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*Some aspects of agricultural development and
international capital flows*

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AGRICULTURE IN A WORLD OF TRANSITION

As Dean Bunting has pointed out, in most countries we have enough technical knowledge to promote agricultural development and where we don't, we know how to get it. But scientific or technical innovation alone is not enough to bring about positive changes in agriculture. The traditional economic and social organization of predominantly agricultural societies may indeed effectively hinder their evolution. Agricultural development in less-developed countries (LDCs) has to be seen also in the context of the changing international economic environment, and particularly in relation to the flow of capital for development.

Agriculture and General Development

In many LDCs agriculture is still the most important economic activity. The farm population is usually by far the largest element in them. The structures of their economies are strikingly similar: three-quarters of the population depends on agriculture for a livelihood; agriculture produces from 40 to 70% of national income, and provides 60 to 80% of foreign exchange earnings. Nevertheless, agricultural production processes are still largely traditional. At least that is how they appear to the casual observer, even though the allocation of resources at farm level under prevailing policy constraints may, in fact, be near optimum.

Consequently, a rather pessimistic assessment of agricultural

development as a potential source of economic growth in LDCs was common in the fifties and even in the first half of this decade. It is still a dogma of Soviet foreign aid policies that agriculture cannot stimulate general economic growth (Falkowski, 1968). In the Soviet view growth can be brought about only through industrialization and expansion of the public sector (Holbik, 1968). This view was shared by many governments of LDCs in the first phase of post-war development and led in a number of cases to a tragic neglect of the agricultural sector. More recent developments, especially the change of United States policy on food aid and the very recent progress made in food production in several parts of Asia, have brought about a widespread change in attitude towards agriculture. Public and private interests alike have become more acutely aware of the problem after the recent food crisis in the Indian sub-continent. To an encouraging extent this awareness is reflected in a change of public policy in a number of countries. One must be careful, however, not to take for granted that the change is necessarily permanent. In most instances the agricultural population has so far not been very successful in formulating its own group interests, especially when they are contrary to those of powerful, though often small, urban segments of the population. One would hope that the new awareness as well as the increasing political weight of the farming community may make the commitments of their governments to farmer-oriented policies essentially irreversible. This would be a marked departure after the decades of political neglect and a vital precondition for vigorous growth and rapid modernization of the crucial farming sector.

Factors of change

Conscious planning for development is a rather recent phenomenon which has so far been mainly oriented towards progressive changes of the economic environment. But it is not only the economic environment that is changing. Economic development is forced by—or itself brings about—a change in the accepted set of values, so long a fixed point in traditional societies. Such forces may not always be economically rational and still find powerful political expression. They need to be reckoned with. Lady Jackson (Ward 1962) has defined for us, in her inimitable way, four such forces at work in the world today. They are so pertinent to an understanding of the complexity of development and especially

of agricultural development that I would like to summarize them here as the frame of reference for my further remarks.

The first force is directed against the very core of traditional society. The idea of being equal—even in a semi-feudal environment—brings about an attitude of hope and sets free a wave of energy which needs to be organized so as to make a constructive contribution to an orderly process of transformation rather than exhaust itself in revolutionary destructiveness. The second force is the idea of progress. Today's thinking in economics is no longer directed to a passive explanation of occurrences, it is directed to the active realization of material changes and opportunities. The third force is the rate at which the human population is increasing. In spite of substantial efforts to check population growth—which may often initially be alien to the organization of society in which they are made—its predictable impact can truly be termed revolutionary.

The fourth force—central to the theme we are discussing at this seminar—is the ever increasing application of science to all economic processes of our life. The application of science requires the availability of capital—a common willingness to save now in order to earn later. The need for such savings and for investment—for domestic and international resource mobilization—is extremely urgent if the backlog in the application of known technology in LDCs is ever to be overcome. It is equally important, and perhaps more difficult, to mobilize and develop human resources. This in turn again depends on savings and especially perhaps on those of the individual.

These forces have led to a rapid evolution in the Atlantic area. We no longer share a common way of life with our ever closer neighbours in the sub-tropical and tropical zones of the world. In their societies none of these forces has been fully at work for a prolonged period. They have had little idea of equality; there was in the past no great urge for material progress; population pressure contributed to the alternation between famine and feast. Traditional societies had little science as we know it and even less a conscious mobilization of resources to apply it.

All this is beginning to change. Great efforts are being made to lessen the gap between the rich nations and the poor. The results so far have often been disappointing and have led to impatience in many quarters. It must be said, however, that the LDCs, about ninety in number, of which almost sixty have attained independence since World War II, are trying to bring about in a couple of decades a transformation that has taken a couple of centuries

in the North Atlantic area. To accelerate this process requires a degree of international cooperation heretofore unknown. It requires the transfer of knowhow and capital on a grandiose scale. But it also requires the availability and further extension of absorptive capacities in the LDCs themselves—in terms of institutional and physical infrastructure, in terms of the acceptance of technological innovation, in terms of policies and procedures as well as in terms of local and international markets and external debt servicing capacities.

The problem of development—and particularly that of agricultural development—is thus inextricably interwoven with world economic trends. I therefore turn now to a brief review of these trends and their implications for our topic.

ECONOMIC TRENDS

Effects of recent economic decline

I would not deem it fitting on this occasion to review trends country by country. Therefore, I must warn you that my following remarks are gross generalizations, concealing wide variations. They do, nevertheless, indicate the general economic environment and restraints under which the struggle for development must proceed.

During the current decade we have witnessed substantial fluctuations in the world economy. World trade increased by about 10% per annum during the first half of the 1960s. The aggregate GDP of the industrialized nations grew by about 5% p.a. The growth of GDP of the developing countries as a group was only slightly less, 4.8% p.a., in the same period. The LDCs had thus not quite reached the growth target set for the Development Decade of the 1960s, namely an increase of 5% p.a. Since this includes oil-producing countries with substantial growth based on a single resource, many LDCs evidently fell far behind the growth target.

In mid-1966, economic expansion in the industrial countries began to slow down. This continued throughout 1967 and became aggravated by severe strains on the international payments and monetary system. A wave of devaluations resulted from this, as well as substantial pressure on the dollar and its gold linkage. Growth of world trade decreased to about 5% p.a. in 1967 and that of aggregate GDP of the industrialized countries to about 2.5% p.a., making for only about one-half the rate of

economic expansion of the early sixties. Obviously this is not a favourable climate for a rapid increase in capital transfers for development.

Furthermore, the recent deceleration of growth of the world economy has adversely affected the demand for most primary commodities. Both the terms of trade for LDCs as well as their share in the world exports have further declined. Today exports from LDCs account for less than 20% of world exports; in 1950 their share was more than 30%. In absolute terms, the value and quantity of exports from LDCs have just about doubled since 1950 while those of developed countries increased nearly four times in value and three times in volume. The underlying trade pattern reveals an even less encouraging picture: the most rapid expansion has been in trade between industrialized nations, while the trade between LDCs themselves increased by less than 4% p.a., and exports from LDCs to developed countries by only about 5% p.a. The foreign exchange earnings capacity of LDCs thus grew at less than half the pace at which world trade expanded. In other words, the rate at which LDCs can finance hard currency development expenditures out of their own earnings is falling increasingly behind that of expansion of world trade. Hence their debt-servicing capacities are not expanding fast enough to enable them to make up for the foreign exchange earnings gap through external borrowing on commercial terms.

Not only has progress in exports been somewhat discouraging, but general economic growth in most LDCs has also slowed down, with the exception of a number of countries in South Europe and the Middle East, the latter mainly because of the oil economy. In terms of real GDP, South Asia's economic growth was not more than 3.4% over the period 1960-1966, and that of Africa only 3.3%. East Asia achieved 4.8%, and Latin America, in spite of sluggish developments in Brazil and Argentina, 4.7% (Friedman 1968). In all these cases, however, population has continued to increase rapidly. Between 1960 and 1966 the population of Asia for instance has increased by some 200 m people—which is equal to the population of the USA or of the USSR. As near as can be ascertained, population growth in LDCs rose on average from around 2.2% p.a. in the 1950s to 2.6% in the 1960s. *Per caput* growth rates have been less than 2% p.a. in most LDCs, and particularly in the populous South Asian countries as well as in Africa, averaged even below 1% p.a.

Capital resources in LDCs

The consequences for resource mobilization and capital formation in the LDCs are obvious. Most of the resources for development continue to come from the developing countries themselves—in fact, about four-fifths. With small growth *per caput*, savings and investment rates necessarily continue to be small. Savings as a proportion of income and investments as a proportion of GNP commonly are less than 15%—only about three-quarters of the rates usually achieved in industrialized countries. This underlines the economic significance of population control. It has been estimated that a decrease in population growth in LDCs of 0.1% would be equivalent to an increase in capital formation of \$600 million (Friedman 1968). I hasten to add that this is one of the generalizations I warned you about before. What happens to economic growth is not a question of the growth of a population *per se*, but whether the organization of economy and society as well as its resource and technological bases are such as to provide gainful employment for an expanding population. In most emerging nations there are no such bases of adequate strength. Population control thus becomes an imperative precondition for long-term economic growth. It is especially relevant for agricultural development, since this sector has traditionally carried the welfare function of catering for the surplus population by retaining them on the land.

But population control, by its very nature, has only long-term effects. For the immediate future the significant element is that increases in capital formation in LDCs are impaired by rapid population expansion. This, as well as the inability to increase foreign exchange earnings sufficiently has to be compensated through substantial external borrowings if development is not to come to a halt or, worse, reverse itself in the face of mounting population pressure. It would be dangerous and certainly misleading to look upon development as a function of the volume of international capital transfers only. Without it, however, the pace would be substantially lessened and the gap between the rich nations and the poor would widen to an intolerable degree.

We are thus forced to draw two conclusions from this brief analysis: first, the foreign exchange earnings capacities of LDCs in general are insufficient to provide the external resources needed for development; and second, savings rates in the LDCs are inadequate to provide the local resources needed to bring about an acceptable rate of economic growth. A mechanism is

required which compensates for trade imbalances and provides additional resources which LDCs cannot mobilize locally.

Significance of international development finance

International development finance is thus a tool of important international relevance: first, it redistributes resources which because of the existing world trade patterns LDCs are not in a position to earn and thereby supports a significant portion of world trade and, second, it helps to support domestic economic expansion. Its objective must be a rate of growth sufficient to permit an orderly transition from traditional forms of society to modern economies. Should we fail to support this transition we would not only fail to accept the moral obligation of our time, but the consequences could be very costly indeed to all mankind.

Capital transfers and innovation

International capital transfers have another important function. In many cases they can be a convenient vehicle to introduce technological innovation. It may sound strange, but it is nevertheless true, that the combined infusion of capital and technical know-how is often met with suspicion, reservation and great reluctance. It is nevertheless a most important aspect of international development finance. My following remarks about international capital flows should therefore not be thought to represent capital as the sole or even prime mover of all things. I go further, especially with regard to agriculture, and maintain that the most significant measure of the effectiveness of international development finance is not the quantity of capital transferred, but the quality of innovation that accompanies it and the persistence with which it is put into practice.

Let me turn to a brief analysis of recent trends in international capital flows. Before straining your patience again with figures I would like to stress that economic development depends essentially on the LDCs themselves—it cannot be imported. It is their resources which will provide most of the necessary capital, their manpower which must be the source of labour and their institutions which must provide the basic framework for the attainment of national objectives. International development finance can, however, help to support development in key areas by providing resources otherwise not available and by introducing criteria and striving for standards otherwise not attainable. It

must be remembered, however, that economic development entails the organized and sustained application of resources. Fluctuation in their availability, or in the determination of their application, can interrupt developmental activities and thus lead to waste.

CAPITAL FLOWS

Changes in the form of capital aid

Recent years have seen a gradual change in the forms of assistance supplied to LDCs. Over the past six years there has been a relative stagnation in contributions to multilateral agencies as compared with bilateral flows and within bilateral flows a marked increase in loans as compared with grants (OECD 1967). Since the beginning of this decade net capital flows to LDCs have increased from about \$8 billion (1960) to an estimated \$11.5 billion in 1967. Of this, official transfers accounted for roughly two-thirds and private transfers for the remainder. As shown in the OECD figures, nearly two-thirds of official capital transfers originated in the USA and Canada and one-third in Europe. Other donor countries such as Japan and Australia contributed about 5-7% between them, though Japan has recently increased its volume substantially. Contributions to multilateral agencies, as a proportion of net capital flows, decreased from 12% in 1961 to 8% in 1966, remaining about constant in absolute terms. This might have been different if the replenishment of the International Development Association's funds had not taken so long and would change substantially if IDA is replenished on the proposed scale.

About one-half of the total of private capital transfers originated in European countries while the remainder came mainly from the US. It is interesting to note, however, that European private transfers have remained constant while private transfers from the US have—except for a temporary decline in 1966—increased rather rapidly—from around \$1 billion in the early sixties to nearly \$2 billion a year by 1967. This trend might have been even more pronounced had it not been restrained by measures restricting private capital exports from the US which have been in force in recent years. In addition there are a number of signs that US private industry is paying increasing attention to the investment opportunities in LDCs and, in a number of ways, is preparing itself for a more systematic realization of these.

More recently agricultural industries, especially input manufacture and supply industries as well as processing, marketing and distribution are receiving added emphasis. Servan-Schreiber's 'American Challenge' may thus still make its debut in areas other than Europe.

We thus observe the interesting phenomenon that official net capital flows to LDCs increased by only 15% during the sixties while that of private transfers, including the purchase of bonds from multilateral institutions such as the World Bank, increased by over 35%. This happened in spite of the fact that public opinion in a number of industrial countries became less enchanted with development finance in general. This trend has been supported frequently by government guarantees and similar measures reducing businessmen's risks and providing other strong incentives. It also indicates that there are reasonably attractive investment opportunities in LDCs and that private investors are becoming familiar with the administrative and policy environments in which they might want to operate. In some cases these environments may even be consciously changed in order to attract private investment. A further important stimulant is that governments, with the rather reliable support from official capital transfers, have in the past developed basic infrastructure facilities such as roads, railways, power and communications which provide the base on which private industry can build.

At first sight this gives the impression that there is a certain complementarity between public and private capital transfers and their respective investment orientations. And indeed, this seems to be the case in many instances. In agriculture, for instance, we often see public development finance concentrate on primary production, while private investments support the manufacture of inputs as well as processing and distribution of produce. Looking ahead, this must again be seen in the context of the LDCs' absorptive capacities, and here in particular, in terms of their abilities to service debts. Many underdeveloped countries are presently experiencing large balance of payments deficits. While productive indebtedness is a necessary consequence of development, the mounting burden of servicing external debts requires a careful review not only of the ability of LDCs to service additional debts, but also of the terms on which such debts are incurred. It also calls for strict adherence to prudent economic investment criteria and a most judicious selectivity in the use of external capital as well as in the allocation of the LDC's own resources.

Effects of external debts on development in LDCs

Let me turn first to the existing indebtedness of LDCs and the terms of finance. Aggregate external public indebtedness of ninety-one LDCs at June 30, 1967 approached \$44 billion; annual service payments were about \$4.1 billion. In other words, roughly the equivalent of 40% of annual loan and grant disbursements to LDCs are required for debt and interest payments. While there are wide variations, about 20% of the LDCs have to spend more than 10% of their average foreign exchange earnings on debt service alone. There are already a number of countries which have to set aside more than 20% of annual foreign exchange earnings for debt payments.

Seen against the background of deteriorating terms of trade for primary commodities, especially agricultural commodities, this can become alarming in specific cases. In such cases, it will be increasingly important to match carefully the terms of the mix of external borrowings with the country's capacity to service the debts—quite irrespective of the productivity of a particular investment. This is not to say that the latter can be ignored. On the contrary, it is even more important to emphasize the foreign exchange earnings or savings capacity of an investment as a crucial criterion for the allocation of resources in addition to the usual criteria of return on investment.

Thus, lending terms need to become even more concessionary. Official transfers will have to provide for the soft element in the blend of borrowings which can enable private transfers to continue on commercial terms, though these need to be watched also. Recent trends do not indicate that this need is being met. The average terms of external public debt incurred in 1963 by some forty-six LDCs were 3.8% interest, 5.7 years of grace and 24 years duration. By 1965 these terms had advanced to 4.1% interest, 5 years of grace and 20 years duration. In 1966 there was a slight easing of terms, but I would venture to guess that this is temporary and that the overall trend is towards stiffer terms. The implication of such a trend is clear: as terms harden the net flows of capital in successive years decrease (Friedman 1968). Unless massive programmes such as IDA, and the Development Assistance Committee's efforts to persuade donor governments to extend bilateral aid at softer terms succeed, this could lead to critical shortages of foreign exchange in a number of cases. This could also lead to a decrease in private capital transfers aggravating capital shortages and thus forcing governments to return to

restrictive measures and policies not conducive to external investment and, in the long run, to development itself.

Direction and uses of international capital flows

Where has international development finance gone to in the past, and what has it been used for? Statistics do not suggest a rational base for the pattern of capital flows either geographically or by functions. The geographical distribution in large part seems to be a reflection of historical, political and cultural ties between donors and recipients, as well as monetary and commercial links. Changes in this basic pattern, established in the colonial period, proceed only slowly. It is thus not surprising to find that the recipient countries in Asia with about 60% of the world population received on average less than half the official bilateral capital transfers, or about \$2.8 *per caput*. Africa received an average of nearly 30% of total official assistance through the sixties, equivalent to a *per caput* contribution of more than twice that provided for Asia (OECD 1967).

It is nearly impossible to trace the functional use of private capital transfers. Even for official transfers it is only possible in very broad categories. Commitment data for recent years suggest a trend towards programme assistance in bilateral transfers. Non-project assistance, for instance, increased from 42% of the total in 1965 to almost 50% in 1966, while capital project assistance decreased from 21% to 17% at the same time. A meaningful sectoral breakdown is only possible for this latter category of project assistance. Funds committed for this purpose reached a peak of \$2.4 billion in 1964 and declined to \$2.1 billion in 1966. Infrastructure projects accounted for roughly 40%, over 25% went for mining and industry, and agriculture received about 10%, the remainder having been used for social and administrative infrastructure projects.

An attempt by DAC (OECD 1967) to estimate the share of total aid, both non-project and project assistance, which has been provided for agriculture indicates that, in terms of total official contributions, agriculture has not received more than 10%, or around \$600 to \$700 million per annum. Infrastructure projects frequently benefit agriculture directly, but it is nevertheless astonishing that this dominant and populous sector should not have received a larger proportion of international capital transfers. But this is the result partly of the political neglect of agriculture referred to before; partly of an early preoccupation in development

with more illustrious sectors; and partly of the fact that agricultural development is perhaps the most difficult field to work in—a field which has few spectacular successes and demands patience and persistence. In many quarters agriculture has thus only recently received the attention it deserves, and half a decade or even a decade is just not enough to change the face of the rural landscape of the world.

It is thus not surprising to find that in these days the sources of funds for capital projects in agriculture are increasingly multilateral. For instance, total external commitments for agricultural projects in 1965 and 1966 averaged not more than about \$250 million. In their fiscal year 1966/67 the World Bank and IDA alone financed agricultural projects to the extent of \$87 million, or equivalent to more than one-third of total project commitments for agriculture. In the fiscal year 1967/68 the World Bank and IDA nearly doubled this rate of agricultural project financing with a total commitment of \$172 million. The volume of lending to agriculture last year was thus 14% of all Bank and IDA lending to agriculture over the last twenty years. I do not have similar figures for other multilateral or regional institutions, but this already indicates the increased importance multilateral institutions, and especially the World Bank, attach to agricultural development. Let me try to summarize some of the reasons for this.

THE NEED AND SCOPE FOR AGRICULTURAL DEVELOPMENT

Rates of agricultural growth

A few figures will underline the pertinent aspects. Taking 1957-9 as a base, world agricultural production had increased to 127 by 1967, with LDCs growing to 130 and industrialized countries to 126. On a *per caput* basis world agricultural production has moved to 107 and here LDCs fall well behind with 104 as against 113 for industrialized countries (USDA 1968). These figures by themselves may not seem very striking. But if we stop to think that in most industrialized countries agricultural policies are largely compensation policies designed to check the expansion of output and provide parity income, while LDCs follow promotional agricultural policies, we begin to realize the magnitude of the problem.

At the same time, food output in LDCs has probably grown more slowly than total agricultural production. With *per caput* incomes increasing at a rate of nearly 2% per annum, and

an income elasticity of demand for food estimated at 0.6 to 0.7, demand for food increased at a rate of 1.2 to 1.4% per year *per caput*, more than twice or nearly three times the rate of food production growth. Because of the slow growth of *per caput* incomes this elasticity is likely to remain large in a number of LDCs, which leads us to expect that food demand will continue to grow for some time at rates in excess of population growth. The already existing gap between supply and demand has caused an increase in food prices and recently had to be filled by a sharp rise in the food imports of developing countries. The situation has been particularly acute in Asia, especially the Indian sub-continent, where due to two successive years of unfavourable climate in 1965/66 and 1966/67, *per caput* agricultural output has not increased at all (IBRD 1968).

This apparent lag of agricultural achievement in important parts of the less developed world has led in some quarters to a harsh reassessment of the present situation. Professor Ehrlich of Stanford University stated in December 1967: 'The battle to feed humanity is over. Unlike battles of military forces it is possible to know the results of the population/food conflict while the armies are still in the field. Some time between 1970 and 1985 the world will undergo vast famines—hundreds of millions of people are going to starve to death. . . . Many will starve to death in spite of any crash programs we might embark upon now. And we are not embarking upon any crash programs. These are the harsh realities we face' (Ehrlich 1967). The US President's Science Advisory Committee, in its recently-issued report on the long-range crisis of rising population growth and lagging agricultural production, states a similar conclusion through in less dramatic terms: 'The scale, severity, and duration of the world food problem are so great that a massive, long range, innovative effort unprecedented in human history will be required to master it. The solution of the problem that will exist after about 1985 demands that programs of population control be initiated now. For the immediate future, the food supply is critical' (AID 1967). Many other voices likewise attest to the conclusion that a most massive food crisis is only a few years away. Ehrlich concludes that '... dispassionate analysis indicates that the imbalance between food and population is hopeless'.

This is true only if we resign ourselves to fate, rather than resist and take up the challenge that undoubtedly must be met. Because of the impressive achievements of those waging the battle on the frontiers of technological advancement, many of whom have

honoured us with their presence here, I myself, and I think, my agricultural colleagues in the World Bank, believe that we have an even chance of succeeding.

The need for agricultural growth in LDCs

I have already spoken of the solid advance in effective food demand. The latent demand is even more impressive and quite in excess of existing surplus capacities. And were it only a simple problem of matching bushels and tons in one country against consumption requirements in another we might seek a solution in an entirely different direction. For, in the short run, the supply elasticity of food is much greater in countries such as Canada, the USA and Australia than in countries where population is pressing against food production. Yet this need no longer be as true in the future as it has been in the past. If the supply elasticity of resources such as technical know-how, managerial and administrative capacity, and capital can be greatly increased in less advanced economies, a corresponding increase in the elasticity of food supply will also take place. And this is not an option. In many LDCs it has already become a vital necessity for further development. Take for instance India: by 1970 she will need at least 110 m tons of foodgrains, about 15 m tons more than the unprecedented record crop of this year. If this were to be imported on commercial terms it would require more than \$1.1 billion or at least 60% of India's present foreign exchange earnings. Add over 20% for debt service, and only 20% of foreign exchange earnings other than external borrowings would remain for general development. To be sure, the necessary expansion of agricultural output will also require foreign exchange resources, but probably not more than one-third of that which would be needed for grain imports (Crawford 1968). For India—as for many countries—agricultural import substitution must thus be the first priority. Fortunately, the top priority so often nominally accorded to agricultural development by Indian authorities is now becoming real in some ways: the budget for agricultural development was increased by 42% last year and 20% of foreign exchange earnings are now being used to import fertilizer and fertilizer raw materials (Brown 1968).

Similar considerations apply to the foreign exchange earning capacities of the agricultural sector. Professor Bhagwati has already spoken to us about the impact of the negative trend of the international terms of trade for agricultural commodities. But let

me add just one thought. These days it is usually the demand-deficiency theory which is offered as an explanation. This deficiency is, however, in no small measure still a function of the price. With greatly increased productivity—for instance in rubber and palmoil—and more efficient production, there is no reason why profits and export earnings similar to those realized now should not be attainable at lower price levels. There is always the fear of the substitute, but seldom the courage to compete with it on an entirely different level of productivity and prices. Instead there is the ever louder call for price stabilization and rationing of production through international agreement. This could amount to a freezing of an existing production pattern whose increasing obsolescence would be gently shielded from sight by a paper curtain of doubtful strength.

Use of international capital aid in agriculture

Success, however, depends on action in many areas, including the development of new uses for the existing produce, a field which does not seem to receive enough attention. Nevertheless, emphasis in agricultural development is bound to shift increasingly—at least temporarily—from export production to import substitution. This is certainly not, as I have stated before, a question of capital transfers only. And with this I would like to turn to the range of uses of international capital funds for agricultural development. In this I must limit myself to World Bank and IDA funds employed for agricultural projects. I suggest, however, that this sample of some 118 projects involving a total lending volume of \$1.25 billion is a reasonably valid representation of the range of project financing in agriculture, at least in those projects whose economic priority is demonstrable. To do the same for bilateral project lending I lack the intimate knowledge, and to trace the use and effects of programme aid is virtually impossible, though I suspect it would be highly instructive to attempt to do so.

To illustrate the broad orientation of Bank/IDA lending for agriculture let me give you a few pertinent statistics. Of the total lending volume for agriculture over the past twenty years of \$1.25 billion, 52% went for irrigation, drainage and flood control, and nearly 23% for agricultural credit—that is, mainly on-farm credit. The remaining 25% was committed for a variety of projects such as regional development projects, settlement, crop development, machinery imports, grain storage and forestry and

fisheries. The Bank's water development projects were concentrated largely in the Indian subcontinent, in Italy, Malaysia, Mexico and Thailand. Agricultural credit projects including special lending programmes for livestock development have been undertaken mainly in the Western Hemisphere and to a lesser extent in Africa. In terms of numbers of projects irrigation accounts for only 37%, indicating the capital-intensive nature of these types of projects.

In recent years, especially since the early sixties, there has been a considerable change in the relative emphasis within the Bank's agricultural lending programme. Agricultural credit projects already account for about a third of agricultural lending. Small-holder development schemes, special crop development projects, settlement, storage, forestry and fisheries are, in numbers of projects, rapidly approaching one-third of the total. This does not mean, however, that there is either less scope or less interest in irrigation. On the contrary, lending for irrigation is also increasing, though at a somewhat slower pace than that for other purposes. A further aspect of lending for irrigation is that the emphasis on the development of surface systems, prevalent in the fifties, is shifting somewhat in the direction of groundwater development, which in turn means that lending for irrigation is no longer entirely in the public sector. Nevertheless, even Bank/IDA agricultural lending until very recently did not account for more than about 10% of total lending. Because of substantial technical assistance efforts, carried out over a number of years, often in cooperation with FAO and the UNDP, we were able to raise this proportion to 18% in the fiscal year 1967/68.

Preconditions for international investment in agriculture

The relatively small share of funds allocated to agriculture is largely explained by the fact that in this field the Bank has continually found it difficult to identify suitable projects ready for financing. Furthermore, to make agricultural projects succeed requires a conducive institutional framework, appropriate agricultural policies and adequate human resources. Even where a project may be ready for financing in its technical features, it may still take a substantial time before policies are reformulated, local and expatriate skills for its execution mobilized, and appropriate institutional arrangements made.

These are rather essential elements of agricultural development financing as we see it. It is not sufficient to develop a technical

blue-print for a project including a well attuned dose of technical innovation and a supposedly efficient management structure. Even more important is that policies provide an incentive structure for the ultimate beneficiaries which will ensure their full cooperation under the project and thus allow the facilities provided to be fully used. We have learned by experience—even in advanced countries—that the most advanced irrigation system designed to introduce intensive truck farming will not produce the desired results if price structures favour the traditional crops. Or, as is frequently the case, irrigation capacities remain grossly under-utilized even though the required changes in cropping patterns have come about because the supply of fertilizers, pesticides and machinery is grossly inadequate. Not only the farmers, but even more the policy makers and administrators, have to appreciate that the farm needs to become a place where industrial products are skilfully assembled with soils, water and climate to yield farm products. They also have to learn that only the comprehensive and balanced provision of all inputs will ensure a large return on the investment. While it seems commonplace to us, Liebig's law of the minimum, nearly 150 years old, is still not fully appreciated in many quarters. A car without tyres will run, but its performance is likely to be less effective than that of the pedestrian and its economic efficiency is certainly worse.

Agriculture, being a basic industry providing for all, is often looked upon as a kind of social service which has to produce food and fibre at a price which hardly ensures its economic survival. And planners and administrators are ingenious in manipulating domestic terms of trade to bring this about. One may argue that this system of agricultural alimony for the rest of the economy is just as good as any other. But this overlooks two most important aspects of development. The first is that it makes any reinvestment of earnings—which is the base on which industrial strength rests—very unattractive in agriculture and thus leads to a substantial diversion of capital from the rural to the urban economy; and second, it leads to a negative selection amongst the farming population: because their prospects are so poor, many of the most able people leave the countryside. Adequate domestic terms of trade for the agricultural sector not only lead to increases in production but also carry the prospect of a greater rate of on-farm investments both out of earnings and from credit.

It follows that an optimum employment of capital in agricultural development can only be brought about if:

- (a) the technical design is adequate and the quantity and quality of technical innovation is within the scope of the participants;
- (b) the institutional base is sufficiently strong to provide the inputs and services needed;
- (c) the domestic terms of trade are such as to give persuasive incentives for added efforts by the producers; and
- (d) the project management is sufficiently strong to cope with the technical and administrative aspects of the entire production system.

These ought to be the basic conditions for lending to agriculture. Where they cannot be met, investment in agriculture may indeed constitute a gross waste even though its economic priority may be demonstrable on paper.

The scope for agricultural development

Let me now briefly turn to the scope for agricultural development. Most of the increase in agricultural production in LDCs in the recent past has come from expanding the area under production rather than by increasing yields on cultivated lands. The potentially arable area of Asia, Africa and South America together is estimated at about 5 billion ac. Of this, nearly 2 billion ac are presently cultivated. However, in Asia, where essentially all potentially arable land is being utilized, the option of adding new crop land is rapidly disappearing. Substantial opportunities remain for bringing new lands under cultivation in both Latin America and Africa; but low fertility, remote location and difficulty of cultivation of many of their soils means that here also the more difficult alternative of yield increases must be seriously weighed against the costs and benefits of expanding the cultivated area.

In the coming decades emphasis is thus bound to shift from developing new lands to increasing yields. Over the thirty years up to 1962 yields in developing countries hardly increased at all. As a matter of fact, an analysis quoted by the President's Science Advisory Committee indicates that for a sample of twenty-one LDCs the average rate of growth in yield over a period of twenty-seven years was only 0.3% per annum. To be sure, there are again wide variations not only between countries but even more so between farmers within countries. These figures nevertheless indicate the general stagnation in the application of science and modern technology in most LDCs. And we are all aware of the

low levels of inputs used in most of the less developed countries, of the typical Indian irrigation project which spreads too little water over too large an area, providing hardly enough for a single crop, of the indigenous varieties with long maturing periods, of the difficulties of increasing double cropping under traditional forms of cultivation.

If the developing nations, particularly those in Asia, must emphasize yield improvement and food production during the coming decades, then these must be our new frontiers. As our first order of priority, supplies of inputs must be increased rapidly, irrigation systems must be made to provide for multiple cropping, and improved seeds must be multiplied and distributed. In addition, sound research bases must be provided to sustain the recent achievements made in plant breeding; credit must be made available to support on-farm investments, especially in machinery, to cope with seasonal peaks resulting from multiple cropping; distribution systems must be overhauled and storage systems re-oriented; and transportation systems to cope with the greatly increased flow of inputs and production must be expanded. None of this requires technology not presently known, it requires only its massive application. This, however, is dependent on the availability and wise use of capital and on the acceptance of innovations by farmers. The acceptance by farmers will, in my opinion, be largely dependent on the agricultural policies and administrative procedures which governments pursue. To be sure, massive educational and training programmes are required to disseminate the knowledge and information needed to decrease the time lag for the introduction of modern production systems. But I deeply believe that the most persuasive extension agent for farmers anywhere is still the profit motive. Or, to put it in economic terms, anywhere in the world farmers' responses to changes in factor and product prices tend to be positive.

It is clear that this necessitates the provision of vast amounts of capital, amounts far beyond the ability of the countries concerned to mobilize themselves. But I must emphasize again that capital alone is not enough. To become a catalyst of development it requires technical, scientific, administrative and organizational support on an unprecedented scale. It requires the entrepreneurial skills of private agri-business as well as its capital. A massive effort is needed from all nations, developing and developed alike, if Professor Ehrlich's gloomy prediction is not to come true. I am convinced that human ingenuity and determination can deal with the problems we face. Whether we will succeed is not a

question of the means at our disposal but whether we are finally prepared to give substance to the often-proclaimed priority for the farming sector.

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Some Remarks on the Criteria in the International Finance of Agricultural Development

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I. Introduction

Economic history raises the question why economic growth has been significantly more rapid in some societies than in others. Repeated efforts have been made to identify the factors mainly responsible for historical economic changes for use in normative models. Friedrich List's concept of organic growth by transition from hunting and pastoralism to pastoralism and agriculture and finally to agriculture, industry and commerce is essentially such a normative model. Its automatism is overcome by List's recognition of possible stagnation at each stage, caused by either internal or external factors. Karl Marx emphasizes the importance of savings (capital accumulation) and stresses the implications of quality of both labor and capital. For him the transition is dependent on expanded reproduction, enabling the creation of "surplus-value", that is savings and its allocation to investment. Investment becomes the strategic variable in the process of economic growth. Schumpeter adds to this the human - the entrepreneurial - dimension, technological innovation, and the continuous re-combination of factors of production.

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More recent students of economy such as Keynes, Harrod, Domar and Rostow put the stress on one outstanding quantitative factor: investment. Growth economists such as Lewis, Hirschman, Leibenstein and Gallbraith still emphasize the strategic variables of growth and investment but begin to appreciate the complicating factors of population, infrastructure, priorities and criteria for investment, leading sectors and their linkages. ^{1/} This discussion of the dynamics of economic growth spans a century. What has emerged clearly is the pre-eminent significance of the rate of savings and of the economic quality of investment. It is the enhancement of the latter - the quality of investment - to which these remarks on the criteria in the international finance of agricultural development are directed.

International transfers of capital for economic development are not new. South-eastern European countries were frequent borrowers in western European capital markets throughout the 19th century. ^{2/} Up to World War I productive foreign indebtedness characterized even an economy as powerful as that of the U.S.A. What is new is the scale of such transfers, the organization of the transfers, and the realization on the part of lenders that the terms of capital transfers must be commensurate with the developmental prospects of the borrowing countries and their debt servicing capacity. ^{3/} What is also new is the increasing importance of public transfers, especially for agricultural investments, and the associated change in objectives and criteria. ^{4/}

Criteria applied to international financing of agricultural development must be seen in relation to this new framework of international capital transfers. The following remarks on criteria in the international finance of agricultural development are limited to those which have evolved and are still evolving as the agricultural lending experience of the World Bank and IDA expands. The share of these two institutions in international capital transfers for agricultural development - as distinct from general aid transfers - has grown sufficiently rapid in recent years, and their evaluation methods have been tested on a large number of cases, to provide a reasonable sample from which to draw some general observations on financing objectives, evaluation criteria, and their practical application.

II. Objectives

The finance of agricultural development, as indeed that of any economic activity, can be oriented towards a set of three essential objectives:

- (i) maximization of profits, or what may also be termed the entrepreneurial objective;
- (ii) social welfare, or the political objective;
- (iii) economic growth, or the developmental objective.

Any one of these may be in conflict with the others, or may also partially or even wholly coincide with them. An ideal economic policy would attempt the creation of conditions under which these objectives become mutually

reinforcing. Given such an ideal state of affairs, the incentives provided for the entrepreneur enlist his efforts in the interest of economic growth which is, in turn, adequately distributed to maintain social peace. Unfortunately this level of harmony still remains beyond our reach. Therefore a choice must be made as to where to put the emphasis.

International finance for agricultural development, such as provided by the World Bank and IDA, quite obviously cannot be concerned mainly with just the maximization of profits or the political objective of social equality. Those farsighted men at Bretton Woods and the founders of IDA made it unmistakably clear that these institutions must have as their foremost objective the acceleration of economic growth.

These men were acutely aware of the errors which had characterized so much of the international financing of the past, particularly during the period between the two world wars. International capital transfers had frequently made little or no contribution to the productive capacity of the borrowers. Many loans had been made without reference to the ability of borrowers to service existing or additional foreign debts. The terms and conditions were largely geared directly to the interests and requirements of the capital markets. These lending practices undoubtedly contributed to the widespread defaults in the early 1930's. ^{5/}

Consequently the Bank's charter contains a number of restrictive provisions: ^{6/} There must be satisfactory evidence that the additional long-term foreign debt incurred can be serviced. Loans must be made for

productive purposes and, except in special circumstances, should finance only the foreign exchange requirements of specific projects of development.* The merits of all projects to be financed must be carefully studied and arrangements made to assure that the most useful and urgent projects are dealt with first.

IDA's Articles of Agreement are essentially identical as regards the general criteria for the use of its resources. Its purpose is defined: "...to promote economic development, increase productivity and thus raise standards of living in the less developed areas of the World included within the Association's membership". ^{7/} It must also be noted here that the distinction between World Bank and IDA finance does not relate to the criteria for the ultimate use of resources but to the repayment conditions. World Bank loans are generally repayable on terms reflecting the needs of the specific investment proposal. Repayment terms for IDA credits, on the other hand, are designed to alleviate the balance of payment burden and to recognize low levels of per capita income. While IDA has therefore often been regarded as the "soft window" of the World Bank it is in fact so only in relation to the foreign debt servicing capability of a country but not in terms of the evaluation criteria applicable to a specific investment proposal.

With objectives thus defined one can proceed to drafting lending criteria of which there are three in this sense. First of all there is the obligation to assess a country's creditworthiness, that is its external debt servicing capacity, to determine its eligibility for

*The Articles also include reference to reconstruction. Inasmuch as such financing is related to the re-creation of productive capacity it can, for purposes of this paper, be subsumed under the definition of development.

World Bank or IDA finance. Secondly, finance must be directed towards the creation of productive capacity in terms of specific projects. Thirdly, the most useful and urgent projects must be attended to first, in other words priorities must be conscientiously established, with due attention to considerations of economy and efficiency and without regard to political or other non-economic considerations.

The methods and criteria employed by the Bank and IDA in the evaluation of agricultural project proposals, and in the granting of loans and credits for their financing, thus derive directly from the basic objective of economic growth. It follows that there are two of these criteria which govern the finance of agricultural development specifically and from which all other subsidiary criteria derive their place in the decision-making process: the establishment of economic priorities and the financing of specific projects which enlarge the borrower's productive capability.

III. Establishing Priorities

The need to establish an economic priority for a particular investment requires an analysis of the economy at large. The level of aggregation at which such analysis must necessarily be conducted will often enable not much more than a positive identification of a priority sector, such as for instance agriculture, and within that sector the expected priority contribution. The latter may well be defined in terms of foreign exchange earnings or savings, the contribution to the

targeted rate of growth of the gross domestic product, or even in terms of a physical output target. ^{8/} Even in the more refined five-year plans of developing countries only a fraction of the proposed development outlays is usually based on specific action-oriented proposals. They usually lack sufficient detail to permit the application of quantitative tests to demonstrate the consistency - or otherwise - between the assumptions underlying the aggregative model and the resource demands, or to check contributions the specific resource use is likely to make. ^{9/}

Macro-economic planning and analysis must therefore be reinforced by sectoral programming. Macro-economic magnitudes such as overall growth rate and savings rate targets must be related to projected sectoral investment and growth patterns; the supply and demand relationships between sectors must be understood; and the surpluses and deficits between projected savings and investments must be analyzed for their impact on the balance of payments. ^{10/}

This exercise can, of course, vary in refinement. But whether elaborate econometric techniques are employed, or well informed and seasoned qualitative judgments are accepted instead, these relationships - implicit or explicit - always bear on the decision-making, that is, on the positive determination of priority activities and therewith on the allocation of resources. Once priorities have been identified and decided upon, what is known about the details of specific resource uses is frequently still inadequate to project with confidence their costs and benefits and the timing of their occurrence.

IV. Formulating Projects

Bank and IDA experience has been that the most effective way to prepare for an investment decision concerning a specific activity is to formulate it in terms of what has come to be known as a "project". In Bank/IDA usage, a project can perhaps be best defined as a set of coordinated activities, consuming goods and services in the creation of productive assets, from which a continuous stream of economic benefits will flow over time. This definition is silent on who incurs costs and to whom benefits accrue. And indeed, in the practical application of the project concept, a multiplicity of entities, separately responsible for investments, operations and the attainment of benefits, may be and often is involved, especially in agriculture. For example, a Government department may be responsible for construction of project facilities while an autonomous entity is created to operate them for the benefit of individual farmers. Of course, this makes the assessment of institutional and administrative aspects not easier. Nevertheless, for analytical purposes and in order to clarify the interdependencies - technical, institutional, financial and economic - a project is often abstractly formulated so as if it were a single entity.

Several disciplines must participate in the formulation of a project. The development of land and water resources often entails extensive engineering works which must be designed and costed by engineers. The suitability of the natural resources for the intended

purpose must be ascertained. The use of natural and human resources must be planned, and the most appropriate level of technology for the production process chosen by competent agriculturists. Organizational and administrative requirements must be defined and the institutional structure shaped for the implementation and operation of the project.

Economists must integrate the engineering and agricultural aspects to formulate a plan which ensures, in their parlance, that inputs are so distributed to the various uses as to equalize the marginal value product in economic terms of an added unit of input in each alternative use within a given set of constraints. To determine this requires a number of ancillary analyses. For example, cost data must be reviewed to see whether nominal costs reflect real economic values, or whether the introduction of some form of shadow pricing is justified. A critical path must be traced to ensure proper timing of supply and construction activities. The likely rate of acceptance of technological innovation by the participating producers must be judged. Market prospects for the output must be analyzed and the marketing system surveyed. The effectiveness and reliability of input supplies and other supporting services must be ensured.

Project planning involves the many problems associated with predicting prices. This, in turn, requires knowledge of both supply and demand functions. Worthwhile projects are often oriented towards production in which a country is expected to have some comparative advantage in the future. But rarely do project economists have at their disposal general equilibrium studies which show optimum levels of production of

several interdependent products. Therefore, informed assumptions must be made about future terms-of-trade, within the framework of partial analysis, to assess the comparative advantages of products in world markets.

A good project design is likely to be found only after trial and error and prolonged study of the more apparent intrinsic alternatives. For instance, different assumptions on prices at varying levels may lead to changes in proposed cropping patterns and possibly cropping intensities. In turn, this may require changes in the irrigation regime, which could then entail modification of proposed irrigation works and their operation. Construction costs may thereby be affected as well as the foreign exchange component and a shift may be indicated from a capital intensive/low operational cost project to one which is capital extensive but involves high operational costs.

The application of refined quantitative technique to problems such as these has become possible through the computer. Normative linear programming has been used to check whether returns are being maximized; herd growth models have been developed to predict the development of beef herds under a given set of assumptions using specifically developed technical coefficients; simulation analysis has been employed to test the operational consistency of complex systems. However, it must always be remembered that these techniques are being used for long-term predictive purposes. The uncertainties surrounding any forecast of future events can be cataloged in terms of probabilities but they cannot be overcome by refinement of quantitative treatment;

results can only be as good as the subjective judgments which provided the base for quantification in the first instance. Quantitative techniques can nevertheless be helpful in testing the internal consistency of numerous subjective judgments.

V. Evaluation Criteria

From an economic point of view, an acceptable project is one that represents a good use of resources in a country at the particular stage of its development. A judgment as to whether a project constitutes such a "good use" should be based conceptually on a comparison of any specific use of a resource with alternative opportunities. ^{11/} If all known investment opportunities were formulated as projects, in the form described above, such a comparison could be made and the economic price of the one project defined in terms of the benefits foregone by not doing another.

In practice, it is virtually impossible to measure the benefits of one project in terms of the excluded margin of the next. But some measure of a project's "opportunity cost" is at the heart of any economic appraisal. The selection of appropriate investment criteria must be based on a judgment of how well they serve to meet this fundamental purpose of measuring the comparative advantages to the economy of using resources in different ways. It is obviously hazardous to evaluate projects completely in isolation. As Bank/IDA lending practice has been evolving, it continues to push in the direction of relating

projects to sectors, regions, and larger units of analysis. In this sense discussion on the economic justification of a specific project involves the confirmation - or otherwise - of the priority which was determined a priori in a macro-economic or sectoral context.

Even if a project's priority has been determined in a sectoral context it is still necessary to apply some objective test of its economic acceptability since, as described in Chapter IV, crucial factors pertaining to costs and benefits and their timing will only become known after detailed formulation and preparation of a project has been completed. Here a number of quite specific tests can be applied and these frequently tend to be the measures which predominate discussions of investment criteria. They include, for instance, the earning power of resources invested (rate of return); the discounted value remaining after all costs have been deducted from the gross benefits over the life of a project (net present value); the ratio of discounted benefits and costs (benefit/cost ratio), and the length of time within which society could recover the capital investment (pay-off period). ^{12/}

The first two criteria are most commonly used in public sector project analysis. Both employ the discounted cash flow technique and differ essentially only in the treatment of time preference.

The quantitative test usually applied to agricultural development projects by the Bank and IDA is the internal rate of return. Its predictive capacity, as well as that of any other investment criterion, depends, of course, both on the quality of project preparation and on

how well the analyst has succeeded in adjusting for transfer distortions throughout the economy. There can be numerous origins for such distortions: price policies, subsidies, over-valued exchange rates - to mention only the most common. The objective in adjusting for distortions obviously is to replace nominal values with real values, that is to exclude artificial or institutional effects which might bias the outcome of the economic analysis of an investment prospect. The elements requiring special attention from this point of view are taxes and subsidies, capital and labor costs, and commodity prices. Equally important is the attribution problem. Benefits need to be defined in terms of increments attributable to specific investments. As an operational short-cut the practice of project evaluation has evolved the "with and without" principle for this purpose. In evaluating the costs and benefits of a project two situations must be compared: the expected development with the project and the estimate of development that might occur without it. 13/

Considered in isolation the internal rate of return - as well as all other similar investment criteria - obviously cannot say much about a project's usefulness and economic priority. It must be compared with alternatives. A direct comparison is not practicable because a full range of alternatives are usually not formulated and prepared in a form which could make such a comparison meaningful. But an operational short-cut can again be employed to extend the basis for comparison. The earning power of a proposed use of resources should exceed, or be

at least equal to, the "opportunity cost of capital" in a given economy. If the rate of return is below this opportunity cost, the investment is not likely to represent a good use of resources. While this may not ensure that the best project is being attended to first it will at least prevent wasteful decisions. To be meaningful, of course, this requires some estimate of the opportunity cost of capital. Theoretically, the prevailing interest rates should reflect both the time preference of consumers and the returns which can be earned on investments. Under conditions of equilibrium, new investments would be undertaken up to the point at which the returns on the marginal investment would be equal to the interest rate. In the real world the facts are very different. Capital rationing, captive capital markets and public sector interference may make prevailing interest rates quite unsatisfactory indicators of the real cost of capital. Nevertheless, they are used as one basis for forming a considered judgment on real capital costs,

Though simplistic when compared to the conditions demanded by abstract theory, the project evaluation approach described here has proven to be an operationally helpful tool in the decision-making process. In particular, it provides for an attempt to relate a specific and isolated action proposal to the sectoral and macro-economic frame in which it must exist. What it does not yet do is to relate the requirements of the project unit, in the abstract, to the response mechanism of the individual decision-making units within the

action sphere of the project as defined, that is, to the farmers. And it is in this area where the project analysis in agriculture, as distinct from that of other projects, needs a further dimension. T.W. Schultz has told us that traditional agriculture is characterized by a particular long-run equilibrium under which farmers have achieved a relatively efficient allocation of the agricultural factors of production at their disposal. ^{14/} With the advent of a project new economic opportunities become available to numerous farmers, and some judgment on how they will respond is already implicit in the scale of benefits assumed to emerge over time. An analysis of the downward linkage must confirm this judgment and provide the rationale for policy prescriptions which would influence farmers' behavior in the direction of "exhausting" the newly created opportunities. ^{15/}

Any evaluation of an agricultural project is therefore incomplete if it is not supported by an analysis of the project implications for the individual operating units. The full implications of uncertainties, of differential time preferences, and of nominal costs and prices must be explored in this assessment. A judgment must be made on the incentive levels needed to provoke response and on its timing. This is as much a question of the measurable economics inherent in a situation as it is of the immeasurable determinants of human behavior. In this sense Schultz' insistence that "...differences in the capabilities of farm people are the most important" ^{14/} becomes operationally meaningful.

The relevance of this type analysis for international financing of agricultural development is essentially that it deals with questions of income distribution. Some or even all benefits take the form of incremental cash incomes and, amongst others, their distribution determines incentive levels. In turn, the latter must be considered in any judgment of whether the direct beneficiaries themselves can be expected to repay the monies invested at interest, and what period of time would be involved. Given confirmation that a project has high economic priority, provision for direct recovery of investment may sometimes be counter-productive. The financier of an agricultural development project will obviously thus want to know what the potential for future savings by the direct beneficiaries is, but he would be ill-advised to insist on a conventional pattern of recovery if this is in conflict with the need to realize the full economic potential of the investment. In the first instance, this is not a question of social equity but of an immediate operational necessity, namely that to enlist the full cooperation of the project beneficiaries. Social concern adds an entirely different and equally important dimension to the analysis. 16/

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