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RESEARCH - POPULATION

1975/77

Vol. I

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## THE WORLD BANK

ROUTING SLIP

DATE:

3/14/77

NAME

ROOM NO.

Research Committee Members

cc: Messrs. Kanagaratnam,

T. King, Avramovic

APPROPRIATE DISPOSITION

NOTE AND RETURN

APPROVAL

NOTE AND SEND ON

CLEARANCE

PER OUR CONVERSATION

COMMENT

PER YOUR REQUEST

FOR ACTION

PREPARE REPLY

INFORMATION

RECOMMENDATION

INITIAL

SIGNATURE

NOTE AND FILE

URGENT

## REMARKS:

At Dr. Kanagaratnam's request, I attach a supplement to his memorandum to Mr. Avramovic of February 14 (included with materials for the forthcoming Research Committee meeting already sent to you), which is of relevance for the discussion of Bank research in population at the Research Committee meeting of Thursday, March 17, 3 p.m., E 1208.

F :

O. Grimes

ROOM NO.:

EXTENSION:

AREAS OF RESEARCH IN POPULATION

(A Discussion paper by PNP)

Introduction

1. Crucial to this paper is the oft-stated recognition that the Bank is not a university, research institution or population center. It has very specific needs in the area of "research". There are already many institutions in existence with the resources and expertise which make them far better suited than the Bank to engage in primary research. There seems little sense in duplicating these efforts. Rather, increased efforts should be made to draw on this outside expertise to engage in short-term applied research projects which are responsive to specific requirements in Bank operations and through them to borrowers, both in the operational and policy areas.

2. Our greater need is for the results of primary research to be drawn together in a meaningful way such that it will assist Bank staff in project development and policy determination and guidance. Case studies and state-of-the-art papers, development of guidelines and clarification of appropriate methodologies for use by Bank staff and by borrower countries are secondary research activities which we feel deserve particular emphasis.

3. In development of our research strategy and program, we must clearly delineate our priorities. Within this Department, we have been attempting to focus on specific areas which we feel are particularly deserving of this sort of scrutiny. The studies we suggest below are those which, at this point, we would like to propose as worthy of being examined more closely as potential areas for Bank research efforts in this Sector. They are not meant to be complete or exhaustive; certainly we must mutually examine their feasibility. We present them as a take-off point for our discussion of specific research activities which would be operationally relevant.

Measuring the Impact of Family Planning Programs

4. Current discussions of this subject suffer from two weaknesses, (1) conceptual confusion and (2) methodological uncertainty. The conceptual confusion arises from mixing up demand-influencing factors that make people want smaller families, instrumental or supply-side factors that make it possible for couples to regulate their fertility, and pure demographic changes (e.g., age of marriage, nuptiality, changing age-distribution) which produce fertility changes with no change in motivational factors and no change in sexual practices (including the use of modern contraception). It would be useful to clarify what we mean when we say that "family planning contributed about one-third of the estimated fertility decline" in a country.



5. Once we get our thinking straight, it then becomes possible and necessary to specify how to make quantitative estimates of how much family planning has or will contribute to a given fertility decline. The first step in doing this involves development of appropriate techniques for estimating demographic impact of programs (after which measurement of project impact will follow naturally). In addition to this measurement on the aggregate level, there is a need for analysis on the disaggregate level, i.e., an evaluation of the impact of different aspects of the program

6. A necessary aspect of this review is the identification of the data requirements of a family planning program. Not only will this contribute to the development of efficient service statistics systems as well. In any given country, there would need to be a program review, assessing the adequacy of the existing statistics and evaluating the limitations of applying the data that exist in the new techniques that are being developed. For disaggregate analysis, specific input-output linkages and attendant data requirements will need to be identified.

7. The results of such an analysis could then be examined vis-a-vis the future program goals. Techniques can be developed based on existing data systems and/or future data requirements. These techniques can allow the preparation of the proper program mix to achieve the desired demographic impact. The techniques can also allow measurement of impact on non-demographic variables such as health.

8. As more sophisticated techniques are developed, we must examine whether or not they can be translated into simplified guidelines for use by non-technical persons. Alternative techniques should be delineated with their attendant requirements so that choice in any particular country can be made on the basis of existing data, program goals, and level of technical sophistication of their personnel.

9. A great deal of work has already been done examining these issues. A first step might be to assess where we stand right now, drawing on the efforts of Mohapatra and Chow (Indicators for Judging Program Performance) and Chandrasekaran and Hermalin (Measuring the Impact of Family Planning Programs on Fertility).

#### State-of-the-Art Paper on Population Education and Family Life Education

10. Both PNP population projects and population components in other projects are likely to give increasing attention to this area of motivational activity. Both Bank and borrower staffs would benefit greatly by knowing what approaches have been tried and what the experience with them has been. The field is not a well-defined one, and the terms "population education" and "family life education" mean different things to different people. This is a real question, too, about cross-cultural applicability of experience in population education efforts. There may be uncertainty about priorities in choice of audiences and the feasibility of alternative programs to reach them.

11. An "International Study of the Conceptualization and Methodology of Population Education (ISCOMPE)", begun by UNESCO in 1974, is now being finalized. It aims to provide a better understanding of population education concepts and to clarify the relevant methodological issues through a state-of-the-art survey. This document could be reviewed when it is available (sometime in 1977) for its applicability for Bank use. It is possible that a condensed form of the somewhat voluminous study could serve as guidelines for Bank staff.

12. Experience in population education is quite limited and, as we said, may be culture-specific. It is unlikely that sufficient experience now exists to allow for a significant evaluation to be undertaken. But as experience grows, answers will be needed in several broad areas. We might begin to pay particular attention, therefore, to:

- a. Identification of most important audiences.
- b. The purposes implicit in trying to reach different audiences
- c. The channels (e.g., school curriculum, radio/TV, conferences, seminars, folk entertainment, cinema) used in reaching different audiences.
- d. Relative costs of different types of Pop/Ed FLE activities.
- e. How to evaluate the effectiveness of these activities in the long term and short term.
- f. The main problem in developing sound programs in this area.

#### Determinants of Fertility

13. The weakness of our present knowledge of the key factors underlying desired family size is the greatest obstacle planners face in designing population control policies and programs. The accumulation of adequate knowledge in this field is bound to be a slow, expensive, and ambiguous process. Results also promise to vary widely among different cultures. The Bank's needs are twofold: (1) to keep up-to-date on what is known and not known and (b) to contribute modestly to the expansion of research in this area. A first step might be to review what state-of-the-arts papers have already been done in this area (e.g., a book currently being published at the University of North Carolina by Dr. Saad Gadalla) and to draw from them a summary for Bank use. If none were determined adequate, the Bank could commission a state-of-the-art which should meet its needs. The kind of paper which would be most useful, and most persuasive, would be one that surveyed the present state of knowledge with considerable specificity -- in the sense of identifying and summarizing the work of individual scholars and institutions. It is likely that this could be done most effectively by an outside consultant.

14. The second need in this area of "fertility determinants", i.e., the expansion of basic research, is one that can be met primarily only by external research, although occasionally opportunities for country studies may arise within Bank population projects (as one has, for example, in Bangladesh). There is a wide range of studies that might throw light on this topic, and there are some differences of emphasis both within the Bank and outside as to which kinds of studies deserve emphasis. There is unlikely



to be a resolution of these professional differences until it is seen which of the competing approaches seems to be producing the more useful results. Since such studies can be expensive, the prudent course would be to limit our commitment to any particular type of studies until the usefulness of completed studies can be assessed.

#### Benefit/Cost and Cost-Effectiveness Methodology

15. At present, Bank population projects do not employ any economic justification that involves measurement of project benefits. We have declined to make quantitative estimates of project benefits because we have not felt it possible to make meaningful, credible measurements and because the conceptual basis of the "benefit" is weak and somewhat controversial. While it seems unlikely that the present PNP judgement will change, there has been no thorough look at this problem since the first Jamaica project seven years ago. We would feel more confident of our present posture if we commissioned a paper that tries to assess current thinking on the measurability of the economic benefits of lower fertility. The task would take between one and two man months. This should be followed by a review seminar with the author after submission of a draft.

16. Cost-effectiveness work stands on somewhat more solid ground, since it does not require any quantification of benefits. Nevertheless, there are today, few credible standards for judging the reasonableness of family planning program costs, whether expressed in general terms (e.g., how much a country should spend, per capita, for this activity) or in terms of unit outputs (the cost per birth averted). A paper is needed that defines the conceptual basis for making cost-effectiveness estimates and which identifies the principal difficulties in constructing credible calculations. This will assist those designing programs and projects in determining the most effective mix of activities. A second paper is also needed, one that assembles the literature present estimates of (a) per capita costs of family planning programs and (b) the unit costs of averting unwanted births. The first of these two papers should be done by an experienced economist familiar with joint-cost problems; the paper could be written in about one month. The second paper could be done by a summer intern in PNP, working under an experienced senior staff member. A major problem would be to judge the comparability of cost figures found in the literature search.

#### State-of-the-art Paper on Continuation Rates

17. In judging the performance of family planning programs much more attention is paid to acceptance rates than to continuation rates. The former are much easier to collect, and lend themselves to statistical display. But continuation rates - where they are known - probably tell us more about program success and demographic impact. Therefore, both Bank and borrower staff should be familiar with standards for continuation rates (perhaps by method, area, and parity) and with how much such rates

are established and kept up to date. They should also know the principal factors affecting continuation rates, such as the attitudes of health staff, the use of follow-up procedures, the proximity of clinics, the countering of rumors, side-effects (real and imagined), cost of acquiring supplies, etc.

#### Case Studies of Successful FP Programs or Activities

18. While Bank staff generally have good knowledge of the overall performance of national programs receiving Bank assistance, we often do not have good knowledge of promising sub-national programs or projects, whose replication might increase the effectiveness of national programs or the programs of other countries. Well-done case studies, especially where based on field data, can generate specific, "hard" data that can be highly persuasive to program decision-makers. PNP does not propose to develop a program of such case studies, but it is prepared to support in highly selected cases worthwhile proposals that may arise. An initial such study, on a particularly successful family planning activity in Northern Thailand, and to analyse the reasons for the fertility decline in this rural and agricultural population.

#### Paper for Bank Economic Staff

19. To facilitate orientation and sensitization of Bank staff to population concerns, a brief (perhaps 10 pages) paper should be prepared discussing the consequences of population growth on economic development. This paper should be directed primarily at economists within the Bank. It should focus not only on the overall issues but on the assumptions, methodologies and strategies of Bank population work. Other more detailed papers may be needed following the planned seminar with country economists. There is a need both for a simple model to sensitize Bank economists to the need for taking population variables into account and a more sophisticated model which will allow them to account for them in their economic work. (although this is strictly not "research" it is included as it has a major operational orientation).

#### Changing Trends in Population Assistance

20. A key concern since the World Population Conference at Bucharest in August 1974 has been how population policies would evolve in light of the broad developmental approach that was articulated there, and what implication this would have for population assistance. The Bank, therefore, through the PNP, has undertaken a study jointly with OECD/DC to identify any changes in the perceptions of population assistance since the Bucharest Conference.

21. The study is being carried out in two phases. First, the results of the UN Regional Consultative Conferences were analyzed and the population problems and policies of various developing countries were reviewed. Second, using a questionnaire prepared by OECD/DC in cooperation with other interested organizations, direct discussions were held in developing countries and with major donor agencies. Results of the study are expected in mid-1977. This study will be continued during 1978-79 as criteria,



resources and strategies for population assistance tend to shift in the donor countries.

Population Projects Department  
February 16, 1977

# OFFICE MEMORANDUM

TO: Mr. O. Grimes

DATE: March 10, 1977

FROM: Timothy King <sup>472</sup>

SUBJECT: Bank Research on Population Issues After the Berelson Report

1. I attach copies of this paper for discussion at next week's Research Committee meeting.

2. Earlier versions have been extensively discussed within this Department, and with the Population Projects Department, and I believe that the revisions of the paper in response to the comments, criticism, and suggestions for additional research topics made in these discussions, have improved it considerably. It would, however, be unfair to hold anybody outside the Population and Human Resources Division responsible for its content.

3. The paper has been promised to Mr. Chenery by March 31 for transmission to Mr. McNamara, who has promised it to the Board. There should therefore be time for further revision after the Research Committee meeting to incorporate comments made there; so I hope the Committee will view it as a draft for a discussion and amendment, not as a final statement.

TKing/yvw

cc: Research Committee members  
Messrs. Avramovic, Kanagaratnam, Stoutjesdijk  
ECD Division Chiefs  
ECDPH members



## Bank Research on Population Issues after the Berelson Report

### Introduction

The Bank is unique in a great many ways: in the scale and diversity of the ways in which it transfers resources; in its approach to technical assistance through its economic and sector reporting, and through its impact on investment allocation; and in its purpose as a worldwide development agency. On the research side, it is unique in the opportunities it offers (a) to utilize in its policy advice and project work the emerging understanding of the development process, thus providing a distinctive channel by which the results of its own research and that of others can influence development policy; and (b) to learn from its own experience. Its choice of research priorities will also be unique--the Bank is not a university, a specialized research institute, nor a private foundation. We need to discuss the Bank's own special needs and comparative advantage.

The general objectives for Bank-supported research were laid down in the first annual report to the Board on the subject in 1973, and repeated in subsequent reports. They include the support of Bank operations, including the assessment of development progress in member countries; the broadening of the understanding of the development process; improvement in the Bank's capacity to give policy advice; and assistance in developing indigenous research capacity in member countries. The current program in population is intended to serve a balanced mix of these objectives, and to contain a spectrum of studies ranging from some whose results will be of immediate operational use to projects of a basic character. Obviously there can never be unanimity as to whether the optimal mix has been struck - this is one area on which discussion would be welcome.

The Berelson Panel suggest that the "Bank's research program should deal primarily with (i) population growth and socio-economic development; (ii) operational and evaluation studies of family planning and related projects; (iii) policy possibilities beyond family planning; and (iv) demographic data systems on fertility trends and behavior, in collaboration with other agencies." This is such an all-embracing recommendation, however, that it does not take us very far in selecting priorities, or in deciding what proportion of the research should be done in-house and what subcontracted.

This note is in two parts. Many readers will be solely interested in Part Two, which outlines the Bank's current research program in population, likely new starts in the near future, and options for the longer term. That part is reasonably self-contained; however, to make any judgment about the direction in which the research program should be moving needs an understanding of the current state of the knowledge, the likely payoff to further research and the activities of other research groups. This is the subject of Part One.

PART ONE

Population Research for Policy Purposes: An Overview

Population has some peculiarities compared to research in other areas of Bank activity. First, much of the relevant work in this subject is recent. Interest in this subject, especially by practitioners of fields other than formal demography, has blossomed. The interest of development economists--indeed, with a few striking exceptions, of economists in general - has come only in the last decade. The amount of work that has been done is small, both in relation to the potential importance of the topic for policy and to the large areas of fundamental ignorance--and indeed the effect of extending research has been as much to emphasize the complexities of the issues as to provide clear guides to policy. Nevertheless, understanding of population issues has greatly improved in recent years, and some reasonably clear findings on important policy issues are beginning to emerge, though there is still far from a consensus on many fundamental questions.

Second, research on population is, and has to be, a truly multidisciplinary affair. The focus of the Bank's work is economic; it regards economic policies as the most important levers a government has for affecting the rate and pattern of development; and its internal communications frequently presuppose some basic grasp of economics. Our research work on population is therefore economic in its focus, and our research staff consists largely of economists, supplemented by some demographic expertise. Nevertheless, in most of the important areas of research, there is growing recognition of the inadequacies of any one discipline in explaining observed phenomena or in providing policy advice. Although this brief review covers purely economic research, it notes several places where multidisciplinary research is beginning or needed.

The field for possible research is very wide. Leaving aside questions of migration and considering only work currently being carried out by economists in the area of fertility and population growth, it ranges from the very practical (cost-effectiveness of alternative methods of delivering family planning services) to the highly abstract (optimal rates of population growth). Obviously no attempt can be made to survey the whole range here. But at the risk of appearing both superficial and dogmatic, we shall attempt to summarize briefly the areas where we appear to have reasonable answers to the most important policy questions, and where we do not, and the direction in which the field is likely to move during the next five years.

The determinants and consequences of population growth have to be studied at both the household level and for society at large. Much of the anxiety about rates of population growth, and the interest in policies which go beyond the mere provision of information about family planning, are the consequence of the likely divergence of private from social interests. We



shall review first, household questions; second, broader social issues, and third, population policies.

Household behavior:

1. The determinants of fertility

What the enterprise is for the study of industry, what the farm is for the agricultural economist, the household is for the study of population. Fertility begins at home. Of course, it is possible to study population simply in the aggregate, just as it is possible to study many industrial questions without considering the production process. Until a few years ago, population economics was largely confined to concerns with the aggregate size and rate of growth of total population and we discuss some of these issues below. But when we come to population policy and attempts to bring about changes in household behavior, we cannot rely on simplifying assumptions analogous to profit maximization. Therefore, we cannot feel nearly as confident about how households will respond to changes in opportunities, as, say, how farmers will to price changes, without detailed study of the determinants of their behavior. Of course, policies designed to influence fertility behavior cannot wait until the determinants of fertility are fully understood--and do not need to do so, since even if ineffective at influencing fertility, most such policies are desirable on other grounds. The selection of the set of population policies most appropriate for particular circumstances, however, does require a much greater understanding of the determinants and consequences of alternative family sizes at the household level than we now have.

There remains some controversy about the importance of conscious decision-making with respect to fertility and consequently some doubt about the relevance of economic models of choice. However, it seems that many of these objections to the economic modeling of fertility can be overcome by attempting to incorporate into our model both the biological factors affecting the supply of births and surviving children and the social constraints on fertility decision making. In parts of Africa and other very poor areas, subfecundity and high infant and child mortality prevent many couples from achieving their desired family size. This does not imply that the concept of fertility decision-making is irrelevant. At the margin for those couples who are healthier and luckier, the biological supply of children may exceed demand. These are the couples who are potential users of birth control. Research on the integration of biological supply in an economic model of the demand for children is a highly promising area. Butz at RAND, McCabe at Yale and the Bank in the Narangwal project are making progress on this front.

Even where biological supply factors limit fertility, it is important to understand what factors influence ideal and desired family size. Economists prefer to analyze revealed preference rather than stated answers to hypothetical questions, but since there are several reasons why a particular observed family size may not have been a conscious choice it is

important to test if the apparent determinants of observed family size and consciously-chosen family size differed from each other. This is a potentially important area, so far little exploited, for collaboration between economists and social psychologists. Some of the major factors determining family size preferences are perceived costs and benefits of children. The perceived costs of children depend among other things on the educational aspirations of parents for their children. The perceived benefits depend on benefits from child labor and anticipated support in old age. Some work on these costs and benefits has been published on Asian countries. Far less is currently available for African and Latin American societies. The importance of these factors in determining desired family size has major policy implications.

psychological benefits

In addition to decisions about desired family size there are other critical household decisions affecting fertility. Decisions about marriage (whether to marry and at what age) and decisions about the use of birth control are critical decisions which are not well understood. More needs to be known about the determinants of marriage behavior, particularly the interaction of female education, job opportunities and marital decisions. Policies which raise the age of marriage can have substantial effects on births per woman, but policies which simply raise the legal minimum age of marriage are unlikely to have much of an impact.

Decisions to use birth control are also fairly complex and little understood. One of the major unresolved questions is why women who know about contraception and do not want additional births do not necessarily use birth control. Part of the explanation may lie in who has the responsibility for decision making. The separate roles of husband and wife in family decision making is poorly understood. Most economic work presupposes the western nuclear family, and assumes that parents each play a major role in the decision process and maximize a joint utility function. It is clear that households in developing countries are quite varied and complex. In parts of Africa, for example, parents may not form a common household for eating and residence purposes. Children may not be the economic responsibility of the father. Understanding the respective role of parents in fertility decisions might be a guide to the policies that would influence these decisions.

Are these relevant?

What are these policies likely to be? There seems to be a consensus that, in addition to the provision of family planning services, the provision of certain sorts of education and employment opportunities for women, and the reduction of infant and child mortality will in most circumstances lead to a drop in fertility. There is less agreement on the likely effect of income changes. It is not clear whether the apparent significance of the distribution of income in explaining international fertility differences, reflects the importance of increases of absolute income among the poor, or whether it is relative income that is important. Observed differences between urban and rural fertility are also poorly explained. There appear to be international



differences in the size of this differential, and in a few cases urban fertility is higher. Is "urbanization" simply a proxy for changes in educational and employment opportunities for women and children? Or for more fundamental change in life-styles and community situations? Can we create in rural areas the fertility-reducing effects of urbanization without the needed infrastructure? Much more work on the relation between fertility and density is needed. It has been suggested that one effect of transmigration in Indonesia has been to raise fertility among the migrant families compared with those who remained in Java. Perhaps this is related to the contribution of children to household income, which we discuss further below.

Education appears to be particularly important since it appears to be the policy variable that is most consistently-though not universally-inversely associated with fertility. We are still far from understanding, however, what level is critical or how it works. Drawing primarily on data from developed countries, economists have tended to argue that education improves a woman's opportunities for earning outside the home; the opportunity costs of bringing up children are therefore greater for a more educated woman. In contrast, sociologists tend to emphasize more the effect of education in changing the outlook and attitudes of women. <sup>1/</sup> This is an important distinction since the policy conclusions that one draws from the two explanations are rather different. If the effect of education on fertility stems primarily from its effect in raising the opportunity cost of a woman's time, this is critically dependent on employment opportunities; expanding education in the absence of such opportunities may have little effect. If, however, we emphasize modernization, then the level of education *per se* is what is important, and there might be a case for increasing education irrespective of employment opportunities. This is therefore a critically important area for research; without it, we cannot be confident that we understand the fertility impact of alternative educational opportunities sufficiently either to propose significant reallocation of the education budget or to influence the size of total expenditures on education.

In considering questions of educational finance, a vexed issue is the degree to which to charge fees, which will raise the cost of education to parents and perhaps lead to a reduction in family size. But such fees may also reduce enrollment rates with a possibly harmful effect on the fertility of later generations. Little information is currently available to provide policy guidance in this respect. The effect of reduced child mortality on parents' willingness to invest in their children's education also needs to be explored.

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<sup>1/</sup> Our in-house survey to date shows that the direct relationship between female education and attitude toward, knowledge of, and use of contraception is the most consistent. The effect of female education on age of marriage is also quite uniform. But with respect to these variables, insufficient work has been done in rural areas to determine if education has these effects. This is one reason for the proposed research project in rural Nepal (see below).

## 2. Consequences of Population Growth

The household is also the place where the consequences of population growth are most immediately felt. First, what are the costs to parents of their children? For this we need to measure the effects of different family sizes on consumption and savings patterns throughout the life cycle. Of particular interest in this respect will be the effect of population growth on household savings, since a great many analyses of the relationship between population growth and socio-economic development depend heavily on assumptions about its effects on savings. Although many income and expenditures surveys exist in developing countries, it appears very difficult to determine the interaction of family size, age structure, and household composition and their effects on income, expenditures and consequently savings. A number of people are working on this, and it forms a small piece of our own research. One problem is that neither expenditure (which is often overstated) nor income (which is usually understated) tends to be recorded very accurately in household surveys; consequently data on savings, calculated as a residual, are highly unreliable.

*As shown  
to indicate  
Higher  
income  
costs*

A number of other policy issues can be studied within the same framework. For example, nutrition policies should be designed to incorporate what is known about the impact of increasing family size on both total food consumption and on the intra-household allocation of food. Again, the data required to analyze this are difficult to obtain but work needs to persevere.

There are also important effects that later children in a family may impose on their older siblings. What are the effects of birth order, birth spacing and total family size on expenditure on children and on their opportunities to build up human capital; -- do all children, or later children, from large families suffer poorer nutrition, other health problems, lack of parental attention, and fewer schooling opportunities than those from smaller families? Very little evidence exists on the importance of this in developing countries. What there is suggests that later children in large families do indeed suffer a substantial relative handicap. This may be an important finding, since even where governments do not feel their countries to be overpopulated or burdened with excessive population growth in aggregate terms, they may still be disturbed about some of these consequences of large family size at the household level. This information may also be used to persuade parents to consider the "child quality" consequences of their family size decisions.

At least partially offsetting these costs, is the contribution that children make to the income of their families. In many settings, this is likely to begin at a fairly early age. Children have no TV to watch, few toys to play with; they may well spend their time doing something useful, such as household chores, watching animals, watching each other, helping with the harvest, etc. The importance of this is likely to differ between urban and rural areas and may help to explain the commonly observed rural-urban fertility differentials, which are not well understood. Some time



use studies have been made by anthropologists - for example the work of Moni Nag and his students in Nepal and Java. These show that children spend several hours a day in productive work. But the importance of this is still controversial. It is difficult to value the time that children spend. Obviously much of it is of low productivity, and, since time must be spent somehow, there is a natural tendency for work to appear to expand to fill the time available for its completion. Analyses of the data collected from Bank studies in Brazil and Botswana should shed light on these issues. (See project descriptions in Part Two).

In spite of these difficulties, it is important that future work be done in this area. Many researchers feel the contribution that children make to their families significantly offsets their costs to their parents perhaps more than outweigh them; review of the evidence has led various economists to cast doubt on this.

One contribution that children make appears to be unchallenged, though its significance is little understood. Children are expected to provide both insurance against premature disability and support in old age. The degree to which these expectations are fulfilled and the exact importance of these considerations on fertility decisions and in particular the benefits, if any, of large rather than small families in this regard are little known.

This takes us into a broader and more difficult area of potential research - into the economics of extended families. As already mentioned, kinship networks are likely to be much more important from an economic point of view in developing countries than they are in developed countries. We have very little information about the economic relationships that are involved. It is obvious that the distribution of income is affected by wealth transfers through marriage, gifts and inheritance. There is also a complicated pattern of income flows, rights and obligations which determine who will support children or elderly relatives. Some work on this by economists has been started - at Duke University and elsewhere - but for the most part it represents unexplored territory for economists. This is potentially a very fruitful area for collaboration between economists and anthropologists.

Such an analysis should also explore the effect of migration at the household level. Much of the work on migration has been on its aggregate consequences. We now know that economic opportunities are a major factor explaining the volume of migratory movements. We know much less about the benefits of migration both to the migrants themselves and to their extended families who remain in the rural area.

Household analysis of this type requires data, both larger in amounts and different in quality than we presently have, and ideally permitting longitudinal as well as cross-section analysis. The general problem of demographic and other data, which, as the Berelson report emphasizes, is serious for everybody who works in this field whether making policy or doing research, is discussed further below.

## The Social Effects of Population Growth

### 1. The Local Community

Whatever the net costs and benefits of children to their parents, it is clear that the sum of these is not equivalent to social costs and benefits. First, the interests of parents and children will often be different; those most adversely affected by large families are the children themselves. Second, a number of the costs of children are frequently borne publicly. Third, wherever there is competition for scarce resources or job opportunities, larger population size works to the disadvantage of all; but individual parents may have nothing to gain from independently limiting family size. In short, all the widely accepted arguments for government action to influence private behavior are present in the case of population. There can be no presumption that encouraging individuals to practice "responsible parenthood" would lead to a socially desirable situation - and considerable likelihood that it would not.

Most analyses of population policies assume that these will be national in character (see below). There has, however, been growing interest in mechanisms which might be operated by a local community through social pressure on families to restrict fertility, either by restricting marriage or limiting family size. It is clear that both in certain historical circumstances and contemporary China, such pressure has had an impact in reducing fertility. The likelihood that such mechanisms will come into play is presumably greater, the more the social costs of population growth are borne locally. For example, the more that social services are locally financed; the more serious the effects of population pressure on deforestation and erosion; the more the effects of a growing labor force are felt in local labor markets; the fewer the opportunities to migrate; and the more apparent the effects of family formation on reducing the size of farm holdings, the more a community will begin to understand the costs of population growth.

Although the general direction in which these forces would operate is clear enough, little is known about their likely importance in different circumstances. An important area for research, requiring the collaboration of economists and political sociologists, will be the extent to which alternative methods of public finance, restrictions on migration or changes in inheritance laws, or the provision of various community incentives, might be expected to make an impact on the fertility level. It is evident that community structures and village organizations vary greatly throughout the developing world, and in particular between rural and urban settings. The study of how these various structures affect household behavior would be of interest, not simply with respect to the fertility questions, but to a wide range of rural and urban issues as well. For example, there is much interest in "community-based" family



planning distribution systems, and in community-selected health workers. Can these work in all circumstances, or do those areas without specially-compact communities need, first, state imposition of a village structure, as carried out in Tanzania?

2. National Issues The rate of population growth is likely to affect many aspects of a national economy. It has implications for the rate of capital accumulation, for levels of employment, for labor market behavior, land tenure patterns, and income distribution; for education, housing and other infrastructure facilities; for the availability of food; and for the terms of trade, both internal and international. The direction of most of these effects are fairly obvious, if we consider only the consequences of population growth, though the relative importance of each is less clear and obviously differs according to national circumstances. It is also clear, however, that many of these same items are both related to each other, and are themselves determinants of fertility behavior. Any attempt to understand the likely net effect of these relationships requires relatively sophisticated economic-demographic models and a number of these have been developed. The utility of such models has, however, also been challenged. Their need for data is very large. On the determinants side, the relationships they attempt to model are still poorly understood and situation-specific; on the consequences side, the effects of changes in population growth rates take a very long time to work themselves out. For example, attempts to go from, say, a shift in current policies which will affect tomorrow's employment opportunities and next year's fertility, would need to trace the process for at least two decades to provide any interesting results in terms of future labor market effects. The usefulness of such models for planning purposes is therefore limited.

### 3. International Issues

For a great many years, a small number of researchers have looked at the relationship between aggregate world population size and the availability of world resources. Recent work under the sponsorship of the Club of Rome has made this a very controversial area. The consensus among economists, however, is that this issue is not likely to be of much practical importance, at least for many years, and that the effect of population growth as compared to income growth on resource scarcities and on the terms of trade is not very large. However, the relative importance of population growth varies depending on which resources are being considered.

Another set of policy issues concerns international migration. Such movements are of great importance economically for a small number of countries, and politically are significant to a rather larger number. For both sending and receiving countries, the most important economic effects

are likely to be those on the internal distribution of income brought about by changes in the relative wages of those competing with migrants. Relatively little work has been done on this issue compared with other international questions. Concern with the issue of international migration is likely to grow and the study of the costs and benefits of the means to regulate it is likely to become more important.

#### Policies to Reduce Fertility

Research relating general development policies to fertility was considered in discussing research needs at the household level. It was argued that this required primarily the analysis of the determinants of household behavior, using data collected from individual households. There has been growing interest in examining the effects of particular investment projects on fertility. For example, the Berelson report strongly urges the Bank to make use of its project experience as "an unusual opportunity to learn more about what efforts and situations make for more or less demographic change, with or without family planning - in a way, a set of natural experiments". In particular, the Panel noted that the effects of integrated rural and urban projects on fertility and mortality can be measured through the same mechanisms for monitoring and evaluation as many other project outputs. The opportunity to collect longitudinal data appears particularly attractive - the actual response of a household to individual events can be directly measured, rather than inferred from cross-section comparisons.

In the absence of good household data, variations in the demographic experience of particular areas have often been studied. In the absence of longitudinal household data, this is normally the preferred method of examining the impact of family planning programs, although a fairly fine breakdown of country data into individual localities is necessary if there are to be enough observations for statistical work. There have also been a number of studies looking at demographic experience in areas with and without rapid agricultural development. But unless longitudinal data are collected at the household level, it is difficult to disentangle the effects of particular project activities from other development activities carried on in the same area, or in some control area. Some sorts of river basin development and land settlement schemes may be sufficiently isolated to permit measurement of project impact with reference to local aggregates rather than to particular families. But such schemes are not typical of most investment projects.

We now turn to deliberate population policies, i.e. policies whose primary objective is to affect fertility. These can most conveniently be divided into "family planning" and "beyond family planning" policies. The distinction is conventional rather than strictly logical. Family planning policies are concerned primarily with the supply of services and "beyond family planning" with changing desired family size,



thereby increasing the demand for services. However, supplying organizations often carry out a variety of education and advertising activities also intended to increase demand.

### Family Planning Services

As experience with family planning delivery systems increases, knowledge about what approaches are likely to work in what circumstances is also growing. It seems clear that the programs that do best are those that provide a fairly dense network of services, both publicly and privately. It is also evident that grass root family planning functions can be carried out by local workers with little education and brief training. For such workers, however, a common problem is to select the method of payment: if they are paid by results, there is a danger they will falsify their reports; if they are not given substantial incentives, however, they will be relatively ineffective. For this reason, there has been increasing interest in, and trials of, systems which provide local workers with pills and condoms to be sold; the profits from these sales provide an income for the workers, and create an incentive for workers to seek customers.

Such a system, however, is not suited for all methods of contraception nor compatible with all administrative structures. There seems to be a growing appreciation that the most appropriate service network to supply family planning services at the local level is one which also provides low cost health services. This provides valuable contacts with the target households, and there are a range of duties which such workers can be given which are well matched with their family planning activities.

Within this framework, there remains a wide range of unanswered questions associated with the workload, training and incentive structures for such workers. Some of these questions concern the likely trade-offs between the educational qualifications needed, the desirable length of training, the range of duties assigned, and the size of the clientele that can be reached. It is useful to consider some of these issues at a fairly general level; this can guide program planning for areas that have not attempted to establish any program of this nature before and can identify which policy prescriptions are likely to be suitable for what circumstances. However, many of these issues require country-specific treatment, and improved understanding of the impact of variations in assigned duties, training, incentive payments, etc. will require small-scale experiments before being incorporated into regular programs. The Bank's recent review of family planning experiments concluded that the experimental framework has been extremely useful in evaluating innovations in family planning delivery systems and remains a viable approach for future research in this sector. Past experiments have been limited by deficiencies in design and measurement; in this type of research, considerable attention should be devoted to the design of innovations to be assessed, questions of research methodology and to the development of appropriate measurement techniques.

Lack of demand for family planning services normally reflects much more fundamental issues than a failure in the marketing of such services; nevertheless, some experimental experience suggests that new ways of presenting information or packaging services can create genuinely new groups of acceptors, rather than only attracting those who would have accepted services anyway. These findings imply the need for additional research into the effectiveness of mass media both for changing values and attitudes and for providing information about available services. Family planning workers provide, in addition to their service supply functions, a one-to-one medium for communication and persuasion; in this respect they contrast sharply with the one-to-many mass media. The extent to which the mass media (television, radio, newspapers, posters, leaflets, etc.) are substitutes for (or complementary to) the individual service workers remains to be ascertained; and the relative cost-effectiveness of various ways of using the media (campaigns, spots, service worker training, drama with underlying message, etc.) needs to be ascertained. These questions concerning media cost-effectiveness are also important, of course, in areas other than family planning, for example in the diffusion of agricultural innovations.

#### Beyond Family Planning

"Beyond family planning" policies usually refer to a diverse set of measures ranging from those purely designed to bring about changes in outlook (population education in schools) to coercive measures of preventing future births (compulsory sterilization). In between is a variety of incentive and disincentive schemes designed to reward those who keep their families small or to penalize those who have children beyond a certain norm. An array of such schemes, whether proposed or actually implemented, was reviewed in the Bank's book, Population Policies and Economic Development, (known as the "White Paper"). There has been little change in the situation since that review was written. It is interesting, however, that the examples of Korea, Singapore and India suggest that when countries begin to feel the need for "beyond family planning" policies they seem to turn to disincentive schemes, as being of less direct cost, rather than to deferred incentive schemes. (There is, however, a long history of cash payments to acceptors in India.) It is also interesting to note that both Korea and Singapore, and India to a lesser degree, are countries with relatively long and relatively successful histories of family planning. The social returns from further reduction in fertility seem to become more evident, the more success a country has in achieving some reduction. This is therefore likely to be a subject of growing interest. It would be a mistake to conclude from recent experience that there is unlikely to be future government interest in deferred incentive schemes--many developing countries already have limited social security schemes, which might be suitably adapted to have an anti-natalist effect.

"Beyond Family Planning Policies" should, however, be seen as much broader than these--extending to the manipulation of all the policy levers described above as likely to affect fertility decisions.

*Substantive  
for Jan 7  
Schulze*



### The Research Scene

There are too many individuals in too many universities and agencies doing research in the population field of interest to the Bank, for us to make even the sketchiest attempt here at an overview. A recent report of the Population Council reviewed population research and training facilities in developing countries, and argued that many more are needed and that declining trends in donor support should be reversed. Nevertheless, the globe is dotted with demographic training and research centers, including six established by the UN, and others attached to universities. Most of these are oriented towards demography and family planning questions; and they tend to be stronger in sociology and related disciplines, than in economics. The same is true in most of the population centers of the developed world; indeed only in the United States, the Philippines and India can one find institutions with several economists working on this subject.

The importance of having economists work on this subject in developing countries is not simply the value of this discipline in research. Planning officials, most with economic training themselves, will be more likely to consider population issues if they can turn to local economists for assistance. The relative absence of work on this subject by economists in developing countries reflects a sad lack of appreciation of its importance. In some countries, the politization of the subject at the Bucharest Conference and elsewhere has reduced its attraction to students, since to work on population rather than on other development issues seems almost to be making a political statement.

Closer to Bank headquarters, there is an increasing interest in this subject in the United States. The RAND Corporation has an active group of economists interested in population in developing countries; there are several economists in this field at the Universities of Michigan and Yale; the reorganized Population Council will eventually have a large group working in this area. But compared with the number of sociologists, demographers and public health specialists active at many university centers, especially the Carolina Population Center, and Michigan, John Hopkins, Chicago, Columbia and other universities, the interest of economists is still thin. Several of these latter centers, however, received their impetus from AID, and cutbacks in AID finance of this type of research has damaged them. Work on family planning delivery systems at the Population Council will also be greatly reduced under its new organizational structure and the greater attention it intends to pay to broader policy issues.

A significant amount of work is done within international agencies, financed largely by the UNFPA. The United Nations Population Division is primarily the hub of the demographic work of the UN system, and its responsibilities include the regular preparation of population projections; it has recently started to do a small amount of economic work. There are substantial population centers attached to the Regional Economic Commissions with a variety of research-related activities. UNFPA also supports population work within ILO, WHO, FAO and UNESCO. ILO, in particular, has been doing work of considerable interest to the Bank and has devoted a very large quantity of

resources to the construction of a complex type of economic-demographic model, and to sponsoring research to estimate the needed relationships to incorporate in this model. The Governing Council of UNFPA, however, has placed a ceiling on support for international agencies at its 1975 level; UNFPA's expansion will be in the direction of country programs, primarily to provide family planning services integrated with maternal and child health or basic health services.

One of the few international agencies active in this area but not supported by UNFPA, is the OECD Development Center. Though it is currently collaborating with the Bank in the study of West African migration, the scale of its operations is now small and its future direction is uncertain.

### Data Needs

We have argued that research into the determinants and consequences of population change at the household level is of major importance for policy purposes, and one that offers considerable intellectual challenge. It also is extremely demanding in its data requirements. It is not surprising to find that there are few data sets from developing countries which are of good quality and available for research in many aspects of household analysis. Data sets which combine both good economic and demographic information are rare.

Nevertheless, it would be wrong to imagine that there is no data at all. The progress of the World Fertility Survey and the generally wider appreciation of the need for household data suggest that the situation can be expected to improve, though relatively few of the WFS surveys contain significant economic information. What is rather surprising is that by no means all the data that has been collected has been, or is being, fully exploited. Plans for the World Fertility Survey have made little preparation for analysis following the first, essentially descriptive, reports. Similar observations could be made about many of the household surveys conducted by government statistical agencies. There also appear to be at least a few other bodies of promising data, such as that collected by INCAP (Central American and Panamanian Nutrition Institute). While none of this changes the overall picture of a data shortage, it does mean that the progress of research in this field will depend not only on being able to collect more data, but on finding ways of getting it into the hands of those who wish to analyze it. The interest of the two groups, and of their respective sources of financing may be different. Frequently those who collect data think simply in terms of cross-tabulations, either published or supplied in response to individual requests. It is obvious that the sort of research questions outlined above need to apply much more sophisticated statistical analyses to information on each household.

Other barriers to making the best use of available data include the sensitivity of government agencies to releasing information collected on a confidential basis, or to making it available to foreign researchers. Research requiring the collection of original household data tends to be expensive and long-drawn out; researchers may have difficulty in raising the finance needed to make full use of the data, yet be reluctant to share it with other researchers.



The Berelson Panel suggested that the Bank had a special interest in longitudinal data systems on fertility trends and behavior, and should be active in the area. We discuss in Part Two what the Bank might do.

## PART TWO

### The Bank's Role in Population Research

#### The Bank's Special Needs

In every field, there has to be a bridge between emerging knowledge and the Bank's policy and operational decisions. Consultants can play some role in this, but even the informed choosing of consultants requires continuing contact with the particular research field. And far more can be accomplished by the frequent monitoring and reviewing of new developments by those familiar with Bank activities. So an important task of the research staff of the Bank is to try collectively to keep in touch with all relevant parts of the population field--likely to be easiest where the Bank is itself actively engaged in research, but important in other areas as well. Attention needs then to be paid to ways of making this new information accessible to the Bank's operational staff. This is especially important in population, where so much of the research has been very recent, and its results not part of the educational background of most Bank staff. The Berelson panel felt that the Bank needed to do more to enlighten its own staff on population matters.

For this reason a significant part of the work should be a special sort of "state of the art" paper. Neither the conventional review of the literature, nor truly original research, its aim should be to sum up the implications of the subject surveyed both for national policy, and, especially, for the Bank's operational and analytical work. This is particularly important in population since the field is so recent and subject to rapid evolution. Both the "White Paper" and Experimentation in Family Planning, which is shortly to be published, are examples of this type of in-house review paper. (The former was, however, directed to national policy issues; and the intended value of the latter for Bank project work is not a program of experiments for the Bank to finance, but a general discussion of the experimental approach, and a work of reference needed when considering proposals for further experiments in Bank projects.)

During the next few months the Population and Human Resources Division expects to issue four review papers of this type, described below. The Population Projects Department also prepares reviews of specific operational topics from time to time. The Bank's concern to keep abreast of developments in the field is, however, much broader than can be feasibly accommodated in-house. For this reason, the Bank has joined other donor agencies in support of the International Review Group on Social Science Research in Population and Development (671-40).

This is a small expert group under the direction of Carmen Miro, President of the International Union for the Scientific Study of Population, which is reviewing policy-oriented social science research on population and development, with respect to the present state of knowledge, the process of increasing it, its accessibility to policy-makers and the use that is made of it. Its report is due in March 1978.

#### The Bank's Special Opportunities

The Bank not only has special research-related needs; it has special opportunities, which partly determine its comparative advantage in research.

(1) The Bank has the unique opportunity--and the duty--to learn from its own project experience with respect to the impact of both population and non-population projects on demographic change. Some of the issues associated with this were discussed in Part One. It requires the involvement of Bank research staff with the research and evaluation activities carried on by consultants, local institutions or especially established centers in population projects, and also closer association with monitoring and evaluation efforts in other projects.

Because of the large number of relevant projects, however, direct association of the population staff can only be limited. One member of the Population and Human Resources Division has been working with the Agriculture and Rural Development Department with one project in Northeast Brazil from its inception, to gain first hand experience of the problems and possibilities involved. In the longer run, the aim must be to provide methodological guidance, based on growing experience. An example of such methodological guidance is a small research project (Maximizing the usefulness of Household Surveys--671-03). This is a multi-purpose questionnaire that has been prepared and tested in several settings.

In addition to the "natural" experiments that certain projects offer, some projects may offer an opportunity for controlled experimentation, as the Berelson Panel suggests.

(2) Bank project relationships, plus our status as an international organization, may appear much more attractive to developing country governments and research centers as a provider of technical assistance and research collaboration than other sources. At a time when there is great resistance to anything that suggests "academic colonialism", and a reluctance to provide data to foreign researchers, the Bank may be in a relatively strong position compared with developed country research institutions. *optimistic*

(3) Compared with other agencies in the population field, the Bank has a much wider set of concerns, expertise, and government contacts--in particular with the makers of economic policy. It is much better placed than any other agency for a dialogue with a country on the broad range of issues in which population is an important factor. The links between population and development are particularly strong with respect to a range of human

resource questions; fortunately, the responsibilities of the Bank make it a natural place for bringing together population, human resources and development research.

(4) The wide range of national and international contacts that the Bank has, plus its own needs for up-to-date information, may make it a good place to monitor international events in this field, and to promote or carry out case studies of developments that seem particularly interesting. The implications of apparent recent events in Kerala and Indonesia do indeed need more study, as suggested for Indonesia by the Berelson Panel. It is likely that Bank staff will often become aware of changing situations sooner than most academic researchers. Staff constraints, however, make the systematic monitoring of new events very difficult, and given the activities of United Nations agencies in the field, may not be the best use of staff time.

*What?*

(5) The Bank's focus is cross-national. Where population issues become international in character, and carry some economic significance, they cannot be ignored by the Bank. There are many flows of international migration of concern to individual regions of the Bank--from the Caribbean and Mexico to the United States and Canada; from Southern and Eastern Europe and North Africa to Western Europe; within West Africa; within Southern Africa; and most recently from many countries, especially in South Asia and North Africa, to the Middle East. The situation is in continual flux and Regional Offices frequently request help from the Population and Human Resources Division in trying to understand what is occurring and its implications for the Bank. It has not been possible to make detailed analyses of the costs and benefits of these migration flows, in terms of their distributional effects, their implication for educational systems and labor markets, or their relation to fertility (except for the Caribbean). At best, with some work on migration from developing countries to Western Europe a few years ago, with a current research project on West Africa, and with some on-going reconnaissance of the demand for and supply of manpower and the associated migration flows in the Middle East, it has only been possible to carry out only fairly descriptive, largely demographic work. It has not been possible to spare the manpower for more analytical work on the economic implications. Nevertheless, this is an area in which the Bank might have a comparative advantage over other research institutions.

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## The Research Program

### I. The Short-Term

By "short-term" we refer to the time needed to complete research which is already underway, or for which at least some initial preparatory steps have been taken, rather than any set time period. Since many research projects take several years between preparation and completion, the actual period will be quite long in some cases.



It may be helpful to use the four Berelson Report categories to describe the program:

1. Population Growth and Socio-Economic Development

The Berelson Report describes such work as "a natural for the Bank not only to exploit its basic strength and distinctiveness but also to underpin its economic analyses of individual countries. In this connection, the Bank should include population parameters including family planning and other interventions into its programming models. Moreover, the Bank should do more to study the population and fertility impact of its own large development projects in other sectors."

*monitoring  
national  
projects  
countries*

This is already the major category of research work by the Population and Human Resources Division. It ranges from studies (a) with a substantial research content, done primarily to support the Bank's economic and lending work, through (b) small studies and in-house reviews to (c) "basic" research, involving largely the analysis of household behavior and (d) some preliminary work already started on a number of projects "in the pipeline".

A. In Support of the Bank's Economic and Lending Activities

(a) In-depth Country Analyses

The Berelson Panel proposes that the Bank undertakes a series of "population impact" reports to be carried out systematically for all key countries, tentatively defined as countries with over 20 million population, and for all countries with population projects. The Panel suggests that these should include detailed analyses of the consequences of population growth and the identification of policy options. Because of staff constraints it will not be possible to reach as many countries as suggested within a short period of time, and the studies may have to be more modest in scope than the Panel appears to suggest. A pilot program of in-depth studies of population-development issues for selected countries has now been agreed to include a geographically, economically and demographically diverse collection of countries over the next two years.

*section  
reports*

Although not planning to test new hypotheses or to gather new data, it is expected that these will offer an innovative way to look at a country's long-term development, the determinants of its population growth, and its population-related policies. The series should provide the Bank with a cumulative understanding of the interrelationships between population growth and development in different settings and should set the stage for a major review of these issues early in the 1980s.

(b) International Migration into the Middle East

A reconnaissance of what this exploding phenomenon is likely to mean for the supply of labor and skills in both sending and receiving countries.

(c) Population Impact of the Bank's Non-Population Projects

As noted above, work has begun in the context of the monitoring and evaluation of a rural development project in Northeast Brazil.

B. Small Studies and In-house Reviews

(a) The Population and Human Resources Division has three "state of the art" papers in process of the type described above, which will be issued within the next six months:

(i) The Analysis of Population-Development Relationships

The main purpose of this is to serve as background for further seminars with country economists on the treatment of population in economic work, but it should be of considerably wider interest.

(ii) Population Growth and Savings

Much of the analysis of economic-demographic questions turns on the relationship between population growth and savings. There has been much theorizing, but little systematic examination of the state of knowledge or of the needed next steps in empirical research.

E42

(iii) Women's Activities and Fertility

This examines the interaction of these two variables and thus should give insight into important cause, and consequences of fertility behavior.

4.?

C. Larger Research Projects

(a) Determinants of Household Behavior

(i) Botswana. During 1974-75 the Bank financed, and provided technical assistance to, a household survey in rural Botswana that included monthly visits to 1,060 households. A report was issued by the Botswana statistical office in June 1976. The survey contains good data on fertility, on sources of income and household economic activities. Some of the analysis has started; we are presently preparing a submission to the Research Committee to finance further work to ensure that the full research potential of the survey is exploited.

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(ii) Population Growth and Rural Poverty (671-02). This is a comparative study under the direction of Prof. Scarlett Epstein of the Institute of Development Studies of the University of Sussex. Anthropological studies of the determinants of fertility, the economic contribution of children, the impact of population growth on the local community, and village perceptions of population change are being carried out with a common methodology for 3

villages in India, 2 in Sri Lanka, 2 in Kenya and one in Nigeria. The field work is now completed and the project should be completed late in 1977. The project is financed jointly by the Bank, the Population Council and the U.K. Overseas Development Ministry.

(iii) Some dimensions of the Narangwal project (671-38) described below also concern household behavior.

(iv) Education, Fertility and Rural Development (671-49)

This project has just been accepted by the Research Committee and is awaiting Government clearance. Rather than simply asking whether there is a relationship between education and agricultural productivity and between education and fertility, this research is designed (1) to test whether the observed relationships are the result of education rather than other individual characteristics normally correlated with education and (2) to explore through which of its outcomes--literacy, numeracy, modernization--education has the effects that it does have. Collaboration is with a research and survey group in Nepal. If work on this project can start soon, it should take some two years. It is intended to extend this research to Thailand.

(b) International Migration in West Africa (671-26). Migration within and between West Africa countries is of central importance to the pattern of development of several countries. This project will utilize existing census and survey data to derive estimates of intercountry, intra-country and rural-urban migration. It will analyze the demographic and socio-economic characteristics of migrants. This part of the project will be completed in the Fall of 1977.

It was originally expected that, at the request of a group of West African researchers, a second part of the project would collect new data in a limited number of countries for further, more economic, research, both on migration and on other population and human resource issues. Primarily because of the movement of a key individual to a United Nations job, it was not possible at the critical time to make satisfactory collaborative arrangements that would provide adequate guarantee of success, and the staff time was consequently diverted to other projects. This part of the project is suspended for the moment, though it might be revived if circumstances change.

D. Projects in the Pipeline

(i) Analysis of World Fertility Survey Data in Malaysia

The World Fertility Survey is an international project designed to ask a standardized set of questions on fertility and family planning practices plus selected modules of other questions to be chosen by the countries themselves, to married women in 40 or 50 countries around the world. There is an economic module but it is, alas, being little used.

One country which is using this module is Malaysia. Even more interesting, the households selected were those interviewed for the Income and Expenditure Survey, whose data are being analyzed in the DRG. This



almost certainly makes it the best set of data for research on the economic determinants of fertility in the world. This set should also be of help in relating expenditure and savings to household structure and family size.

It is hoped to submit a proposal for the analysis of this data to the Research Committee by the end of 1977.

(ii) Women in the Urban Labor Market and Fertility Relationships

A survey carried out by Mr. Sabot, of the Development Economics Department, in urban Tanzania collected some data on the economic activities of women, which will throw light on the determinants of labor force participation of women and the relationship of these to fertility. It is probable that this analysis can be done in-house. E43

(iii) Economic-Demographic Modelling

Other than trying to keep abreast of other work, the Bank has not attempted to focus on demographic issues in its economic modelling. A consultant to the DRC has recently been exploring some of the issues involved in improving the demographic content of the PROLOG models and this should have priority in this field. The specialized expertise of the DRC and the Population and Human Resources Division should prove complementary in this respect. However, most of the interesting economic-demographic issues require very long-term models to allow fertility changes to interact with other facets of development. It will probably be eventually desirable to incorporate these into the Bank's economic modelling but the scale and timing of this have not been decided.

Some interesting work in exploring economic-demographic relationships by simulating the evolution of the household sector in response to economic change is being carried out with Thai data. In the light of our other research on household behavior, this approach is of great interest to us and might be the basis for future work.

2. Operational and Evaluation Studies of Family Planning and Related Projects

A. Lending Operations

Most Bank population projects include some research and evaluation activities. The studies financed range from very operational research on the utilization of existing personnel and facilities to studies of fertility determinants. The India project went substantially further to establish two new institutions devoted to experimental research and project monitoring within the two project areas; the exact content of the research program was left to the institutions themselves to determine. It is an objective of most projects to improve the knowledge available to program managers and to strengthen research capabilities. At the same time, such research and experimentation is using what is essentially the borrowers' money. The research to be included has to reflect the borrowers' own concerns rather than a predetermined set of Bank-established priorities.

B. Case Studies

The Panel suggests that the Bank might carry out a series of case studies of particularly interesting current situations. For example, they suggest that a study of the significance of the apparent success of the Indonesia family planning program under unfavorable development conditions might be of considerable operational relevance to our project activities, and of wider interest both within the Bank and outside. Kerala offers another situation of widespread interest. Such studies could be more focussed than the in-depth reports on individual countries, with a larger content of original research; and would fit closely with the proposed series of country studies on "basic needs." E40

C. Smaller Studies

(a) The Population Projects Department has identified a number of studies that would be of value of Bank staff involved in population project operations. It is likely that program managers have similar needs. That Department and the Population and Human Resources Division plan to collaborate on a series of studies aimed at clarifying how research findings can be translated into operational activities. Tentatively, they include:

(i) Measuring the Demographic Impact of Family Planning Activities

Information needs for the Bank and project managers.

(ii) Contraceptive Continuation Rates

One could hypothesize that these are a better guide to the success of family planning programs than the more commonly used acceptance rates. Is this true? What determines such rates?

(iii) The Effectiveness of Alternative Delivery Systems

Both absolutely, and in terms of relative costs, is there any new evidence to be drawn from comparative experience since the "White" Paper was written?

(b) The Population Projects Department expects to continue its series of occasional studies of particular operational issues, primarily for its internal needs, though often of interest to a wider audience.

D. Research Project: Narangwal (671-38)

At Narangwal, Punjab, India, an experiment was conducted from 1966-1974, in high groups of villages were provided with various combinations of services in health care, family planning and nutrition. Households in each of these groups were then followed longitudinally with extensive data gathering. The Bank is now collaborating with Johns Hopkins University in analyzing this unique body of data so that conclusions about supply and demand aspects of providing nutrition, family planning and health services can be derived for operational use.

### 3. Policy Possibilities Beyond Family Planning

The Berelson Committee is provocative, but not very specific: "As a major actor in the field, the Bank could help to pioneer the search these years for "the third way" to fertility reduction (family planning not enough, development too much, what else is there?) in a directed application of social and economic research."

It is not very easy to distinguish this category from (1) above "population growth and socio-economic development". This is the "policy end" of the basic research; naturally enough it tends more to reviews and issues papers, rather than work requiring Research Committee support.

#### A. Education and Fertility: A Review

A preliminary draft has been completed and should be available for distribution shortly. It examines the various ways through which the widely observed negative correlation between educational level and fertility might be explained and reviews available evidence. E45

B. A number of other possible topics seem to the Population Projects Department and/or the Population and Human Resources Division to merit at least small-scale state-of-the-art reviews or issues papers:

- (i) Population Education and/or Family Life Education.
- (ii) Experience with existing "Beyond Family Planning" incentive schemes.
- (iii) Priorities for social development: What sort of national policy packages, would most appropriately combine our concern to meet basic needs and to reduce fertility, for countries at different levels of development?
- (iv) Community Structures and Population Change: Much of the analysis of population policies is tending to emphasize the importance of local communities, both for the organization of services, and as means of bringing various sorts of pressure to bear on individual households. What is the significance of the fact that the range of village structures -- politically, sociologically, in patterns of residence etc. - is very wide?

### 4. Demographic Data and Methodological Issues

The Berelson Committee stresses the need for better data, particularly of a longitudinal nature, and suggest that the Bank should work with other agencies to see that the World Fertility Survey data are analyzed and repeated, and that we should encourage loans to involve both benchmark surveys and subsequent updates. An ability to provide technical assistance to such work should be one of the tasks of the Population and Human Resources Division.



For this reason, one of the research projects (virtually completed) has been:

Maximizing the Usefulness of Household Surveys (671-03)

This has involved the preparation of a multipurpose questionnaire which was tested in several settings. It is designed to make household survey data of wider use for research purposes, and should be especially valuable as a starting point for Bank staff concerned with project monitoring and evaluation. A possible next step is to try to adapt this questionnaire more explicitly to monitoring and evaluation needs. This project was organized jointly with AID, because our interests in this area were so close. Arising from it, AID is financing some further work on methodological guidelines for their own staff, which will also be obviously useful to the Bank.

II. Choices for the Longer Term

The present program was selected to balance a range of competing priorities. It was suggested in Part One that the most fundamental research, the most intellectually challenging, with the greatest long-term potential policy pay-off is research into the various aspects of household behavior. The issues are not technically easy to resolve. As with most development questions they turn on what is empirically important. Without empirical knowledge, research in development issues tends to spin its wheels. It was possible to write for years about dualistic economic structures but not to have the empirical knowledge about underemployment or poverty to design effective policies to tackle it, or about the small scale industrial sector without knowing enough to be able to select from alternative policies the way to encourage its most appropriate pattern of development. It has been possible to generalize for decades about the obstacles that small farmers are likely to face without knowing which of these are critical and therefore how to design rural development policies. There is a danger in this field that, without more grass roots empirical work, we may carry on for years producing broad generalizations about the relationship of social development to fertility, without being able to come to grips with the painful choices that must be made between different patterns of social development.

With its links with governments, who must be largely responsible for collecting the data needed, and with the research community who must analyze it; and with its opportunities to see that the emerging knowledge is utilized in the policy process, the Bank should aim to be as close to, and as actively involved, in this research as possible.

It is important, however, that our concern with the progress of basic research in this field does not drive out the equally important concern to improve the quality of the day-to-day decisions that the Bank must make, and the advice it must give, in its operational work. Bank-sponsored research on operational issues of family planning delivery systems and related policies

is important in itself to both the Bank and its borrowers; it is also important that staff participate in it, since continual contact with the frontiers of knowledge in the field can help the Bank to advise borrowers on the choice of research to be financed through projects.

Finally, the Bank's opportunities and obligations to discuss with Governments all aspects of economic performance make it imperative that the Bank understand, to the extent possible, the multiple ways in which population growth and economic development processes interact at a national level. The series of in-depth studies should enrich our understanding of the issues here.

The Berelson Panel suggested that the volume of the Bank's research in this field was inadequate in relation to the need and the opportunities. 1/ At the time of writing, it is hoped that there will be a modest increase in available staff resources, but these will remain a dominant constraint on what can be accomplished. What then are the possible choices?

A. Suppose first that there would be no increase in resources of any sort, what then would the program consist of? It would remain very much on existing lines. We should expect to complete, and be able to take up, 2-3 research projects a year. A significant proportion of these would involve the analysis of household data, probably some collected with some Bank involvement, much already collected. It would be hoped that this work would build on itself, both in refining the hypotheses to be tested, and in improving the methodologies employed.

In particular, there is in prospect the possibility of:

- Further research using World Fertility Survey data, e.g., on Thailand.
- Possible adaption of the type of research proposed for Nepal and Thailand on education and its relationship with productivity and fertility to urban settings.
- We have been approached by Dr. Fapohunda of the Human Resources Research Unit of the University of Lagos for collaborative research in a socio-economic survey in Nigeria. A major focus would undoubtedly be the inter-relationship of fertility with education and employment opportunities.

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*Why did we  
let B Panel  
know this?*

1/ The Berelson Panel chided the Bank for devoting too small a proportion of its research program to population. The figures quoted, however, are unintentionally misleading; they were drawn from the December 1975 report on the Research Program which could take no account of a very large project (Narangwal) then under consideration by the Research Committee; which classified the project on West African migration as "labor and employment" rather than population; which did not note joint financing with other agencies, which has been important in several projects; and did not include the Botswana rural income distribution survey, which was also financed by the Bank but independently of the External Research Budget.

B. A second possibility is to try to extend our research activities primarily by obtaining a larger share of the external research budget. There would be no significant change in the core program but we would try to use the research budget of the Bank to systematically draw on research strengths outside. Indeed one of the messages of the Berelson report can be paraphrased "don't try to do it all yourselves: get others to help you."

What is the most appropriate way of doing this while still retaining enough Bank control over the research to make it truly useful to the Bank? There are at least three possibilities:

(1) To delineate the line of research in which we are interested, let this be widely known in the research community and await proposals from outside. We can be sure that we will receive plenty of these. We do already. Bank staff could then work with the sponsors of these proposals to try to shape them into products which would be suited to the interest of both the researchers and the Bank. We have had some experience of this approach with the Narangwal project; this provided the opportunity for the Bank to see that a remarkable set of data was properly exploited to meet the Bank's interests. However, the amount of staff time required to eliminate the divergence of interest between the Bank and those who originally conceived the project was considerable, and suggests that this would not be an effective way of increasing our research activities. The December 1975 Report on the World Bank Research Program came to a rather similar general conclusion.

(2) To become more active in seeking collaboration from L.D.C. institutions. This has the advantage of developing indigenous research capacity, which is one of the aims of Bank program and, as argued above, is particularly important in the population field. It must be acknowledged, however, that the experience of the Population and Human Resources Division to date has, at best, been mixed. In the case of two research projects whose proposed second stages involved extensive data collection in Brazil and in West Africa, the conditions for genuine collaborative research appeared extremely promising, and there were reasons to hope that this might feed back into greater understanding of population issues in countries where this was particularly lacking. However, in both cases, individual career moves upset the proposed data collection phase of the project and eventually both projects were dropped. While we should not abandon collaborative work with l.d.c. institutions, we must recognise the costs as well as the benefits of this approach, and probably should not increase the relative emphasis on this.

(3) To determine the nature of the research the Bank wants to see carried out and then seek the services of consultants or institutions to perform it. We have not done this systematically in population, but it would seem a feasible way to proceed. Some part, we would hope not too large a part, of staff time now actively devoted to research would go to preparing projects to be contracted out and to subsequent monitoring.

If this is accepted as the right strategy for further Bank research in this area, a rather larger proportion of staff time needs to be spent



on methodological issues and data questions. A program in which the Bank took some leadership in stimulating research on population issues could have considerable leverage on the volume and direction of research in this field, but we will not be able to go very far unless there is an increase in the availability of data. The Bank therefore needs to give much thought to ways in which it might encourage the collection of better household economic data. The beneficiaries would not simply be research on population but research on a wide range of questions -- for example, on employment and education issues, and on how to improve the design of rural and urban projects. The possibility of a Bank advisor on sample surveys is greatly to be encouraged. In addition, since ILO is considering expanding its own activities related to household surveys in relation to its Basic Needs program, collaborative programs with other agencies should be explored.

*Committee?*

An important question for consideration is whether the Bank should make any special efforts to encourage the collection of a small number of longitudinal data sets. Our understanding of the economic determinants of household behavior, particularly in relation to many fertility, education and labor market issues, would be greatly enriched if we had information on the sequence in which events incurred, and on their timing, rather than depending as now on the analysis of cross-section data. Our understanding of education and employment questions might be much greater now if we had been following individuals in school and in labor markets over a period of years. Our understanding of fertility might be made deeper if we had been tracing individuals through the process of family formation and subsequent childbearing activities, and relating these to their emerging economic experience.

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The collection of longitudinal data requires a continuing commitment to this area of research of several years. Few individuals might be able to make that commitment; the Bank, however, is an institution which will remain committed to the promotion of economic development and the elimination of poverty for a period longer than the career of any of its staff, and it can afford to take a long-term view. It is possible that the monitoring and evaluation associated with Bank operations may be adequate for this purpose, or perhaps collaboration with Bank-financed institutions, such as the India Population Centers, would suffice. Whoever has responsibility for such work, however, the data to be collected needs to be carefully defined. In other fields, such as child health and development, longitudinal data sets are maintained over decades. The question of whether the Bank might do the same in relation to socio-economic research deserves careful examination.

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Population and Human Resources Division  
Development Economics Department

March 10, 1977

## OFFICE MEMORANDUM

TO: Mr. D. Avramovic

FROM: K. Kanagaratnam *Kanagaratnam*

SUBJECT: Proposed Population Research Work Program

DATE: February 14, 1977

1. I have found the revised draft of the proposed population research work program thought-provoking and have shared it with several of our staff. In light of their comments, and to provide a stake-off point for our next discussion on this subject, I would like to suggest several areas which are in need of further examination and will strengthen the paper. I trust these will provide some basic steps to stimulate an ongoing dialogue on this important subject between researchers and operational staff.

2. Identification of the Research-User and the Intended Audience: The paper will benefit if this were done in more specific terms. Consideration of the eventual utilization of the findings flowing from any program of applied research -- who will use them and how -- must be a prime consideration in designing the research work program. Each project must be explicitly designed to be responsive to the needs of its users, or "audience", in order to ensure that it will be useful. To assure that useful research is, indeed, used, it is normally necessary to go one step further: that is to have a constant dialogue between researcher and user. The greater the involvement of the potential consumer in the formulation and design of the research, the greater the usefulness of the research.

3. As the paper states (para. 1), "....the Bank is not a university, a specialized research institute, nor a private foundation." It is a development institution with a commitment in the first instance to the non academic uses of research: policy guidance, program design, evaluation of impact, and the like. The research needs of its staff are very specific, although they have not necessarily been well articulated in the past. To begin identifying the Bank's population research needs, one must first delineate the various "audiences" for population research findings within the Bank and beyond this what our responsibilities are to the population field (see page 10). A first cut at this suggests three distinct audiences, each with different needs; the relevance of the proposed research must be evaluated in terms of these. One is the bank staff involved in population project operations. For this group, efforts must be directed at clarifying how research findings can be translated into operational activities or into specific project content, both in terms of free-standing population projects and in terms of population components in other social sector projects. A second group is comprised of the regional economists. Research must provide them with evidence on such things as the costs of rapid population growth, the multiple variables with which population growth interact, and tools



with which to measure these costs and impacts. This group needs considerable guidance through guidelines, suggested methodology and training support -- far more than has been done before. A third group is Bank Management. Research must provide them with a sound basis for the formulation of policy guidance on population, and for directing staff activities in population. For all of these audiences, research activities such as state-of-the-art papers and case studies are useful and in our view should have a sizable role in any program (Item C in program). More effort needs to be devoted to developing and maintaining a dialogue with these different potential user groups to identify their current research needs, to be responsive to changes in these needs, and to pave the way for eventual application of the results.

4. Research intended to be applied by country policy makers and program managers entails the same basic considerations noted above plus several additional ones. Ideally any research conducted by the Bank within a country should be relevant and useful both to that country and to Bank staff and others with cross-national interests. Designing research that is sensitive to the cultural milieu, contributes to local policy-making and program management needs, and that is also relevant cross-nationally, is extremely difficult (attempts to achieve these objectives for KAP surveys, for example, have largely failed). Another very vital consideration in the Bank's involvement in country level research is to evaluate objectively the contribution that will be made to developing the country's own research capabilities. This issue also needs to be addressed explicitly in designing the Bank's population research work program.

5. Research objectives: In formulating the research work program, a clear statement of research objectives is needed. One of the objectives should be to assure user-relevance. One important test of relevance is to examine what past research has or has not accomplished. The user-audiences mentioned above ought to participate in the periodic evaluation of past research activities. If this is not done -- if there is not a frank, continuing dialogue between research "sponsors" and research "audiences" within the Bank -- then our research decisions will too often reflect primarily the interests of researchers not users. It is regrettable that so much research is so exclusively "producer-generated" and results in little subsequent use; our own program should protect itself against this pitfall.

6. The critical issue is that the research program must be directed towards improving operations. The research work program must be justified in terms of operational usefulness, clearly delineating the operational relevance of each study proposed. Within this context, it is necessary to examine the study of linkages between development and fertility variables more closely. Although much has already been said about these interrelationships, individual research proposals must be detailed enough to explain how they will further clarify these linkages and, more importantly, what significance this will have for the Bank and its operations. For example, it is recognized that an improvement



in the status of women correlates with a decline in fertility; but how is this translated into an improved design of projects, or the design of projects in other social sectors, or policy guidance from management which will then impact more favorably on fertility? More specifically, how will an analysis of the economic activities of women and the elucidation of determinants of their participation in the labor force (such as that proposed on page 9) translate into policies and projects which will contribute to fertility reduction?

7. -- We need to review the methodological approaches to examining these linkages as well. The major role now proposed in the program for household surveys is a troublesome one, both in terms of the suitability of the Bank's direct involvement in them as well as their potential contribution to the field. As a research technique, the value of these surveys needs further consideration: the somewhat similar KAP surveys have largely failed to contribute meaningfully to an improvement in population program efforts. Perhaps we might consider as a first step evaluating the two or three survey studies which have already been undertaken by the Bank, as well as the broader scope of surveys as a technique, before we commit ourselves to undertaking any more. We should examine whether or not surveys are accomplishing their stated objectives.

8. In-depth country analyses (pages 4-5) too, need similar close scrutiny before we can feel comfortable about committing substantial resources to them. We have consistently felt that these studies are more time-consuming and manpower intensive than their results justify. It is not clear how such studies have, or will, advance the population objective of the Bank better than alternative methods of convincing governments of the costs of high population growth. In fact, we feel that such studies tend to become too ambitious, lose their focus and relevance, and hence fail to have much influence on policy changes.

9. Comparative Advantage: It is true that, in many ways, the Bank is in a unique and privileged position which affords it "special opportunities" for research (pages 2-4). It is usually said that the Bank enjoys intimate and privileged relationships with governments and is in a position to influence development policy decisions in many cases. As a major economic development institution, the Bank has considerable influence in the international community as well. Anyone familiar with the LDCs over the last five years knows how much strength the donor community vis-a-vis LDCs has eroded as a result of their political and intellectual growth, especially during the past decade.

10. However, there are disadvantages in the Bank's position as well. Some of these are inherent in the subject matter, i.e. population, and it is risky in 1977, three years after Bucharest, for any external group especially from the "West" to raise population issues except under carefully prepared conditions. For instance, our access to national data is no easier than for other donors

who wish to sponsor research from outside the country. In population, the control of policy and program initiatives is now very much in the hands of national governments, many of whose own decisions and actions are providing the cutting edge for change in this field -- in contrast to the outside leadership of five to ten years ago.

11. Another disadvantage to the Bank assuming too broad-based a role in population research is that it is not essentially a "population institution". We are not primarily involved in furthering population research; but we are deeply interested in useful research results and hence in sponsoring short-term applied research projects with potential high pay-off -- in contrast to longer-term studies of a basic nature, which normally lead mainly to additional studies.

12. A major weakness in the "Overview" section is that the discussion of population research centers on the work of donors and agencies, including the U.N. system, says little or nothing of research being done by the LDCs; in fact, a substantial volume of in-country research is going on that will in fact provide the real basis for future progress. The paper will benefit if this external bias is removed.

13. I think it is time to come to grips with these broad policy considerations and review specific projects within the proposed research work program in terms of fulfilling objectives which have been carefully thought out and explicitly set forth. I look forward to our discussion on the draft program. I will also send you in due course several operationally oriented areas for discussion for inclusion in this present work program. These have been touched upon in this draft (page 6, c. b.) and some expansion of them would, I feel, be helpful in our discussion.

14. I look forward to a productive discussion.