group in regard to land reform has changed over the past decade, reflecting a reconsideration of the objectives of development and the most appropriate strategies for attaining these objectives. The objectives of development are now generally accepted to be the attainment of increased productivity and employment, and social justice. As has been pointed out, land reform can be consistent with these objectives and, in some situations, may well be a necessary condition for attaining them.

3.2 In the early years of Bank Group operations, the focus was on providing adequate infrastructure for increasing agricultural production. In the early 1960s, the approach to agricultural development was widened to include the provision of rural credit and on-farm inputs. Problems of tenure were seen to have an indirect bearing on production, mainly because they influenced on-farm investment decisions and determined the efficiency of resource use, especially irrigation water. By the end of the 1960s, though, there was growing concern about distribution of income in the rural areas and the relationship between land distribution and income distribution. This was reflected in the Agriculture Sector Paper of 1972, which recognized a relationship between land distribution and equity. The paper stated:

"In developing countries, land presents a much higher proportion of total wealth than in developed countries, and inequalitarian patterns of landownership are a major source of income inequality. Furthermore, the owners of land usually possess political and economic power which can be exercised in ways that harm the interests of the bulk of the rural people." (p. 30)

The paper goes on to affirm that:

"It is clear that agricultural development cannot do all it might to improve rural life if the distribution of land ownership is highly skewed." (p.35)

This concern has been reflected both in the technical assistance offered to governments (especially in sector survey and economic reports) and in the types and components of projects in the lending program.

Technical Assistance

3.3 The Bank has been concerned with problems associated with land distribution and land reform since the beginning of its operations. One of the first major economic surveys undertaken was of Colombia in 1955. The mission identified the patterns of land use and land distribution by size of holding to be major obstacles to accelerating agricultural development. Large stretches of fertile land were held by large scale producers for livestock raising, while intensive agriculture was practiced by "minifundios" on land that was less suited for crop production. The mission recommended to the

government that they introduce a graduated land tax as a means of intensifying land use. A subsequent agricultural sector mission in 1956 confirmed that the systems of land tenure and land use were barriers to increasing output. This mission recommended that the government adopt a presumptive income tax to encourage a more productive use of land.

3.4 The two missions to Colombia were concerned with increasing productivity and intensifying land use. The missions were not concerned with the redistribution of land as a means of encouraging greater equity, nor did they consider redistribution as a means of intensifying production. Rather, they took the view that the distribution of land was a matter of national policy and internal politics and that the Bank Group--as an external lending agency--should adhere to the existing policy and not advocate a rapid redistribution of land. It did, however, recommend a vigorous policy of settlement on reclaimed and cleared land.

3.5 Since that time there have been missions and sector surveys in almost all the countries served by the Bank. Many of these have pointed to patterns of land control and insecurity of tenure as obstacles to raising agricultural productivity. More recently, there is a growing emphasis on the problems of distribution of land and the rights to land as factors that influence equity as well as productivity. Thus, missions to Ethiopia and Morocco have drawn attention to the relationship between the land tenure situation and the distribution of benefits from growth. In Morocco, the mission emphasized the possibility of redistributing land as a means of increasing both output and equity. In Ethiopia, the problem was seen as one of uneven land distribution and insecurity of tenure; security of tenure was considered to be especially significant in the light of the distribution of potential gains from new technology being introduced into the country. Landlords were finding it increasingly profitable to displace their tenants as machine technology provided higher returns to the landlord when he hired labor.

3.6 Despite this trend, many reports do not give appropriate emphasis to issues related to land reform and development. We need to be better informed about conditions governing rights to land and related institutions in member countries. More needs to be known about the distribution of land, conditions governing tenancy, and the policies and programs instituted to influence the distribution of land and rural incomes. It is only through a thorough analysis of conditions within member countries that the Bank will be in a position to discuss policy options with member governments. At present, many reports still do not address these problems; however, new guidelines are being developed which can form a basis for discussing these issues in a systematic way in sector and economic reports.

3.7 The Bank's lending for agricultural development has increased very rapidly in recent years. Loans and credits have been made to countries with widely differing social and political structures. These have included socialist countries, such as Yugoslavia and Tanzania, as well as countries that follow

capitalism, such as Argentina and Thailand. Loans and credits have been made for agriculture operating under different forms of tenure--for kombinats in Yugoslavia, kibbutzes in Israel, individual holdings in India, cooperative production units in Tunisia, and group farmers in Kenya. Funds have also been provided for large scale livestock producers, large scale plantations and small scale producers; these have benefited absentee landlords, large landowners, small landowners, tenants, and farm workers. On the other hand, the Bank has not been totally indifferent to structural and income distribution aspects, and the record shows an increasing awareness of the implications reflected in more frequent use of measures to improve them.

3.8 Nevertheless, few projects have supported land reform as such. In general, external financing, whether multilateral or bilateral, has played a minor role in the financing of land reform programs. One reason for this is that the process of reform in itself may only require relatively small outlays of public funds, as expenditures for a redistributive reform depend mostly on the levels and forms of compensation that are set for the former landowners. Public discussion of land reform financing is generally dominated by this issue. When land is confiscated as part of a revolutionary process--as it was in Mexico and Bolivia--there is clearly little if any public expenditure involved. Naturally, the compensation issue tends to be more important in countries such as Colombia and Venezuela where land is purchased. Even so, the actual amounts involved are not substantial, especially where, as is the usual case, payment is mostly in bonds. It is estimated that, in those Latin American countries that followed non-confiscatory reforms, only some nine to fifteen percent of their total reform-related cash budgets went for landowner compensation--though in other cases the figure could be much higher.

3.9 Compensation paid for land is a "transfer payment" from the public sector to the landholding groups. Without doubt, compensation can have serious implications for income distribution, consumption, and investment--but it does not of itself create any new productive capabilities in the country. Partly because of this, international lending institutions have refrained from using their resources for financing land purchase. It has been suggested that the international agencies might guarantee bonds issued to compensate landlords. If financing were to be through international maintenance-of-value guarantees of bonds and for compensation, this would have the paradoxical effect of giving land bonds greater stability than that enjoyed by the currencies of issuing countries.

3.10 The Bank has provided general support for at least one far-reaching land reform program. This was in Tunisia where the Bank provided a loan of US\$ 18 million intended to back a major agrarian reform relating to former French-owned estates, which occupied the most fertile land in that country. The nationalized land was to be converted into "units of production" which were to be farmed on a cooperative basis; each unit of production was to be self-financing and, inter alia, was to pay a guaranteed minimum cash wage to the workers out of the farm profits. However, the scarcity of trained manpower and the rapid pace taken in establishing new cooperatives made it difficult

for the production units to start on a sound basis and generate a large enough cash flow to meet their objectives. In addition, the system had built in disincentives because wages were not paid according to work. The Bank successfully pressed for substantial improvements in conception, design, and implementation of the agrarian reform. It was unable, however, to influence the major political decision to either take all the land in Tunisia under state management or put it all under the control of cooperatives. The extension of reform strained the limited administrative capacity and the reform program collapsed. Smallholders opted for private farming and were supported by landowners who resisted the takeover of their lands. The Bank subsequently cancelled half of the loan.

3.11 The problems encountered in financing the Tunisian program underscore some of the difficulties in lending for reform-related projects. The financial viability of these projects depends to a great extent on the managerial capacity of the beneficiaries of the reform and the development of an efficient service system for them. Very often the managerial capacity of the beneficiaries may be untried; the agencies created to deliver the inputs are usually new, have limited technical capacity, and are of questionable financial viability. Furthermore, as has been pointed out previously, these institutions often provide inputs formerly provided by the private sector, and the whole delivery system changes from one based on the profit motive to one based in the first instance on social considerations. This directly affects their financial viability, especially in that cash flows generated by reform projects tend to be less immediate than in other projects, and many investments in social overhead are not self-liquidating in the short run.

3.12 Another Bank project provided direct financial assistance to facilitate the implementation of land reform as part of the Lilongwe development scheme in Malawi. It was recognized during preparation of the Lilongwe Project that there was an opportunity to change the existing land tenure pattern of customary right of usufruct. The need for change to a more secure and lasting tenure system was evident as almost all uncultivated land had been taken up; individual holdings were of the order of about five acres per family, and fragmentation of holdings had occurred on a substantial scale. Five acres was deemed to be the minimum holding size capable of providing a family with subsistence at present levels of technology. As a consequence, the Malawi Government introduced three Acts of Parliament which provided for the allocation, consolidation, and registration of holdings, and the issue of either family or individual freehold titles. These Acts also provided for the regulation of the subsequent sale, mortgage, or transfer of registered land through the establishment of Land Boards. To date some 200,000 acres have been allocated and titles issued on 60,000 acres. IDA credits are being used for the land survey (both topographical and cadastral), the provision of allocation and registration staff, vehicles, equipment, and the construction of housing and a land registry. The amount involved will be approximately US\$ 1.0 million by the end of the second phase. The Lilongwe project indicates that Bank assistance can play a role in assisting governments in the "mechanics" of land reform and in the drafting of legislation.

3.13 There have been a number of other projects financed by the Bank that have involved some change in distribution of land or in tenurial rights within the area encompassed by the project. These include projects for land settlement, outgrower schemes, irrigation, and rural credit.

Land Settlement

3.14 The Bank has financed a number of settlement projects in which infrastructure was made available together with other services for families settled in the project area. Table 3.1 gives information on ten projects located in Brazil, Colombia, Ethiopia, Kenya, Malawi, and Malaysia. Seven of the projects were established on public land and so did not involve any change in the size distribution of existing holdings. Thus, settlers were allocated holdings of from 3 or 4 hectares in Malaysia to 40 hectares in Brazil. Each holding was deemed adequate to provide a livelihood and full employment for the settler and his family.

3.15 There are severe limitations on settlement as a means of reaching large numbers of landless people or relieving pressures on land. Though the costs per family in a settlement project can be misleading, the data in Table 1 indicate the limitations on settlement projects--as presently conceived. The ten projects were intended to settle no more than 35,000 families; the total cost was expected to be \$190 million with Bank contributions almost half that amount. The capital requirement of more than \$5,000 per family limits the prospects of the approach. Clearly, the whole approach to capital intensive settlement requires reexamination in the light of the magnitude of the problem outlined in Annex I of this paper.

Outgrower Schemes

3.16 Previous mention was made of the problems of distributing the gains from plantation development. (Para. 2.32.) It was suggested that benefits be distributed through the raising of wages and the payment of dividends to the workers. In this area the Bank Group has made a substantial contribution toward a novel form of tenure through the development of "outgrower" schemes. These schemes involve the production of tree crops on smallholdings rather than on large scale plantations. These smallholdings are established around the central nucleus of either a processing plant or a plantation. The central unit provides technical assistance, inputs, and marketing services for the outgrowers who, in turn, sell their products through the central organization.

3.17 The Bank Group has participated in nine such projects--at a cost of \$125 million of which the Bank has contributed \$68 million--affecting some 120,000 families. These have included tea projects in Kenya, Uganda, Mauritius and Indonesia, rubber in Malaysia and Indonesia, cocoa in the Ivory Coast, and oil palm in Nigeria. The average holding in each project has ranged from 10 hectares in Senegal to an acre in Kenya. In the main, the size of holdings for outgrowers is small, although large enough, under labor intensive cropping

systems, to employ a family and produce enough of a high unit value commodity to yield an income well in excess of that earned by producers of staple commodities who have similar sized holdings. While this system has made a valuable contribution toward establishing viable smallholders, it is only effective when there is a commodity that can be handled through a central processing system.

Irrigation

3.18 The Bank Group has invested some \$1.45 billion in irrigation, flood and drainage projects. While these projects covered many facets of water storage and distribution, most were intended to improve the use of water and bring more land into intensive production. To this end the Bank Group has worked with various governments in determining the most appropriate size of holding for the beneficiaries of each project. For example, eleven projects costing \$342 million (incorporating a Bank investment of \$190 million) are expected to improve 810,000 hectares and benefit more than 500,000 families. Average size holding in the irrigated areas ranges from 10 hectares in Iraq to one hectare in Korea, Ceylon, Pakistan, or an average 1.6 hectares per family over all the projects.

3.19 In many instances, irrigation projects are subject to special regulations or laws regarding the size of holding that can be held by the beneficiary. Thus, in Mexico, Bank Group sponsored projects have conformed to the law which limits the size of irrigated holdings to a maximum of 10 hectares. Elsewhere, problems have arisen because there is no legal provision regarding size of holding or because the law has been ignored. In some instances the Bank Group has insisted on special legislation giving tenants security of tenure. But in practice the Bank has found this difficult to enforce, and Governments have not incorporated fully.

Rural Credit

3.20 While in itself farm credit is an important instrument for reaching particular size groups in agriculture, access can be restricted by tenurial arrangements if lending criteria specify that registered land titles be used as collateral for borrowing. This question has been discussed more fully in the paper "Bank Policy on Agricultural Credit." Bank Group projects have provided more than \$1.0 billion for rural credit. Most of these resources have aided larger commercial producers, though in recent years there has been a pronounced trend toward lending for smaller producers. By the end of 1973, an estimated \$250 million had been allocated for small farmers.

3.21 In some instances the Bank Group has made loans on condition that the recipient government take steps to ensure that the intended beneficiaries do indeed gain from the investment. However, in several instances, the governments concerned have not fulfilled obligations regarding the provision of security for tenants or the allocation of land to low-income groups. In other instances, governments have failed to implement conditions provided for by existing legislation on rights to land; or they have failed to introduce legislation

which would have met the conditions specified in the loans. This highlights one of the major dilemmas confronting an international lending agency concerned with promotion of land reform as an instrument of economic development. That is, to what extent can the Bank influence the course of events regarding distribution of land, and income from the land, in the sovereign states that are members of the Bank Group?

Major Policy Options

3.22 The Bank has to recognise that its leverage is limited as it seeks to redefine its position with regard to land reform. Using Bank Group finance to gain a developmental impact through land reform involves highly complex issues at the project level, and the potential for using Bank influence to press or even force the issue of structural reform on member countries is severely circumscribed. Such political decisions are not amenable to ready negotiation with the governments in the same way as are other institutional questions-- such as, for instance, the setting of public utility rates.

3.23 The Bank Group would seem to be left with only two options. First, in those countries interested in pursuing land reform the Bank can give support in the form of technical assistance and finance for reform related projects. It should give overt priority in lending to those countries and projects which meet land reform criteria. Second, in those countries where there is no government interest in land reform the Bank should: (i) study the situation in all cases; (ii) call the attention of the government to the problems associated with the existing tenure system, and enter into a dialogue on the subject; (iii) support land reform proposals when they are made officially; and (iv) not lend for projects if tenure arrangements are so bad that they frustrate the achievement of Bank objectives. These options are reflected in the policy recommendations provided in this paper.

Table 3.1

COSTS OF SELECTED SETTLEMENT
PROJECTS FINANCED BY THE BANK GROUP

Country	Project	Total project costs (US\$m.)	Bank Group Finance			Number of families ^{2/} to be settled	Estimated project costs per family ^{4/} (US\$)	Average farm size (ha)	Settlement on
			Amount (US\$m.)	Loan or credit	Date				
Brazil	Alto Turi Land Settlement Project	12.6	6.7	loan	1972	5,200	2,423 ^{5/}	40	public land
Colombia	Atlantico No. 3 Irrigation	15.7	9.0	loan	1967	2,500	6,280 ^{6/}	4.0 ^{7/}	INCORA land (involved appropriation of private land)
	Second Atlantico Development	9.7	5.0	loan	1972	6,800	5,389	11	
	Caquita Land Colonization	21.6	8.1	loan	1971	5,300 ^{2/}	3,429	na. ^{8/}	
Ethiopia	Wolamo Agricultural Project	2,325 ^{1/}	3.5	credit	1969	1,050	2,214	6	public land
Kenya	Land Settlement and Development	6.9	3.9	credit	Rev. 303KE 1969	5,200	1,327	14.3	European-owned land
Malawi	Korongwa Rural Development	7.8	6.6	credit	1972	2,830	2,756	6	public land
Malaysia	Jengka Triangle	29.1	14.0	loan	1968	2,770	10,505	4.8	public land
	2nd Jengka Triangle	41.0	13.0	loan	1970	3,000	13,667	4.3	public land
	3rd Jengka Triangle	43.3	25.0	loan	1973	4,000	10,825	4.5	public land

Source: IBRD and IDA, Appraisal Reports

- 1/ \$2.730 million used for agricultural development on highlands are excluded from the settlement cost.
- 2/ Except for Kenya, figures represent goals rather than actual state of settlement.
- 3/ Includes 2,800 new settlers and 3,500 partially established settlers.
- 4/ Project costs as estimated in the Appraisal Reports do not necessarily reflect total economic costs of settlement.
- 5/ The cost to the government is US\$1,700 per family settled. This excludes expenditures on health, education, research and related studies. These cost expenditures are now under review and expected to be considerably higher than the originally anticipated.
- 6/ The cost per small farmer settled is estimated to be US\$17,000, whereas the cost per middle-size farmer remaining in the project area is \$100,000. See IBRD, Operations Evaluation Report: Colombia, VI (Preliminary Draft), October 31, 1971, p.198.
- 7/ The original goal was to settle 2,500 landless peasants and develop 9,900 hectares. The project is two years behind schedule.
- 8/ Although 2,800 new settler families are scheduled to be settled on some 280,000 ha, no data on the farm size of 3,500 partially established settlers are given.

ANNEX I

CONTEXT OF LAND REFORM

Population to Land Ratios

1. The total land area of the globe encompasses some 13,393 million hectares made up of 1,457 million hectares of cropland, defined as arable land and land under permanent crops (10.8 percent); 2,987 million hectares under permanent pasturage (22.8 percent); 4,041 million hectares under other uses (36.4 percent). Of the arable land, approximately 31 percent is in Asia; 19 percent in North and Central America; 16 percent in the USSR; 15 percent in Africa; 10 percent in Europe; 6 percent in South America; and 3 percent in Oceania.

2. The world's population was estimated to be approximately 3,617 million in the early 1970s. This represents an average of 3.9 hectares of land, or close to 0.40 hectares of cropland, per person. The world's agricultural population -- defined as population depending on agriculture for its livelihood -- is estimated to be 1,851 million, or 51 percent of the total population. On the basis of the global figures there is an average of 0.88 hectares of cropland per person in agriculture.

3. The relationship between population and land in all major regions and for 50 selected countries is shown in Tables 1 and 2 respectively. Among other things, the tables reveal that:

- (a) More than 70 percent of all rural people live in Asia, which has approximately 31 percent of the world's cropland. The ratio of agricultural population to cropland in Asia is the lowest among all the major regions, averaging 0.35 hectares per person. Together, Mainland China and India have an agricultural population of close to one billion, while Indonesia, Bangladesh, and Pakistan have a further 180 million. Of the Asian countries, Burma has the most favorable ratio of cropland to rural population (1.08) followed by Pakistan (0.69), Malaysia (0.57), and India (0.44), as compared with Indonesia (0.22), Mainland China (0.19), Bangladesh (0.16). The least favorable ratio is found in South Korea and North Vietnam (each with an estimated 0.13). It is notable that Taiwan and Japan have ratios of 0.14 and 0.26 arable acres per person in agriculture; Japan being the only developed country with such a low ratio -- well below the 1.63 of Europe and 5.02 of North and Central America.
- (b) South America accounts for 4.0 percent of the world's agricultural population and 5.8 percent of the world's cropland. Although 13 percent of the land area of the world is in South America, almost half of that area is in forests and woodlands, 20 percent is in pastureland and only between 5 and 6 percent is in cropland. However,

as only 39 percent of the population is in agriculture there is an average of 1.14 hectares of arable land per rural person. Argentina and Uruguay have high ratios of agricultural land to rural population, the most favorable in the developing world (7.03 and 4.04 respectively). Venezuela, Chile, Bolivia, Mexico, and Cuba have ratios of more than one hectare per person in agriculture; Brazil, Colombia, Peru and the crowded Central American Republics have ratios of less than one hectare per rural person; Haiti with 0.10 hectare per person in agriculture appears to have the most unfavorable ratio in the world.

- (c) Africa has 13 percent of the world's rural population and occupies close to 15 percent of the world's cropland with an average of 0.90 hectares of cropland per person in agriculture; 67 percent of the population depends on agriculture, a higher proportion than in any other region. The most favorable ratio in tropical Africa appears to be in the Ivory Coast with 2.22 hectares per person in agriculture. Uganda, Ghana, Nigeria, and Zaire have between close to 0.50 hectares and 0.70 hectares per person in agriculture. Rwanda with 0.21 hectares per person in agriculture is one of the handful of countries in tropical Africa that has a pressure on land resources that is greater than the average in Asia.

4. The above brief summary indicates the wide range of differences that prevail with regard to population densities in the rural areas in different regions and among various countries of the developing world. These data indicate that, by and large, it is the countries with a high proportion of population in agriculture that have the less favorable ratios of population to land; they are also among the poorest countries in the world. Further, these are also the countries in which population is increasing at a rapid rate and where raising agricultural output is perhaps most difficult.

Population and Production

5. The proportion of population in the rural areas of developing countries, while declining relative to total population, is increasing in absolute numbers. Despite rapid migration out of agriculture and the explosive growth of certain areas, there has been an increase and even an acceleration in the rates of growth of the rural population in all regions of the world other than Africa. Table 3 shows the trends in rates of growth between 1950-60 and 1960-70, with overall growth rates rising from 1.9 percent to 2.1 percent and the largest regional rate of increase being the rise from 1.8 percent to 2.1 percent in the Far East (where rural population is already very dense).

6. The increasing population has added to the population pressure on the land. Historically, this pressure has been relieved through the expansion of acreage along a frontier of cultivation. Indeed it was the expansion of the frontier in the new lands of North America, Argentina, South Africa, and Australia that helped relieve population pressure in the first period of generalized population growth in the late eighteenth century. It was in these areas, where population growth was swollen by an influx of migrants, that there were rates of population increase that compare with the rates today in many of the poorer countries. However, since the frontier is fast disappearing in most of the poor countries of today, so are the opportunities for low-cost expansion of acreage under cultivation. The changing situation is difficult to document at an aggregate level, but Table 4 gives some perspectives on trends in expansion of cropped areas and production.

7. The rate of expansion in acreage fell, in the aggregate, between the 1950s and the 1960s. The only exception is Latin America where the acreage under cultivation grew from a rate of 1.8 to 2.5 percent a year; the rate of increase in expansion of acreage slowed down in all other areas, halving in the Near East from 2.2 percent a year to 1.1 percent. When the rates of growth of population are compared with rates of increase in acreage under cultivation, it appears that rural population was increasing at around the same rate as the cropped areas during the 1950s, but increased more than one and a half times as fast as the cropped area during the 1960s.

8. As is shown in Table 4, production increased at the same rate during the 1950s and the 1960s. A consistent rate of increase in output with an increasing rural population indicates a decline in the rate of growth of output and incomes; from 0.9 percent per annum in the 1950s to 0.7 percent per annum in the 1960s. At the same time as average per capita income was increasing at a declining rate, yields per acre rose very moderately -- in this instance an increase of around 0.4 percent a year between the 1950s and 1960s.

9. The increase in population and slow expansion of the area under cultivation have worsened man-land ratios. The worsening of these ratios, arising from constraints on the low-cost expansion of acreage under cultivation, makes it increasingly difficult to accelerate rates of growth of output and income in agriculture. This is because raising yields requires a higher level of technology and management compared with increasing output or expanding acreage under cultivation. It is only in recent years that there has been a concerted effort to develop technologies to raise yields of staple crops grown in the developing areas. Hitherto, these efforts have been confined to a handful of crops and the successes attained have been limited to a relatively small area of the developing world. There are some fortunate countries, such as Nigeria, that have some land resources available for future development through expansion of acreage under cultivation. But many other countries have little or no unused land and so the situation is correspondingly worse. The emphasis in the latter countries will have to be placed increasingly on raising yields per hectare.

10. The increasing pressure of population on the land highlights the issue of absorptive capacity in agriculture. There are considerable opportunities for increasing employment and production in agriculture in most of the developing countries. This applies to the more densely populated regions as well as to others. Table 5 shows the startling differences in input of agricultural labor and output per hectare in developing countries of Asia on the one hand and in Japan on the other. Japan is a country of small holdings and has approximately two workers per hectare with an average output of \$397 per worker and \$762 per hectare. Several other countries have a higher ratio of workers to the land than Japan. One country, Malaysia, has a higher output per worker in agriculture than in Japan. However, the point to be emphasized is that if the level of labor intensity of two workers per hectare prevailing in Japan could be attained in countries such as Pakistan and India, the agricultural sector in those two countries could absorb all the labor force expected by 1985. This kind of labor intensity is not likely to be reached, however, because of the smallness of the irrigated area in Pakistan and India, and other constraints related to technology, resource base, land tenure, and capital formation in these regions.

11. It is reasonably clear that whatever is done will only partially satisfy the ever-rising demands for work and income in the many less-developed countries that are faced with the general problems of high population growth, low incomes, and increasing unemployment. With very few exceptions, the poverty and unemployment problems of the less-developed countries are unlikely to have any long-term solutions that do not include a reduction in population growth, urban as well as rural. Nonetheless, even if effective birth control could be introduced overnight, there will still have to be special and possibly extraordinary measures to satisfy the expanding demands for work and income from today's children. Such measures include those related to land reform.

Distribution of Land

12. The ratio of population to land tells us nothing about the distribution of the land among the rural population: countries with dense rural populations can have a more even distribution of land than countries with sparse populations. The most recent data on distribution of holdings by size is given in the worldwide census of agriculture held in the early 1960s. This covered 83 countries, including all of the larger countries that are members of the Bank Group except Nigeria, Romania, Ecuador, Bolivia, and Afghanistan.

13. The census provides a breakdown of distribution by size of 138.3 million holdings in the 83 countries. There is also a breakdown of the distribution of land and cropland by size of holding for 64 countries (which account for all but 9 percent of the land in the 83 countries covered in the census). Table 6 combines the two sets of information to give an indication of the distribution of land and cropland by size of holding.

14. The information in Table 6 shows the following:
- (a) 53.9 million holdings, or 39 percent of all holdings are under one hectare in size; if the patterns in the 83 countries is the same as in the 64 countries for which there are data on distribution of size and distribution of land then these holdings occupy 1.1 percent of the land area and 3.4 percent of the cropland.
 - (b) 109 million holdings, or 78.8 percent of all holdings, are less than 5 hectares in size; based on the same assumption as above these holdings will account for approximately 6.8 percent of the land under farms and 20.7 percent of cropland.
 - (c) One million holdings of 200 hectares or more represented less than 0.8 percent of all holdings in the 83 countries; in the 64 countries surveyed farms of this size group accounted for 66 percent of all land under farms and nearly 25 percent of all cropland.

15. The data confirms that, when viewed in the aggregate, the distribution of land and cropland is highly skewed. If the distribution of holdings by size in 84 countries represents a global picture, and if the distribution of 91 percent of the land reflects the pattern of distribution of all the land, then: holdings above 50 hectares in size, which represent 3.2 percent of all holdings, account for 78.8 percent of the farmland and 45.3 percent of all the cropland, i.e., roughly 3 percent of all holdings (in the aggregate) accounts for slightly less than half of the arable land and land under permanent crops and more than three-quarters of all land under farms. Conversely 97 percent of all holdings accounts for less than one-quarter of all land under farms and slightly more than half of the area under crops.

16. The information on distribution of holdings by size refers to the 83 countries, both developed and developing, covered by the census. There were an estimated 16 million holdings of less than 5 hectares in the developed world: 6 million in Japan and 10 million in Europe. Thus there were some 122 million holdings in the less developed countries of which some 92 million were less than 5 hectares in size; approximately half of these holdings were less than 1 hectare and the remainder were between 1 and 5 hectares in size.

17. It is safe to conclude that there are well in excess of 100 million holdings of less than 5 hectares in the developing world at the present time. This conclusion is derived as follows: the 1960 census indicated there were approximately 92 million smallholders in 83 developing countries, excluding those in Nigeria, Afghanistan, Ecuador, and Bolivia. Together, at the time of the census, these countries had an agricultural population estimated to be close to 50 million people, or 10 million families, most of whom were farming on units of less than 5 hectares in size. Thus it is highly likely that there were already close to 100 million holdings of less than 5 hectares in 1960. Between

1960 and 1970 the agricultural population in the developing countries has increased by a reported 190 million persons, or by more than an estimated 35 million farm families. Preliminary indications are that there has been an increase in fragmentation of holdings in many of the more densely populated countries as well as in those countries that have skewed distribution of land. Consequently, it is safe to assume that the census forthcoming in the 1970s will reveal that there are well in excess of 100 million smallholders in the developing world; in all probability, more than half of their holdings are less than one hectare in size.

18. The 1960 census data also provided information on holdings by size and land area for different regions and countries. The most comprehensive regional and national analysis for the 83 countries deals with holdings of one hectare or more in size and pertains to 84.4 million holdings covering 2,242 million hectares. Obviously, this is not complete coverage, excluding, as it does, holdings of less than one hectare. However, it does provide insight into the patterns of distribution of holdings within the major regions. The results are summarized in Table 7.

19. The analysis indicates the vast differences in patterns of land holding and distribution of land between Asia and the other regions. The contrast between Asia and the Americas is highlighted by the fact that 78 percent of the holdings larger than 1 hectare in Asia are less than 5 hectares in size and occupy 40.7 percent of the land; the 36.4 percent of holdings in South America and 23.4 percent in North and Central America that are less than 5 hectares in size occupy only 1 percent and 0.5 percent respectively of the area under farms in these areas. Only 9 percent of the area in Asia is in holdings of more than 50 hectares; as much as 34.7 percent in Europe and more than 90 percent in North and Central America, South America, and Oceania, was in farms of more than 50 hectares in size.

20. The data for Africa as presented in the census are misleading. This is because the 1960 census had poor coverage of that continent with the data on the distribution of holdings by size and acreage for the 18 countries surveyed heavily weighted by the results in South Africa and Southern Rhodesia, and the confining of measures in Zambia to European holdings and in Tanzania to commercial holdings. If these are excluded from the sample then the land of under 5 hectares held by smallholders is much more than 50 percent of all land.

21. The analysis of distribution of holdings by size on a regional basis points to the highly skewed distribution in the Americas; the pattern of holdings in the eight major countries in Latin America helps explain this, as shown in Table 8. The information confirms that a very high proportion of all land -- ranging from 84 to 97.5 percent -- in the 8 countries is held in holdings of more than 50 hectares in size. At the other end of the spectrum only 5 percent of the land in the 8 countries is in holdings of less than 5 hectares (even though these holdings constitute between 14 percent and 74 percent of all holdings).

22. A further partial measure of concentration of holdings is given by the Gini coefficient -- an index of concentration based on the departure of an existing pattern of holdings from an even distribution, as revealed by a Lorenz curve. The Gini coefficient has been estimated for 31 countries which have been grouped into three categories, as shown in Table 9. As can be seen, the Gini coefficient indicates a high concentration in six South American countries included in the sample; on the other hand countries such as Taiwan, Canada, Japan, and Sweden have a low concentration of holdings. Clearly there is a wide range in the distribution of holdings by size in different parts of the world. The most skewed distribution appears to be in Latin America where there is a relatively low rural population density; at the same time the distribution of land appears to be much less skewed in many areas with a very high density of population, notably Asia and Europe. It is of special interest that two of the countries with dense populations and very little concentration of land holdings are Japan and Taiwan.

23. The distribution of land by size of holdings is "a geographical phenomenon" and must be interpreted with caution in a socio-economic context. The distribution of land may indicate little about the international distribution of wealth or income -- 5 hectares of irrigated land in Japan would most certainly yield an income well in excess of that yielded by 100,000 acres in parts of Northern Australia. Similarly, within countries, the pattern of distribution of land may not reflect the pattern of distribution of wealth or the socio-economic conditions that prevail in a given country -- two hectares of irrigated land in the Medjerda Valley of Tunisia, producing tomatoes, yield a far greater income than do 1,000 hectares of land used for sharecropping in the semi-arid parts of Tunisia's central area.

24. The caveats on quality of land and ecological conditions governing land-use patterns must be borne in mind. The evidence presented here (and elsewhere) indicates, however, that most of the agricultural land and cropland is concentrated within a relatively few holdings. It also indicates that the greatest skewness in distribution is in the Americas, and that this skewness is by no means confined to Latin America.

Tenants and Farm Laborers

25. The distribution of holdings by size and population densities indicates nothing of the status of those who hold the land or the numbers of landless. There are only limited data on these; Table 10 shows some available information on the number of renters and sharecroppers in 15 countries and the percentage of farms and areas of farmland they occupy. Table 11 indicates landless farm workers in 12 countries.

26. This limited sample indicates that renting and sharecropping is widespread in all the major regions of the world. In countries such as Vietnam, Iran, and Egypt, more than two-thirds of the farms, occupying much more than half of the land, are farmed by tenants or sharecroppers. However, in other countries such as Guatemala and Tunisia less than a quarter of the farms are rented or sharecropped; all in all, in the 15 countries, out of 82 million holdings there are close to 29 million renters and sharecroppers.

27. Renting or sharecropping of land is a common practice in both developed and developing countries. In some parts of the world the rights of those who rent land are protected by law or custom and renters enjoy the same working conditions as owners of land. In other areas, however, renters and sharecroppers are in a very tenuous position when it comes to negotiating arrangements with landlords, and they commonly give as much as half their output in return for the use of land and services provided by the landlord.

28. The conditions that govern rental agreements and crop-sharing arrangements differ throughout the world. In most developing countries, where there is widespread tenancy, there is heavy dependence on the landlord -- usually an absentee landowner -- for the provision of purchased inputs. Another widespread characteristic is the absence of written registered agreements governing the conditions of tenancy and the rights of tenants (even though there may be laws stipulating what these should be). Tenants and sharecroppers typically operate under conditions of great insecurity and are in a weak bargaining position vis-a-vis the landlord. Frequently, the tenants are among the lowest income groups in agriculture. The insecurity of tenants has been highlighted by their displacement on short notice when technological change has made it more profitable for landowners to mechanize their holdings -- as has happened in India, Pakistan, and Ethiopia.

Landless Workers

29. The number of landless farm workers in the developing countries is increasing. There are approximately 100 million farm wage workers (including family members and heads of families with very small landholdings) in the 22 countries for which data are provided in Table 11. This figure includes an estimated 70 million in India alone -- about 47 percent of the active population in agriculture. There are about 10 million such workers in Latin America. Even in Argentina and Uruguay (with only 15 percent of the active population depending on agriculture) more than half of the workers are essentially landless. In the remaining countries of the region, the proportion ranges from a minimum of about one-fourth in Honduras and Brazil to a maximum of approximately two-thirds in Chile.

30. There are almost no reliable estimates of the unemployed in the rural areas. It is usually assumed that the labor force subsists off a holding and joins in some arrangement with the extended family whereby it shares work and output. The emergence of a landless wage-earning class confirms that there is a growing rural labor force that has to rely on work outside the traditional sectors for its livelihood. This group is increasing in size and the provision of employment for what is already a large rural proletariat may well be one of the greatest challenges facing national governments in the future.

31. There is a vast amount of underemployment in the rural areas of most countries of the world. The nature of this underemployment has been discussed elsewhere. At this juncture, it should be pointed out that the

redistribution of idle land can provide added employment, but that the prospect is limited for redistribution of land providing full employment for all the present and prospective population in the rural areas of densely populated countries. Structural changes within agriculture can help alleviate underemployment and open unemployment, but the problems of reducing nation-wide unemployment have to be seen in a national rather than a sectoral context.

Table 1: REGIONAL DISTRIBUTION OF LAND, CROPLAND, AGRICULTURAL POPULATION AND ACREAGE PER PERSON IN AGRICULTURE

Region	Land area (million ha)	Cropland		Rural Population		Agricultural population as percentage of total popu- lation	Cropland area per rural person (ha)
		(million ha)	Distri- bution (%)	(million)	Distri- bution (%)		
Europe	493	145	10.0	89	4.8	17	1.63
U.S.S.R.	2,240	232	15.9	77	4.2	32	3.01
North and Central America	2,242	271	18.6	54	2.9	17	5.02
South America	1,783	84	5.8	74	4.0	39	1.14
Asia	2,753	463	31.8	1,314	71.0	64	0.35
Africa	3,031	214	14.7	239	12.9	67	0.90
Oceania	851	47	3.2	4	0.2	4	11.75
Total	13,393	1,456	100.0	1,851	100.0	51	0.787

Source: FAO Production Yearbook, 1972

Table 1: REGIONAL DISTRIBUTION OF LAND, CROPLAND, AGRICULTURAL POPULATION AND ACREAGE PER PERSON IN AGRICULTURE

Region	Land area (million ha)	Cropland		Rural Population		Agricultural population as percentage of total popu- lation	Cropland area per rural person (ha)
		(million ha)	Distri- bution (%)	(million)	Distri- bution (%)		
Europe	493	145	10.0	89	4.8	17	1.63
U.S.S.R.	2,240	232	15.9	77	4.2	32	3.01
North and Central America	2,242	271	18.6	54	2.9	17	5.02
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Total	13,393	1,456	100.0	1,851	100.0	51	0.787

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Table 2: CROPLAND IN RELATION TO POPULATION BY COUNTRIES

Country	Cropland hectares '000	Total population '000	Agricultural population '000	Hectares of cropland per person of:	
				Total population	Agricultural population
Asia					
China, Mainland	110,300	850,406	568,921	.13	.19
" Taiwan	867	14,520	6,171	.06	.14
Japan	5,510	103,540	21,329	.05	.26
Korea, North	1,894	13,674	7,275	.14	.26
" South	2,311	32,422	17,300	.07	.13
Burma	18,941	27,584	17,570	.69	1.08
Indonesia	18,000	119,913	83,230	.15	.22
Malaysia	3,524	10,931	6,176	.32	.57
Philippines	8,977	38,493	26,752	.23	.34
Thailand	11,415	35,814	27,398	.32	.42
Vietnam, North	2,018	20,757	16,108	.10	.13
" South	2,918	18,332	13,620	.16	.21
Bangladesh	9,500	71,000	60,000	.13	.16
India	164,610	550,376	372,605	.30	.44
Nepal	2,090	11,040	10,112	.19	.21
Pakistan	24,000	60,000	35,000	.40	.69
Africa					
Angola	900	5,501	3,568	.16	.25
Ghana	2,835	8,832	4,840	.29	.59
Ivory Coast	8,859	4,916	3,986	1.80	2.22
Nigeria	21,795	76,795	45,423	.32	.48
Rwanda	704	3,609	3,277	.20	.21
Uganda	4,888	8,549	7,342	.57	.67
Zaire	7,200	17,493	13,701	.41	.53
Latin America					
Cuba	3,585	8,407	2,755	.43	1.30
Guatemala	1,498	5,180	3,246	.29	.46
Haiti	370	4,867	3,754	.08	.10
Mexico	23,817	50,670	23,617	.47	1.01
Puerto Rico	236	2,784	387	.09	.61
Argentina	26,028	24,353	3,704	1.07	7.03
Bolivia	3,091	4,931	2,873	.63	1.08
Brazil	29,760	93,565	40,869	.32	.73
Chile	4,632	9,780	2,484	.47	1.86
Colombia	5,258	21,117	9,541	.25	.55
Peru	2,843	13,586	6,189	.21	.46
Uruguay	1,947	2,886	482	.67	4.04
Venezuela	5,214	10,997	2,887	.47	1.81
Europe					
Italy	14,930	53,667	9,735	.28	1.53
Portugal	4,370	9,630	3,523	.45	1.24
Spain	20,601	33,290	11,222	.62	1.84
Yugoslavia	8,205	20,527	9,651	.40	.85
Hungary	5,594	10,310	2,484	.54	2.25
Poland	15,326	32,805	9,940	.47	1.54
Romania	10,512	20,253	10,503	.52	1.00
U.S.S.R.	232,809	242,768	77,322	.96	3.01
Denmark	2,678	4,921	595	.54	4.50
Germany, West	8,075	61,682	3,514	.13	2.30
" East	4,806	17,257	2,133	.28	2.25
Sweden	3,053	8,046	754	.38	4.05
United Kingdom	7,261	55,711	1,540	.13	4.71
North America					
Canada	43,404	21,406	1,712	2.03	25.4
United States	176,440	205,395	8,216	.86	21.5
Oceania					
Australia	44,610	12,552	1,049	3.55	42.53

Source: Folke Devring, Land Reform: Ends and Means; A Background Study to the IBRD Policy Paper on Land Reform, March 1973, pp.54-56.

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Thailand	11,415	35,814	27,398	.32	.42
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Source: Folke Devring, Land Reform: Ends and Means; A Background Study to the IDRD Policy Paper on Land Reform, March 1973, pp.54-56.

Table 3: RURAL POPULATION GROWTH BY REGION

	Annual Percentage Rate	
	1950-1960	1960-1970
TOTAL	<u>1.9</u>	<u>2.1</u>
Latin America	1.4	1.5
Far East	1.8	2.1
Near East	1.8	1.8
Africa	2.4	2.2

Source: Kingsley Davis, World Urbanization, 1950-1970, Vol. I, 1969

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Source: Folke Devring, Land Reform: Ends and Means; A Background Study to the IBRD Policy Paper on Land Reform, March 1973, pp.54-56.

Table 4: CROPPED AREA AND PRODUCTION TRENDS BY REGIONS

	1953/55-1962/63		1961/63-1969/71	
	Production	<u>Average Annual Growth Rate</u> Area	Production	Area
All Regions	2.8	1.9	2.8	1.4
Latin America	3.1	1.8	2.9	2.5
Far East	2.5	1.9	2.8	1.1
Near East	3.8	2.2	2.7	1.1
Africa	3.0	1.7	2.6	1.2

Table 5: FAR EAST AGRICULTURAL LABOR FORCE AND PRODUCTION, 1970

Country	Agri- cultural workers per 100 ha	Indices	Net agri- cultural produc- tion per ha	Indices	Output per worker	Indices
		Japan = 100	US\$	Japan = 100	US\$	Japan = 100
Burma	48	25	71	9	148	37
Ceylon	107	56	286	38	266	67
India	92	48	115	15	150	38
Indonesia	224	117	283	37	126	32
Laos	153	80	119	16	75	19
Khmer Republic	75	39	146	19	194	49
Korea, Rep. of	261	136	440	58	169	43
Malaysia	74	39	366	48	492	124
Nepal	229	119	220	29	96	24
Pakistan	101	53	218	29	215	54
Philippines	113	59	178	23	158	40
Thailand	119	62	179	23	150	38
Vietnam, Rep. of	242	126	241	32	100	25
Average	103	54		21	155	39
Japan	192	100	762	100	397	100

Sources: Column 1: International Labor Office, Labor force projections. Pt. 1-V, Geneva, 1971.

Columns 3 and 5: FAO: Compiled from value of output calculated for the agricultural production index.

Table 6: DISTRIBUTION OF HOLDINGS BY SIZE AND PERCENTAGE
OF TOTAL HOLDINGS; DISTRIBUTION OF HOLDINGS
BY PERCENTAGE OF LAND AND CROPLAND

Size distribution	Number of holdings		All land in holding %	Cropland in holding %
	(millions)	Percentage distribution		
Under 1 ha	53.9	38.9	1.1	3.4
1 ha and under 2	26.55	19.2	1.7	5.3
2 ha and under 5	28.73	20.7	4.0	12.0
5 ha and under 10	13.24	9.6	4.2	11.5
10 ha and under 20	7.27	5.2	4.4	10.7
20 ha and under 50	4.40	3.2	5.8	11.8
50 ha and under 100	1.97	1.4	5.8	9.8
100 ha and under 200	1.40	1.0	6.6	11.0
200 ha and under 500	0.67	0.48	8.6	11.5
500 ha and under 1000	0.23	0.16	6.5	5.9
1000 ha and over	0.23	0.16	51.3	7.1
Total	138.59	100.00	100.00	100.00

Source: FAO, Report on the 1960 World Census of Agriculture, V,
Rome, 1971, pp. 34-36.

Table 7: DISTRIBUTION OF HOLDINGS ABOVE ONE HECTARE BY SIZE AND AREA

	1-5 ha		5-50 ha		50 ha	
	% Holdings	% Area	% Holdings	% Area	% Holdings	% Area
Europe	50	13.0	47.4	52.3	2.4	34.7
North & Central America	23.4	0.5	39.4	8.0	37.2	91.5
South America	36.4	1.0	45.5	8.5	17.8	90.5
Asia	78.2	40.7	21.6	50.2	0.2	9.1
Africa	73.2	3.7	23.7	6.3	3.1	90.0
Oceania	5.5	-	27.7	0.5	66.0	99.5

Table 8: DISTRIBUTION OF HOLDINGS ABOVE ONE HECTARE
BY SIZE AND AREA - SOUTH AMERICA

	1-5 ha		5-50 ha		50 ha	
	% Holdings	% Area	% Holdings	% Area	% Holdings	% Area
Argentina	14.9	0.1	38.5	2.4	46.6	97.5
Brazil	28.1	1.0	52.6	12.8	20.3	86.2
Chile	37.7	0.7	30.3	5.2	32.0	94.1
Colombia	50.3	4.1	40.6	10.1	9.1	85.8
Paraguay	43.5	1.1	51.0	6.6	6.5	92.3
Peru	73.8	4.2	22.9	8.0	3.3	87.8
Uruguay	14.7	0.2	49.2	4.6	36.1	95.2
Venezuela	36.3	1.3	42.9	6.7	20.8	92.0

Table 9: CONCENTRATION OF LAND OWNERSHIP
IN SELECTED COUNTRIES

Table 9: CONCENTRATION OF LAND OWNERSHIP IN SELECTED COUNTRIES

<u>High Concentration</u>	<u>Medium Concentration</u>	<u>Low Concentration</u>
Argentina	Austria	Belgium
Brazil	India	Canada
Colombia	Iran	China (Taiwan)
Iraq	Ireland	Denmark
Peru	Italy	Germany
Spain	Netherlands	Greece
Uruguay	Norway	Japan
Venezuela	Pakistan	Philippines
	Turkey	Sweden
	U.A.R.	Yugoslavia
	U.K.	
	U.S.A.	

Table 10: TENANCY AND SHARECROPPING IN SELECTED COUNTRIES^{1/}

	Renting & Sharecropping as percent of total		Number of Renters and Sharecroppers ^{2/} '000
	Number of Farms ^{3/} %	Farmland %	
<u>Asia</u>			
India	27.3	n.a.	13,350
Indonesia	35.9	25.9	4,392
Malaya, Fed. of	31.2	15.7	141
Pakistan ^{3/}	43.4	57.0	5,271
Philippines	54.3	40.4	1,176
Vietnam, Rep. of	<u>70.3</u>	<u>70.0</u>	<u>1,334</u>
Total	33.0	45.7 ^{4/}	25,664
<u>Near East & North Africa</u>			
Iran	66.7	73.4	1,253
Tunisia	23.3	32.0	76
U.A.R.	<u>62.1</u>	<u>57.2</u>	<u>1,020</u>
Total	61.1	62.6	2,349
<u>Latin America and Caribbean</u>			
Dominican Republic	28.9	n.a.	129
Guatemala	22.4	16.6	93
Nicaragua	26.3	n.a.	27
Trinidad & Tobago	49.5	32.8	18
Chile	49.3	24.4	128
Colombia	<u>31.5</u>	<u>13.5</u>	<u>381</u>
Total	31.4	19.2 ^{4/}	776

^{1/} Data refer to latest available year in 1960's and therefore do not reflect land reform action, on the one hand and changes in the work force on the other.

^{2/} Includes holdings operated under more than one tenure form (21.8%).

^{3/} Includes both Pakistan and Bangladesh.

^{4/} India, Dominican Republic and Nicaragua are excluded, due to lack of data.

Source: Report on the 1960 World Census of Agriculture, Vol. 5, FAO, Rome, 1971, pp.92-97.

Table 11: LANDLESS FARM WORKERS IN SELECTED COUNTRIES^{1/}

	Number of land- less workers	Landless workers as % of active population in agriculture	Active agricultural population as % of total active popu- lation
	'000	%	%
<u>Asia</u>			
India	70,000	47	68
Indonesia	5,673	20	70
Pakistan ^{3/}	8,013	29	70
	83,686	41	68
<u>Middle East & North Africa</u>			
Iran	903	25	46
U.A.R.	1,865	38	55
Algeria	1,099	60	56
Morocco	484	19	61
Tunisia	210	20	46
	4,561	33	58
<u>Latin America & Caribbean</u>			
Costa Rica	122	53	45
Dominican Republic	179	25	61
Honduras	138	27	67
Jamaica	72	41	27
Mexico (1970)	2,499	49	39
Nicaragua (1971)	101	43	47
Argentina	694	51	15
Chile (1971)	378	66	28
Colombia	1,158	42	45
Ecuador	391	39	54
Peru	557	30	46
Uruguay	99	55	17
Brazil	3,237	26	44
Venezuela	287	33	26
	9,912		39

1/ Unless otherwise indicated, data refer to latest year available in 1960's and thus do not reflect recent reform actions on the one hand, and changes in the work force, on the other.

2/ Estimated from a number of unverifiable sources.

3/ Includes population now belonging to Bangladesh.

Source: Unless otherwise specified, data presented here are estimated from ILO Year Book of Labor Statistics, 1971, pp. 43-294, and 1972, pp. 44-301.

EXPERIENCES WITH LAND REFORM

1. The following summaries illustrate selected country experience in land reform over the last three decades. Their inclusion in this policy paper should not be taken as indicative of Bank judgement on what does or does not constitute land reform, nor should the statements be regarded as definitive. Land reform is a complex process in which several socio-economic variables are changed more or less simultaneously. In most cases, the evidence is inadequate to allow identification of causal relationships between reform measures on the one hand and production, income, and social effects on the other, even though it is often feasible to trace correlations, such as that between land distribution and a rise in productivity.

TAIWAN

2. Taiwan's land reform program was implemented in three steps. A reduction of rents in 1949 was followed by the sale of public lands. A land-to-the-tiller program completed the reform in 1953. The proportion of cultivated land under tenancy leases was reduced from 41 to 16 percent, while the proportion of farm families owning all land under their cultivation increased from 33 to 59 percent. On the land remaining under tenancy cultivation, written and secure leases were arranged at much reduced rental rates.

3. Following the reform, the productivity of agriculture has increased, income distribution has become more even, and rural and social stability have been enhanced. Land productivity is highest on holdings below 0.5 hectare. The share of total agricultural income that is consumed has increased only moderately, leaving intact enough income to achieve a fairly high agricultural savings rate.

4. The smooth implementation of the reform program in Taiwan was due to a stable socio-political climate and the many complementary development measures taken before and during the reform. The existence of a thorough cadastral survey, good agricultural research and extension services, a vast expansion of publicly sponsored farm credit during the reform period, and a gradually increasing involvement of tenant farmers in the administration of the program, all contributed to success.

KOREA

5. Land reform in South Korea after the Second World War consisted of a redistribution in 1948 of Japanese property confiscated by the military authorities and between 1950 and 1953 of land in excess of a ceiling of 3 hectares on Korean holdings. The terms of sale were similarly generous towards the buyer in both cases. Some 1.4 million acres (25 percent of the total farmland) were distributed to 1.6 million farmers (approximately 70 percent of all farmers).

6. It has been estimated that before the reform 19 percent of the farmers owned 90 percent of the land, and more than 50 percent of the farmers were landless tenants. Afterwards, 50 percent of the farmers owned all the land on which they worked and 30 percent at least half of it, while only 7 percent remained landless. Considerable socio-political stability has been achieved, together with some income redistribution in favor of poorer rural families and urban workers; but inadequate provision of complementary inputs and unfavorable terms of trade to the agricultural sector, as well as insufficient consolidation of scattered holdings, have reduced the potential production benefits of the reform.

JAPAN

7. The first Japanese land reform program, in 1868, laid the groundwork for Japan's social and economic transformation. The peasantry was freed from bondage, the power of the feudal lords to collect taxes from landowners was broken, and private land ownership was reinforced for the purpose of cash taxation by the central government. Supplementary programs for infrastructure improvement, training and extension, credit services, and promotion of farm chemicals and new crop varieties, were pushed on a large scale. Labor intensity and land productivity rose quickly, with the result that the agricultural sector could provide savings, cheap food, and surplus labor to the industrial sector. The first reform did little, however, to distribute property ownership or reduce income inequality--rather it strengthened the land-owners class.

8. Subsequent to the first reform the tenancy problem grew gradually worse. Large numbers of smallholders lost their property in the agricultural depression at the turn of the century, partly because of heavy land taxes. In the late 1940s a second land reform program was executed. Owners had to sell all land in excess of about one hectare to the government at confiscatory prices. The former tenants were given property rights at an extremely low real cost, which resulted in a thorough restructuring of rural society.

9. The second reform resulted in greater equity, and may also have removed a constraint on the growth of Japanese agriculture. The economic effects were not as enormous as those associated with the first reform. Land productivity did increase after 1947, but some observers regard this as essentially a continuation of a long-term trend (1895-1939) started by the first reform.

10. The second reform worsened, however, the problems of fragmentation and undersized farms. At the time of the reform, the tenancy problem had already been relieved through reduction of excess rural population by the war and absorption into industry. The landlords who were forced to sell excess property were mostly smallholders themselves. Two-thirds of the owners were required to sell less than one hectare, and only six percent more than five hectares. Although the reform increased income equality among farmers, it hampered equalization of rural and urban incomes. Part-time work outside the farm is an outlet, but the farmers concerned are often limited to low-

skilled work. Rural incomes have, therefore, lagged behind, price supports notwithstanding. An attempt to create larger farming units through cooperatives has had little effect. Agricultural policy is now aimed at, among other objectives, an increase of farm income through diversification into horticulture and animal husbandry.

INDIA

11. Land reform in India, pursued since 1950-51, is largely controlled by the individual state governments, with the result that policies and their implementation vary widely. The four major types of reform have been: (i) the abolition of the zamindari^{1/} system; (ii) tenancy reform designed to give the right of purchase to the tenant and improve security of tenure; (iii) ceilings on land ownership and distribution of surplus; and (iv) consolidation of fragmented holdings.

12. By 1961, the intermediary rent and tax collectors, most important of whom were the zamindari, had been abolished. Since tenants continue to pay revenue directly to the government, their economic position has not been greatly improved. The abolition of the zamindari system involved 173 million acres, more than half of the area occupied by holdings. A total of Rs.4.35 billion was paid in compensation, mainly in the form of bonds.

13. Under the tenancy reforms, three million tenants, sub-tenants, and share-croppers had by 1951 acquired ownership under purchase agreements of seven million acres. Security of tenure appears in general to have worsened, however. Landowners have been permitted to resume land above legal ceilings for personal cultivation, and the growth in unreported casual tenancy and share agreements, though inimical to productivity, has allowed landowners to escape the reforms.

14. Under the ceilings legislation, approximately two million acres have been taken over by the government in order to settle tenants and landless laborers. A further 4.2 million acres were formally pledged to the Bhodan (gift) movement, but most of the donated parcels are still in the hands of the donors. Only about 1 million acres out of all granted land have actually been given to landless laborers.

15. Consolidation of land parcels has been more successful and has resulted in a rationalization of holdings covering 69 million acres. It appears to have contributed to a growth in productivity in the northern states of Punjab, Utter Pradesh, and Haryana.

16. It is presently well recognized in India that the reform measures dealing with security of tenure and acreage ceilings are only partially enforced and that many of the state legislatures are not anxious to have such

^{1/} The zamindari were revenue-collectors during the Moghul period. Under the British, they gradually turned into powerful landlords.

radical land reform. It is difficult to see how even a more radical land reform could accommodate the greatly increased population projected for the future; still, there appears to be scope for some distribution which will also assist agricultural production. One possible improvement would be the elimination of casual tenancies; short-term tenants and share-croppers in India have limited access to credit and inputs because of their doubtful tenure. A large extension of credit at reasonable terms, together with accessible marketing channels to small farms in general, and particularly to tenants with secure leases, are required. Provision of these facilities is as essential as further land distribution for attaining the income equity and productivity objectives of India's land reform, and is likely to present fewer problems.

IRAN

17. Iran's land reform started in 1962. Before the reform, 56 percent of the holdings, covering 62 percent of the area under cultivation, were rented. Tenants were rotated annually, a practice which hampered agricultural investment and caused exploitative use of the soil. The largest estates occupied relatively more fertile lands, and owners were often absentee-landlords who contributed little to agricultural production.

18. Former landowners were partly compensated upon expropriation by cash payment, from 10 to 20 percent of the estimated value of their holdings, with the balance paid in bonds in annual instalments. The beneficiaries were to repay the government the expropriation price plus 10 percent to cover administrative charges. As these payments fell behind, the Central Bank funded the difference. The costs to the government were limited to those incurred in carrying over the acquisition costs to the time of final reimbursement.

19. During the first stage of the reform, land ownership was limited to a maximum of one village per owner. Excess land was expropriated and distributed to the tenants. In the second stage, the limit of one village was reduced further to plots of 20-100 hectares (depending on the nature and location of the land). The landlord had five options for the area in excess of the maximum allowed to him, to wit: (i) leasing to the tenants for 30 years; (ii) selling to the tenants; (iii) purchasing the tenants' rights; (iv) dividing the land with the tenants in the same ratio as the customary crop-sharing; and (v) forming an agricultural unit for joint operation by the owner and the tenants.

20. The third and final stage of the reform, which was practically completed in 1971, aimed at conversion of all 30-year leases into smallholdings. Virtually all of Iran's 50,000 villages have undergone land reform and more than three million families have received land.

21. Although agricultural output increased by a total of 18 percent in the first five years of the reforms, it is believed that the land reform program on balance had adverse short run effects on output. It created uncertainty

which discouraged investment in improvements; there was also considerable interference with the normal flow of irrigation water from streams and storage places still controlled by landlords.

22. The reform favored tenants and sharecroppers insofar as it conferred ownership on them or enhanced their security of tenure. Because they were based on the existing distribution of holdings, the reforms did not assist those who were landless. Continuation of the existing inequities of land distribution was regarded as one of the costs of ensuring a speedy enactment of the reform.

23. The ownership and tenancy reforms have been complemented by rural cooperatives, credit and extension services, and increased supply of quality seeds and fertilizers. Many measures were set up in a somewhat improvised fashion. The early accomplishments of the credit program were striking; total lending by the Agricultural Bank tripled between 1960 and 1965, but this growth levelled off after 1966.

MOROCCO

24. Morocco's land tenure problems in the traditional sector differ from those in the relatively modern sector. Of the 5.3 million hectares of total agricultural land, 3.9 million hectares are in the modern sector. Almost 90 percent of the land in the traditional sector is privately owned, while the remainder is owned collectively according to tribal rights. Of the privately owned land in this sector, approximately 45 percent is farmed under sharecropping arrangements. The average farm size is 1.4 hectares. In contrast, most of the land in the modern sector is cultivated in large units, of which approximately 53 percent is owned by Moroccans and 32 percent by foreigners, while 16 percent is owned and cultivated by the state.

25. Apart from the acquisition of land by the state from foreigners, there has not been as much progress on land reform as is desirable. There are two reasons for this: (a) re-distribution of moderately efficient large farms in the modern sector into small farm units, without adequate implementation of supplementary measures, would reduce sorely needed revenue and foreign exchange; and (b) consolidation of holdings in the traditional sector would solidify farm units of inadequate size. Agricultural policy, therefore, stresses measures for the modernization of agriculture, including the expansion of undersized farm units, rather than re-distribution of large state holdings. The basic problems are that Islamic inheritance law would have to be altered in order to prevent further fragmentation, and decisions would have to be made concerning minimum farm size which requires a choice between an elite of medium farmers or an even distribution of smallholders in sub-economic units.

26. By 1972, about 180,000 hectares had been distributed to 11,000 beneficiaries. Out of the total area of 900,000 hectares that were owned by foreigners in 1956, 300,000 hectares have been transferred to Moroccan owners, often in large blocks, by private sales. The government distributed 31,000 hectares to small farmers and an additional 250,000 hectares, which were recovered by the government between 1963 and 1965, became state farms. Since 1966 some of these farms have been resold to the landless or smallholders in

plots that provide a minimum family income of at least DH 4000 (equaling Us\$792 at the rate of exchange prior to December 1971). The purchasers were required to form cooperatives to run their small plots jointly as viable economic units.

27. The distribution program was carried out with popular approval and met with success. Most cooperatives have achieved satisfactory yields and many have introduced new crops. The size of the reform is very limited, however, as only one percent of the landless and owners of less than two hectares have benefited. It is planned to redistribute another 400,000 hectares between 1974 and 1977. While it is a heavy administrative task, this distribution will still only benefit 15 percent of the increment in poor rural households during this period.

YUGOSLAVIA

28. The first land reform in Yugoslavia was undertaken in 1919. In the south and west, bondage was abolished, and the tenants of the Turkish landowners received ownership rights. In the north, the size of the large estates was reduced, but the former landowners were allowed to retain rather large holdings. The implementation took two decades, and resulted in a transfer of ownership of almost 25 percent of the farmland to more than 33 percent of the peasants.

29. The second land reform started in 1945, when all large estates, all land in excess of 25-35 hectares per farm, and the farm property of Germans and other aliens, were expropriated. Half of the seized land was distributed to the poor and landless, while the other half was retained as state property. The state and collective farms created in the late 1940's along Soviet lines expanded to approximately 25 percent of the total cropland. Collective farms were allowed to disband after 1952, however, and by 1956 they accounted for only about 10 percent of all land under cultivation.

30. Aside from the socialist sector, the private sector of individual owners who cultivate their own land remains important, and vast tracts of mountain pastures are still under traditional, collective forms of usage. In 1953, a ceiling of 10 hectares of arable land or its equivalent was imposed on private holdings. The average holding in the private sector is now only 3.9 hectares. The socialist sector includes state farms, producer cooperatives, and general cooperatives. The kombinats, which resemble the worker-managed industrial firms, form the largest and fastest growing socialist element, whereas the producer cooperatives have declined. The general cooperatives are mainly associations for joint input purchases, equipment use, and output sales, and have expanded to about 40 percent of all smallholdings.

31. The socialist sector is reportedly the most productive. This is related to the location of holdings on the better soils and its priority treatment in the allocation of inputs such as fertilizers, machinery, and expertise. However, the bulk of agricultural output still originates from the large group of small farms, consisting of both the cooperatives and the farms outside the socialist sector. The reforms have resulted in a sizeable redistribution of rural income and an increase in peasant participation in rural decision-making, particularly since the mid-1950s.

KENYA

32. Land reform was initiated in Kenya by the colonial administration in 1954 and expanded by the government after independence in 1963. The reform aimed at solving several problems at the same time. These included (i) adjudication and consolidation of holdings under cultivation by African farmers; (ii) resettlement of African farmers on the large farms previously owned by Europeans; (iii) promotion of cash cropping and dairying, and increased production for the market; and (iv) diversification of export output. More than one million acres of land formerly cultivated by Europeans was opened up to Kenyan smallholders, and the rights to about seven million acres were adjudicated and consolidated.

33. The implementation and results of the reforms have been quite successful, notwithstanding political friction and a lack of qualified personnel. An active extension program has enabled smallholders to increase the production of coffee, pyrethrum, maize, wheat, dairy products, and beef. The economic benefits of the adjudication and consolidation of holdings at a cost of £ 5-50 per family seem to have been greater than the resettlement on large farms at a cost of £ 750 per family. Socially, the reforms have created a class of prosperous smallholders. In particular those that were already relatively well-to-do have profited, while the poorest smallholders and nomads have benefited much less from the reform. It was estimated in 1973 that approximately 25 percent of all smallholdings were less than one hectare and about 50 percent less than two hectares, occupying altogether less than four percent of total arable land. The landless amount to approximately 16 percent of the rural population.

MEXICO

34. Having its roots in the revolution of 1910-15, the agrarian reform in Mexico created village groups (ejidos) with usufruct rights to land. Most of the ejidos were formed in the late 1930s and have been operated on an individual rather than collective basis by the ejidatarios. There were 1.5 million ejidatarios in 1960, holding 43 percent of all cropland. Their holdings averaged nearly 30 hectares, of which about seven hectares were arable. These primary beneficiaries of the reform represented 53 percent of all farmers and 26 percent of the rural labor force. Some three million landless rural workers remain and, despite the considerable concentration of ownership that persists in the private sector, 1976 has been planned as a terminal year for land reform.

35. Total ejido production grew very slowly during the first decade of their establishment. Since then the ejidos have increased output about as fast as has the private sector. Incomes to the ejidatarios are almost certainly better than would have been the case without reform, but there are substantial regional differences in natural resource endowment and extent of public investment in complementary infrastructure. More such investment and a mechanism for selective consolidation of small upland lots will be required to ensure a successful distributional impact for many ejidos.

36. Following the land redistribution during the interwar period, the concentration of land ownership increased again between 1940 and 1960. Since then, the concentration may have fallen back as a result of the distribution of another 35 million hectares during the last decade. Also, the income distribution is still skewed. In 1967-68, 50 percent of the farmers earned only 20 percent of all farm income (including personal income from sources other than agriculture). Among ejidatarios, income is more evenly distributed. While the top 10 percent of private farmers receive 60 percent of all private farm income, the top 20 percent of the ejidatarios account for only 45 percent of all ejido income.

PERU

37. Between the start of land reform in 1963 and 1972, a total of 4.7 million hectares have been expropriated. Over 100,000 families have been settled on 2.8 million hectares of this area. Expropriated lands that have not yet been resettled continue to be operated under direct government supervision until a cooperative or SAIS farm organization (see below) has been formed, to which the land title is then transferred. Despite the priority given by the government, implementation is well behind schedule. The target for the current five year plan is to expropriate 26,200 farm units containing 12.7 million hectares, and to redistribute these to some 332,000 families. In 1972, about three-quarters of the target area still remained to be expropriated and reallocated before the end of the five year plan in 1975.

38. The agrarian reform law of 1964 concentrated on redistribution of inefficiently managed latifundia in the Sierra. Well managed productive units were exempted. The more fundamental reform law of 1969 was the basis for the expropriation of the large, productive and profitable sugar complexes of the north coast.

39. Four different categories of farm organizations can receive redistributed land, but the bulk has been placed in the hands of agro-industrial cooperatives. Only a small number of individual farms have been assigned to former tenants, while in a few cases land has been added to the holdings of Indian communities.

40. A unique form of farm organization, the Sociedades Agrícolas de Interés Social (SAIS), is the basic unit of agricultural reform in the Sierra. The SAIS represents an attempt to solve the problem of providing agricultural and social development opportunities to the members of the traditional Indian Communities without jeopardizing the relatively high production and economies of scale attainable on expropriated haciendas. Hacienda production is almost entirely based on extensive grazing of mountain pastures, and early experiences of land distribution in the Sierra indicated a high risk to production if haciendas were taken over as community land or subdivided into small sheep ranches.

41. In any attempt to meet social needs through redistributing land and income in the Sierra, therefore, the government is faced with problems of maintaining or raising productivity levels attainable only through exploitation of scale economies. The SAIS, the proposed solution to this dilemma, accounted in 1972 for 10 percent of the families benefiting from the agrarian reform program. It can be regarded as a second-degree cooperative whose members are social bodies instead of individuals. Membership of each SAIS unit consists of the cooperative of the production unit and of the

communities surrounding it. Each group contributes to the capital of the enterprise on the basis of resources, population, and economic potential; the share of each group is determined by the land reform agency. Management of the SAIS is in the hands of professional employees. Profits are allocated to each member community in relation to its share in the SAIS, and are to be used in community development projects involving schools, roads, power reticulation, and housing. In this manner, surplus manpower is given employment, and the rather meagre profits can be used in developing badly needed physical infrastructure.

42. The debt assumed by each SAIS unit is to be repaid from profits in 20 years following a five year grace period. Debt repayment may become an onerous burden on those units whose profit potential is limited by their physical capacity to expand livestock numbers and by the need to employ high quality technical services. Legally, the full market value of expropriated livestock has to be paid in cash while fixed capital is to be paid for largely in agrarian bonds. Financing the reform is a heavy task for the government.

43. The land reform program alone will not be able to solve the rural unemployment problem. Even if the optimistic five year plan targets are met, employment opportunities in agriculture will increase only from 1.32 million to 1.6 million, while the number seeking work in agriculture will rise from 1.9 million to 2.1 million. There are nearly 800,000 families with insufficient land to provide adequate subsistence which are eligible to benefit through the land reform program. Even if all land which can be expropriated is redistributed, however, about 500,000 families, mostly in the Sierra, will still lack a minimum subsistence land holding.

