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Bellagio - Sub-Saharan Africa

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OFFICE MEMORANDUM

file: (Bellagio SSA)

DATE July 16, 1985

TO Ms. Husain (PHND2), Messrs. Schebeck (PHND1), Berg, Measham, Sai (PHNDR)

FROM Nancy Birdsall, *NB* Chief, PHNPR

EXTENSION 6-1581

SUBJECT Research Priorities, Sub-Saharan Africa

1. Attached are descriptions of eight priority areas for research in Africa. These were prepared at the request of Marcelo Selowsky, OPSVP. My understanding is that along with comparable descriptions in other areas, they will provide a basis for the Bank's delineation of research priorities it views as critical for support by itself and other donors.

2. The eight areas are based in part on discussions at two Bank-sponsored conferences on research priorities for Sub-Saharan Africa (Easton, Md., in October 1984 and Bellagio in February 1985) and in part on other inputs, including ongoing discussions of the work program for the Policy and Research Division, Population, Health and Nutrition Department.

3. Several of these represent areas we are considering for new research, e.g. the one on population distribution. Comments are welcome.

Attachment

cc: Messrs. North, Denning, Selowsky, Lal
PHNPRD Staff

NBirdsall:am

I. Future Population Distribution and Economic Change in Sub-Saharan Africa

Background

Population distribution is poor in Africa in relation to natural resources. This is evident from even a cursory comparison of crude carrying capacity indicators with current population densities. High densities combined with traditional low-input levels of agriculture are reducing returns to labor and yields in some areas. In others, low densities raise the costs of providing agricultural extension and social services, make yield-increasing investment in irrigation a poor investment, and prevent the development of land markets necessary to further private investments. Part of the problem is restrictions on international migration, but even within countries, distribution of population is poor. Indeed current population distribution may reflect past patterns of poorly-allocated investments over space e.g. in the colonial period, or of restrictions on mobility due to ethnic or linguistic barriers that are now breaking down; there is little reason to assume that current distribution is the result of efficiently-operating market forces.

For the next several decades, with 70 percent and more of the labor force in agriculture and with most agriculture at traditional low-input levels, average returns to labor in agriculture might be higher if more labor were available in areas of rich agricultural (or other economic) potential and labor increases in areas of poor potential could be limited (all other things equal -- including pricing policy reform, improved technology, etc.). On the other hand, planned migration of large numbers of people (e.g., as is now going on in Ethiopia) to accomplish such redistribution probably cannot be justified economically because of its high cost, and may not lead to the "right" long-run distribution anyway, given the likelihood of planners' errors. However, planning of long-term social investments (which normally must be planned anyway) that affect spontaneous migratory movements -- e.g., investments in transportation and social infrastructure or elimination of diseases that prevent settlements -- should be undertaken with a view to reinforcing and encouraging certain migratory patterns.

What investments, especially in transportation, might governments undertake to better exploit the economic potential of areas now sparsely populated? Can certain investments be justified economically, even assuming high discount rates, by the likelihood of future unforeseen high positive externalities? What are the private and social costs and returns to current planned movements of people?

Research approach

Develop proposal for research project on optimal patterns of infrastructure development, possibly including cost-benefit analysis of road projects taking into account positive externalities, agricultural-potential of different regions, and future expected population growth; case studies of economic and social costs of and returns to planned

migration (e.g., Somalia, Tanzania villagization); positive analysis of extent to which existing population distribution in selected areas is a result of past nonoptimal patterns of infrastructure investment.

References

Boserup paper for Bellagio conference; background papers by Ho and others for PHN Population Issues in Sub-Saharan Africa; various Pingali and Binswanger studies.

II. The Changing African Family: Demand for Fertility Control

Background

Fertility remains high in Africa, but there are significant signs of demand for modern contraceptive, including scattered evidence of increasing abortion in urban areas, a decline in desired family size among young women, especially those with some education, and up to 40 percent of eligible couples using modern contraception in a few rural areas where services are good. Governments are interested in designing effective family planning and related programs to encourage later marriage, spacing of births and lower fertility. But decisions about appropriate and cost effective approaches (e.g., the mix of information vs. services, appropriate messages and media for family planning campaigns, the emphasis to place on community organization relative to individually-oriented services, the importance of parallel services such as health and education for women for increasing demand, the appropriate targetting to men, women, younger or older couples) are difficult to make in an environment of little and highly-scattered information on existing demand, and on potential demand if information were more widespread. In particular, decisions about whether and how to target programs (how much to urban vs. rural areas; to young couples for delay of first births and spacing, vs. older women, for stopping childbearing; to women only or to men; through religious and community groups or through modern mass media and so on) are difficult to make without a better understanding of current demand. In addition, analyses of the demographic and health effects of future programs will rely in part on baseline data on use of nonmodern means to limit births; such baseline data will permit analysis of the extent to which future utilization of publicly-subsidized programs reflects substitution away from former methods or a net increase in users.

Research approach

Commission review paper(s) by economist with background in demography and economic anthropology, to cover existing information, including from anthropological studies of such issues as:

- (a) women's motivations for childbearing; the effect of existing family legislation on women's need to use children to secure their own future; the costs and benefits to men of children;
- (b) the extent of, trends in, and causes of high adolescent fertility among married and unmarried women; the causes of early marriage;
- (c) the costs (e.g., labor market withdrawal) and benefits of breastfeeding;
- (d) the extent and type of current contraceptive practice, including use of traditional means of contraception; and

- (e) the extent of abortion, financial outlays by clients, age and other characteristics of clients, and health effects of nonmedical abortion.

Emphasis should be on linking what is known about demand for children and for contraception to program options with respect to targetting, etc. Studies should not be limited to the conventional approach of analysis of determinants of fertility using nationwide survey data and regression techniques, but should include more broad-ranging reviews of a variety of materials, including village anthropological studies, farm management studies, time allocation and labor force studies, hospital and clinic records, etc.

Reference

Boserup paper, PHN Africa population policy paper.

III. The Changing African Family: Designing Appropriate Family Planning and Related Service Programs

Background

The large literature on determinants of fertility in Africa sheds little light on how more accessible and higher-quality family planning services would alter fertility, and consequently little on how services should be designed to best serve the needs of potential clients. This major deficiency arises in part because household data on characteristics of potential users are almost nowhere matched to information on differences across potential users in access to services. Studies outside Africa indicate that response to availability of public services varies widely, depending on characteristics of the services themselves as well as on the "demand" environment. Anecdotal evidence of widespread abortion in Africa and a growing commercial market for condoms in urban areas, suggest higher demand for contraception than heretofore assumed, and indicate willingness to pay for contraception and abortion even among low-income groups. Approaches to family planning programs to reach unmet demand and to create new demand are needed. Given very limited experience in family planning delivery in Africa, research, including experimentation with various approaches, can have a high payoff.

Research approach

Initiate operational research on supply side issues, including studies of cost-effectiveness of alternative existing delivery systems within public sector and outside of public sector (commercial sector, missions and nongovernmental organizations). Research methods would include:

- (a) follow-up of acceptors and non-acceptors over time, to include analysis of the effects of alternative approaches to service provision (e.g. amount of client follow-up; training of workers and supervisors in appropriate responses to side-effects; extent of workers' other duties; number of contraceptive methods available and emphasis on informing clients of alternative methods) on continuation, controlling for characteristics of users;
- (b) analysis using matched household and service data of determinants of service utilization, including not only household "demand" characteristics, but the characteristics of "supply", i.e. accessibility, quality and price of services;
- (c) analysis using focus group techniques in addition to standard survey research, with emphasis on "consumer" views of service quality;
- (d) analysis of expenditures on and patterns of utilization of nonpublic sources of contraceptives and abortion; and

- (e) cost and cost-effectiveness analysis of alternative approaches to service provision, including integrated health and family planning delivery systems.

References

PHN Africa population policy paper; various PHNPR work program memoranda.

IV. Paying for Health Care: The Effects of Fees for Services on Utilization, Quality and Management

Background

There is a growing case for increasing the degree of cost recovery in publicly provided health and family planning services and for seeking means to encourage private suppliers to enter the market, both as a means to increase resources, and as a means to improve the efficiency and (even) equity of existing systems. The case is built in part on evidence of high private expenditures on drugs and traditional health care, and low price elasticities of demand (outside Africa). Little, however, is known about how specific fees for certain services now supplied free would affect demand and utilization of various income groups, and how increases in fees would affect utilization under alternative assumptions about quality improvements. Even less is known about the administrative costs of collecting fees, and the implications of introducing financial accountability into highly centralized service delivery systems.

Research

- (a) Analysis of data covering household expenditures on, and utilization of health and related services (private and public), where prices, quality, and income vary;
- (b) experimental work on reliability of willingness-to-pay questions, e.g., via comparison of responses on WTP to actual expenditures; and
- (c) analysis of collection costs (and effectiveness of) various fee mechanisms, including revolving funds for drugs and other expendables, creation of hospital parastatals, decentralized control of revenues, etc.

References

Notes from Bellagio discussion of public finance; N. Birdsall cost recovery paper; de Ferranti policy paper on health financing (in draft).

V. Paying for Health Care: Insurance and Other Forms of Risk-Sharing

Background

The serious problems in how health services are financed now in African countries cannot be adequately solved if the options considered do not include fostering mechanisms by which households can either (i) borrow resources to pay health costs or (ii) participate in insurance or other risk-sharing arrangements. Such mechanisms, ranging from credit markets to social insurance schemes to community-based, pre-paid health plans, are still scarce and weak in Africa, lagging far behind trends in other regions. Why? What, if any thing, should be done to hasten their development? Presumably, informal markets exist, for example borrowing among relatives or within the community to finance emergency medical care, transport to distant hospitals, to cover loss of labor income, and so on. Still, cost recovery through fees at public hospitals and other health facilities for expensive curative care cannot be introduced until and unless private or public insurance is available.

Research Approach

The first issues that need to be addressed are: what are the characteristics of the mechanisms that exist now for borrowing or prepaying, in a representative selection of communities; how are households using these mechanisms and other alternatives (e.g., travel farther to get to free care), what are the constraints that limit expansion of credit and risk-sharing, and what are the differences between the patterns for rich vs. poor, urban vs. rural, etc? To tackle these issues properly, the full range of credit markets available to households in selected study sites need to be assessed. Rural sites could be examined initially, with urban sites added later. Household surveys should be undertaken, together with interviews of the staff of lending institutions and risk-sharing health care plans.

Following a descriptive analysis that pinpointed constraints and distributional questions, modelling techniques would be employed to assess possible new options, considering both supply (What will lenders and risk-sharing plans be willing to provide if certain constraints are eased, and under what conditions?) and demand (What will households be willing to pay for?).

References

Collier paper for Bellagio; PHNPR work program notes;
N. Birdsall/de Ferranti papers.

VI. Improving Primary Health Care: Maternal and Child Survival Issues

Background

Progress in dealing with high rates of disease and preventable deaths remains slow in Africa partly because basic health services below the hospital level are still of low quality, not cost-effectively designed and not accessible to all localities. Of particular concern are the still high mortality figures among children under five and among women during pregnancy, at birth, and through the end of weaning. Over two thirds of all preventable deaths may currently occur within these two groups. Infant mortality rates in Africa are ten times higher than in developed countries; maternal mortality rates are one hundred times higher.

Major research and other initiatives on many questions relating to these issues have been funded through numerous international and academic institutions (including WHO, UNICEF, USAID, the World Bank, and Rockefeller). But a number of areas that should be under extensive investigation at present are not, due in part to funding limitations. Two of these areas that should be top priorities are:^{1/}

- (i) How could the design and selection of minimal cost intervention "packages" (that is, combinations of immunization, growth monitoring, oral rehydration, nutrition education, antenatal care, perinatal care, and/or other maternal and child health services) be improved to take into account better the multiplicity of disease episodes that women and children under five must overcome in order to survive those high-risk years? Past studies have often focused on particular diseases one at a time. But success in saving a life from, say, a single bout of diarrhea is of limited consequence if the same child will die three months later from measles or malaria, possibly due in part to weakened resistance stemming from the prior illness. Information is needed that can guide resource allocation choices with respect to the full survival problem, not just pieces of it.
- (ii) With regard to women during pregnancy and at birth, how could the high mortality and disease rates be reduced? Previous research has concentrated on children, leaving maternal health largely neglected. At least 90 percent of maternal deaths (mainly associated with hemorrhage, infection, abortion, eclampsia, and obstructed labor) in principle could be prevented, with major benefits for the survival prospects of the mother's latest and preceding children.

^{1/} Others are subsumed under Items VII and VIII following.

Research Approach

The main goal should be to estimate and compare the costs and effects of the most promising intervention "packages" for a number of African settings, and to assess the contributions of the primary components (immunization, etc.) of each package. The most difficult methodological challenge is how to estimate the effects of interventions. There are three main conceptual options:

- (a) estimate the change in the quantity and quality of services received by the target group, based on primary data collection through visits to sampled delivery points and surveys of users and the surrounding population; and then estimate the change in health status (mortality and morbidity) using relationships known from the general medical literature on the efficacy of the technologies involved, where the service has been effectively delivered (e.g., evidence from randomized clinical trials);
- (b) estimate the change in health status directly from data collected in the study sites; or
- (c) do (b) plus estimate the other benefits flowing from the change in health status (e.g., higher productivity, earnings, better leisure time).

The third is theoretically the best, but exceedingly difficult to accomplish satisfactorily. The second is better than the first, but still not always feasible -- considering the crude measurement tools that must be relied upon, the long-term nature of some impacts, and the high degree of interdependence among the multiple factors contributing to health changes. Analysis of maternal mortality is complicated by the need for large sample sizes because death associated with child bearing is not a frequent event.

A recommended strategy would be to start with studies using the first method and use that experience to carry out further analysis using the second method. The former studies would examine examples (preferably at least three; more if possible) of ongoing programs in different African communities, taking some "success stories" and some "average performers." See Item VII for further points on methods.

References

Chen work in Matlab, Gwatkin, DANFA project, Barnum, etc. on cost per death averted, measles and other data from Stan Foster. Rosenfield paper on maternal health. References in de Ferranti outline.

VII. Improving Primary Health Care: Who Should Do What at the "Grass Roots" Level?

Background

Despite everything that has been written about how primary health care should be structured so as to break more quickly and cost-effectively the grip of high rates of disease and preventable deaths in Africa, evidence is still very limited on several crucial questions. These questions relate not only to which services to emphasize most, but also what technologies work best for providing those services and which delivery mechanisms make sense in the African context. Ongoing work has been unable so far to yield sufficient information vitally needed on two topics particularly:

- (i) How can community-based workers (such as volunteer health promoters, trained traditional birth attendants, or paid para-professionals) be more cost-effective? What should their functions be? Can investment in them save costs elsewhere (e.g., can training for TBAs substitute for building more maternity beds)?
- (ii) What types, sizes, and numbers of below-hospital facilities (health centers and posts) should countries strive for? What services should such facilities provide? What auxiliary outreach (e.g., mobile clinics) should they have for covering outlying areas?

Research Approach

Analyze the costs and effects of a few strategies in operation now in selected African countries, based on data collected from local service delivery points, through household surveys, and during site visits to participating communities. Include control groups. Estimate the costs and effects for other alternatives (not directly observable now) using modelling techniques. On effects, rely mainly on approach (b) as outlined in Item VI. Thus focus on indicators of the quantity and quality of services as delivered, emphasizing those services known from the general medical literature to have a reasonably high probability of being efficacious if appropriately provided. It will probably not be possible to discern statistically significant impacts on mortality or morbidity; but in order to pick up whatever can be identified, obtain information from service delivery points on patient visits and from households on (self-reported) symptoms and dysfunctions.

References

See outline for synthesis paper (review of currently available evidence on resource allocation issues) and background papers cited therein by Gwatkin and others.

VIII. Improving Primary Health Care: Health and Hygiene Promotional/Educational Programs

Background

Health improvements remain considerably impeded by the widespread persistence among African populations of inappropriate behaviors in regard to personal hygiene, sanitation, child rearing, diet and food preparation, and care of the sick at home. Even where water and food availability are highly constrained, better knowledge, attitudes, and practices in these areas could lower the extent and impacts of disease significantly. Progress requires programs that inform and convince people not only through their contacts with health providers but elsewhere too -- e.g., through mass media campaigns, village meetings and/or leadership by local officials. Yet efforts of this sort have so far had mixed results, often failing miserably. What works? (If nothing works, why?) How can future initiatives be more cost-effective?

Research Approach

Assess the effectiveness and costs of several programs using household surveys and direct observation of household behavior both before and after exposure to promotional/educational campaigns. This will require synchronizing the research with (i) extension of existing programs into new areas and/or (ii) introduction of new programs. In either case, full advantage should be taken of the opportunity to shape programs in accord with promising hypotheses or earlier findings. On effectiveness, concentrate on change in behavior, adopting a long enough timeframe (e.g., 6 months or a year after exposure) to allow for the high degree of "wearing off" of messages that is typical for these programs.

References

See outline for synthesis paper.

OFFICE MEMORANDUM

DATE July 26, 1985

TO World Bank Participants of the Easton and Bellagio Meetings

FROM Deepak Lal, VPERS and Marcelo Selowsky, OPSVP

EXTENSION

SUBJECT Report on "An Agenda of Research Priorities
for Sub-Saharan Africa"

Please find attached a copy of the report. Additional copies can be obtained by writing or calling Ms. Els van Wingerden, Room E-1023, ext. 75569.

July 12, 1985

An Agenda of Research Priorities for Sub-Saharan Africa

This report identifies selected priorities in applied socioeconomic research in sub-Saharan Africa. It emphasizes research that illuminates the process of economic development in the region and strengthens the analytical basis for policy analysis. The report is based on the contributions from and discussions with African policymakers, academics, and World Bank staff and was financed by the Research Project Approval Committee of the World Bank (REPAC). Large part of these discussions took place at a conference at the Bellagio Study Center of the Rockefeller Foundation, February 28 - March 3, 1985.

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INTRODUCTION

This research agenda is part of the World Bank's effort to promote a better understanding of the process of economic development in sub-Saharan Africa and the factors underlying the present deteriorating economic situation. This it is hoped will also improve the analytical basis for policy formulation.

The agenda seeks to identify some research questions which REPAC judges merit the development of high quality research proposals by the world wide research community.

These research priorities were developed during two meetings organized by REPAC. The first meeting, in Easton, Maryland (see Appendix) sought to elicit the views of Bank researchers and regional staff about the main research priorities. The second meeting, at the Bellagio Conference Center in Bellagio, Italy, brought together African policy makers, academics and World Bank staff (see Appendix). The agenda covers four main areas of inquiry. It begins with the major determinants of the economic environment which govern economic performance: trade policy and macroeconomic adjustment and then public economics and resource mobilization. It then outlines more long term issues concerning agricultural development and population and human resources.

A. PRIORITIES IN THE AREA OF TRADE POLICY AND MACROECONOMIC ADJUSTMENT

In many sub-Saharan African economies, trade policies have been used quite extensively to protect industry and to tax agriculture. With the changing international economic environment, reduced flows of foreign concessionary aid and the debt that has rapidly built up in some sub-Saharan Africa countries, there is increasing pressure on governments to re-evaluate past approaches to both international trade policy and macroeconomic management. This section selects key areas of research in these fields which should provide some insight and assistance to decision makers wishing to undertake policy reform. It outlines thirteen research topics. It begins with a discussion of six researchable topics in the field of trade policy. Since the exchange rate is a major instrument of both trade policy reform and macroeconomic adjustment, three researchable topics on exchange rate policy are also outlined. The section concludes by identifying four topics in the field of macroeconomic adjustment.

I. TRADE POLICY

The topics suggested here cover aspects of the international economic environment and its effects on sub-Saharan Africa exports and issues covering domestic trade policy.

1. The effect of non-tariff barriers on African exports.

As the GATT rounds have brought about a significant decline of tariffs as obstacles to trade, non-tariff barriers (NTBs) have become more prevalent. The GATT itself, in attempting to limit the imposition of trade restrictions, specifically allows countries to impose several countervailing duties. In addition, governments and import competing interests have been

quite inventive both in developing and implementing new forms of restrictions. Present research has concentrated on the identification of the kinds of restrictions which the major industrial countries impose against imports and on the extent of these restrictions -- measured by the proportion of a country's imports or of its import categories to which each type of NTB is applied. This research should now move in two different directions. First, to use the present measures of NTBs to estimate the restrictiveness of these barriers. NTBs usually do not have a "natural" measure of intensity or restrictiveness as a tariff does (the tariff rate) and so the research problem is to estimate the "ad valorem equivalent" of NTBs. A second line of work relates to how developing country exporters have adjusted to NTBs. NTBs are usually porous. There are loopholes, and an exporter by shipping from a different plant or by shifting production varieties can, to some degree, avoid restrictions. How much does it cost an exporter to shift to a product line in which his comparative advantage is less? How entrepreneurship- or knowledge-intensive is this process of adjustment?

Applications of the above research issues to the specific situation of sub-Saharan Africa will define two specific research projects. First, to sort the present information on the industrial countries' NTBs so as to present a profile of the NTBs facing the exports of particular sub-Saharan countries -- to begin, say, with the Ivory Coast's major export products and identify the NTBs imposed both in the countries to which the Ivory Coast normally exports these products and in countries which might be potential markets, i.e., countries which import the same products from other exporters.

A second application to sub-Saharan Africa relates to the hypothesis that coping with such trade restrictions is a knowledge- or entrepreneurship-

intensive activity. The World Development Report, 1981 noted that even for primary products exports, the performance of the poorer countries was notably worse than the performance of the middle-income developing countries -- which was, in turn, worse than the performance of the industrial countries' primary product exports. It will be important to investigate the proportion of African countries' primary exports which are covered by various kinds of special arrangements or affected by various kinds of NTBs and then investigate how effectively African exporters have coped with these political and administrative arrangements as compared with other developing and developed country exporters. Administrative arrangements, no matter how well intentioned, might impose a burden on the African countries if their effective exploitation depends on the availabilities of skills in short supply in these countries.

2. Infant industries and the debate on selective promotion.

There is an increased agreement that commercial policies in sub-Saharan Africa have to evolve toward a more neutral trade regime, one where there is very little discrimination between sectors that generate and those that substitute foreign exchange; i.e., the import substituting and export sectors should receive equal incentives. This involves a reduction in the level and the variation in protection across sectors that are found in many sub-Saharan Africa countries. Nonetheless, the "infant industry argument," calling for special assistance or protection to specific industries is still a major area of debate that must be addressed and is best done by applying the basic principles of economics to arrive at a better understanding of the quantitative dimensions of an infant industry policy.

The infant industry argument rests on the perceived potential for a rapid decline in the cost of production and a resulting increase in efficiency of production in a specific firm or industry as well as on the existence of market failures (particularly in capital markets) that would otherwise prevent the industry from growing efficiently. In other words, the presumption is that the long run benefits -- when the industry is able to export (or substitute efficiently for imports) by producing at costs below world prices -- can compensate for the short term losses when its costs are above world prices during the infant industry stage. In other words, such an infant industry policy can only be justified if the net benefits, appropriately discounted over time, are positive.

By now many sub-Saharan countries have had sufficient experience with infant industry protection to permit an ex post evaluation of this policy. What is important is not only whether these industries can now export (or substitute for imports) at costs below border prices, but they must also pass the net present value of benefits test; i.e., their present benefits should be such that they can compensate for their past (social) losses incurred while in infancy. If these "successful" firms do not pass the test, then the ex post judgment would be that the infant industry policy, as conceived, was not justified, even if the firms are now successfully exporting, because the costs of such a policy exceed the benefits that now accrue to the firm. This research would therefore:

- (a) Identify manufacturing firms and industries which were initially protected through tariffs and are now able to export or substitute imports at costs below border prices. Case studies in sub-Saharan Africa as well as in countries where the level of development is higher should be included (e.g., Korea and Japan?).

- (b) Evaluate the amount of time it has taken for such costs to reach levels below border prices, i.e., the time it has taken these industries to become competitive in world markets.
- (c) Evaluate the social costs incurred in the early stages and the subsequent social benefits to determine the net present value of benefits of the infant industry policy to that particular firm/industry.

3. Alternative transition patterns.

As mentioned earlier, there is an agreement that sub-Saharan Africa economies have to evolve toward a more neutral trade regime. To the extent that countries start with very distorted trade regimes and there are some constraints on the speed at which they can implement these reforms, several researchable issues emerge:

- (a) Should countries willing to undertake trade policy reform do it all in one stage, or should they take a more gradualist approach? The latter approach may lower the transition costs relative to the one-stage approach, but the benefits would also be delayed and the net present value of a gradualist approach may not necessarily be higher than that of the other one-stage approach. On the other hand, political economy dimensions may mandate a gradualist route.
- (b) If a gradualist approach is undertaken, should there be uniform or discriminatory treatment of sectors? If uniform, what are the choices among alternative uniform processes? And, if non-uniform, what should be the nature of the discrimination between activities? Are there particular patterns of tariff reduction that are welfare reducing?
- (c) What is the proper sequence of options available to countries, particularly when they start from initial conditions characterized by

quantitative restrictions? Should there be a separate stage consisting of the replacement of quantitative restrictions by tariffs? What is the role of intermediate steps like auction schemes for imports? What are their efficiency and distributive effects?

- (d) What is the experience with dual exchange rates for exports as an alternative to equivalent tax/subsidy schemes in promoting particular exports?
- (e) When the economy is still characterized by other distortions -- in factor markets and in the non-traded sectors, as in the case in many sub-Saharan economies -- what are the implications for the way one might approach trade reforms?

4. The coordination between exchange rate policy, export promotion and the lowering of import restrictions.

A trade liberalization reform aimed at lowering the level and dispersion of trade restrictions will usually be accompanied by a depreciation of the real exchange rate so as to maintain equilibrium in the balance of payments. That depreciation in the real exchange rate is the main mechanism by which resources are pulled into the export sector and the more efficient import substitution sectors. This pull of resources should absorb part of the resources originally employed in the now contracting (more inefficient and highly protected) import substituting sectors as well as resources employed in the nontraded sector.

When factor markets are well integrated, policy-induced distortions are minimal and resources are mobile, this process of reallocation can take place rather smoothly. When this is not the case, some unemployment will take place in the contracting sectors, and this can have important political

consequence. Similar adverse political consequences may take place if exports are slow to respond to the new incentives. Thus, it might be appropriate to start with changes in exchange rate policy and in other export incentive policies before lowering import restrictions. This would, inter alia generate pressures to increase employment in the expanding sectors before resources start to be released from the contracting sectors. Research in this area should look at experiences of other countries that have undertaken trade reforms by first changing the exchange rate and promoting exports before liberalizing the imports regime, and evaluate their relevance to sub-Saharan Africa. It should be complemented with an analysis of the specific factor markets that, in typical sub-Saharan Africa countries, will also be affected by trade liberalization.

5. The political economy of reforms.
The winners and losers of policy change.

In identifying trade reforms, it is sometimes crucial to identify transition paths that are sustainable, even if those paths might involve some losses of efficiency during the transition. It may be better to have a package of reforms that is less than perfect but has a high probability of being sustained. This issue is related to the ones discussed previously.

The key issue here is to understand better the losers and winners of these alternative policy reform paths. To be sustainable, the short term costs of the path cannot be excessive for some key groups, as this might impair the political survivability of the government; moreover, the reforms should show some quick results for other groups so that a constituency or coalition of winners can be quickly formed.

Who are the groups who win by expanding the export and the efficient import substitution sectors? How long does it take for them to feel those gains? Who are the losers and how fast do they start feeling the losses? What is the role of other compensatory policies, such as adjustment assistance and retraining programs, in minimizing the losses? How can consumers of traded goods, usually food commodities (whose prices rise due to the change in the exchange rate policy) be temporarily compensated? These are the sorts of questions that could be undertaken in such a study.

6. The fiscal effects of trade reforms.

In sub-Saharan Africa, trade taxes form an important share of total tax revenues; but trade liberalization need not necessarily imply reduced revenues. Such reforms can have a variety of fiscal effects. These effects will depend on many factors, such as the original nature of restrictions; the elasticities of demand and supply of traded goods; and the extent to which public enterprises are involved in using or producing goods whose prices will be affected by these reforms. When quantitative restrictions are allocated without auction schemes, the movement to quantitative restrictions with auctioning or to tariffs will increase fiscal revenues. Lowering tariffs will have an ambiguous effect, depending on the values of the different price elasticities and on the income effect. On the other hand, public enterprises who are net producers of foreign exchange will increase their surplus or diminish their losses; the reverse will be true for public enterprises who are net users of foreign exchange. Nevertheless, the fear of reduced revenues can obstruct efforts to liberalize trade.

This suggested research would evaluate the fiscal effects of trade liberalization and alternate sources of taxation (if necessary) for different

taxonomies of sub-Saharan countries characterized by different economic structures. This part of the research should be coordinated with a similar research being suggested in the section on Public Finance and Resource Mobilization Issues.

II. EXCHANGE RATE POLICY

Many sub-Saharan Africa countries have followed an exchange rate policy that has been biased against exports and has amplified the import-substitution bias of their trade regimes. Many of these economies, for a variety of reasons, now also face either high inflation or severe debt problems; furthermore, the nature of the policy regime has prevented the use of the exchange rate as an instrument of economic stabilization. Inappropriate exchange rate policies add considerable instability to the economic environment and, in many cases, have been responsible for major crises. Given the central role played by this variable in both trade liberalization and macroeconomic adjustment, the exchange rate is now recognized as one of the most important economic variables in developing countries. It has, therefore, emerged as a crucial policy instrument that can promote exports and facilitate the economic adjustment process.

1. The analysis of alternate exchange rate regimes.

At the present time, sub-Saharan Africa countries have every possible type of exchange rate arrangements. Some countries have a fixed rate with respect to the U.S. dollar, others with respect to the French franc, others are pegged to the pound sterling, while some have fixed their currencies to the SDR. In spite of this diversity of regimes, there is generalized agreement that inadequate exchange rate policies in most sub-Saharan countries

have been partially responsible for the state of disarray of their economies in general and the agricultural sector in particular.

Unfortunately, there are no studies that have analyzed in detail the conditions under which a particular exchange rate system is preferable to another in the African context. From an analytical perspective, the most appropriate exchange rate regime for a particular country will depend on a set of characteristics specific to the particular country. For example, depending on the nature of the shocks affecting an economy -- temporary or permanent, domestic or foreign -- and the structure of the economy, the optimal degree of exchange rate flexibility will be greater or smaller. Also, factors such as the degree of export concentration, nature of the principal export, size of the country, and degree of openness of the economy will be important in determining an appropriate exchange rate regime in a particular country.

The analysis of the more appropriate forms of exchange rate arrangements in sub-Saharan Africa, therefore, appears to be a very important topic for future research. Given this vast variation in exchange rate systems in sub-Saharan Africa, a very useful study would be to: develop a taxonomy of alternative exchange rate systems in sub-Saharan Africa; determine the economic costs and benefits of these regimes in the sub-Saharan Africa context; and provide suggestions for reforms. The questions that should be addressed would include: (a) Under what conditions in sub-Saharan Africa is a fixed exchange rate regime with respect to one major currency or a basket of currencies appropriate? Here issues related to the costs and benefits of fixed rates could be discussed. (b) If a crawling peg is adopted, what type of indicators could be taken into account to determine the adjustment of the exchange rate in each period? (c) How appropriate is a policy of adopting a

floating rate regime in countries where exports are dominated by one commodity with extremely volatile prices. Here the question of the desirability of adopting floating rates in countries with weak financial institutions and capital markets and with no future (or forward) markets for their currencies could also be addressed. (d) What exchange rate system should a country adopt if it is subjected to the Dutch Disease type of problems? Here the issue of having an exchange rate system that provides incentives compatible to the equilibrium of the external sector over time -- as opposed to foreign exchange flow equilibrium in every moment in time -- could be addressed. Within this context, the experience of countries, such as Uganda and Sierra Leone, which have adopted systems of exchange auctions could also be studied in depth. The objective would be to study the effectiveness of such regimes as a transitory step to a unified system, as a mechanism of allocating foreign exchange and its impact on exports and economic growth.

2. Floating rate regimes.

Some African countries, e.g., Zaire and Uganda, have recently adopted freely floating exchange rate systems. The literature is replete with arguments against developing countries undertaking such a step because of the "thinness" of the foreign exchange market, the possibility of manipulation by a few economic agents, the underdeveloped nature of the capital market, etc. Yet, such regimes are now in place in some of these countries. The question that would be very relevant to sub-Saharan Africa would be: what are the minimal institutional and economic conditions essential for such countries to adopt a fully floating rate system? The study should draw on the experience of the African countries and other developing countries (e.g., the Dominican Republic) that have adopted such an exchange rate regime.

3. The determinants of real exchange rate variability.

Finally, there is a view that excessive real exchange rate variability results in negative welfare effects by increasing instability, reducing trade and hampering growth. There is, however, another view that economic agents adjust to such variability; they develop expectations, based either on past variations or on observing government policies that would affect the level of real exchange rate, and adjust their behavior accordingly. From a policy point of view, it is important to understand the factors that have generated real exchange rate variability in sub-Saharan Africa and whether this, in turn, has adversely affected trade and economic growth. If it is found that this variability has been due to unstable domestic policies (e.g., monetary, fiscal or nominal exchange rate policies) which are within the control of governments, as opposed to external shocks, and that this has, in turn, reduced exports and growth, then the policy implications for reducing real exchange rate variability become obvious.

III. MACROECONOMIC ADJUSTMENT

During the last decade most sub-Saharan Africa economies have gone through what one might call macroeconomic crises. For the purpose of this agenda, macroeconomic crises are defined as excessive levels of aggregate expenditure (absorption) given the present and expected level of real output, fiscal revenues and external borrowing opportunities, and which are subsequently reflected in an unsustainable balance of payments and/or fiscal deficit. Research in this area is discussed at two levels: First, positive areas of inquiry, i.e., how do crises occur? what are their magnitude and their origins? how have they been typically dealt with? and what are the effects on growth? Second, normative areas of inquiry, i.e., how can crises be mitigated

and what are the welfare cost minimizing stabilization policies that can return the economies to a long-term growth path.

1. The determinants of macroeconomic crises.

A first area of research is a comparative study analyzing past crises in sub-Saharan Africa countries. This could be done by developing a taxonomy of countries based on economic structure. The study should identify the nature of the crisis, and the factors contributing to that crisis in each case. Clearly, external factors that are exogenous to the economy would play a major role; they would include shocks such as the oil price increases, commodity price declines, deterioration in the terms of trade and changes in the quantity and terms of external borrowing and foreign aid. Domestic economic policies are also likely to play a major role in contributing to the crises. These would include, inter alia, excessive fiscal deficits, expansionary monetary policies, and inappropriate exchange rate and trade regimes. The objective of the study would be to determine to what extent the crisis can be attributed to external factors and to what extent misguided domestic policies are the causes. In addition, the study would also investigate the policies undertaken to adjust the economies and the reasons for their success or failure. Some of the questions that would arise would include: Do governments tend to use specific instruments that help postpone the adverse effects of a decline in external resources? Do they use inflationary finance (money creation) as a substitute for additional taxation when fiscal revenues decline as a result of lower external resources (say due to declining commodity prices)? Do governments use price controls to "prevent" inflationary pressures? Has foreign borrowing by the government alleviated or contributed to the crisis? How many of the present long-run or

"permanent" controls can be explained by past short-term crises? Many other questions would be relevant to such an exercise which could be conducted by drawing on the lessons of six to eight sub-Saharan Africa countries.

2. The political economy of government expenditures and fiscal deficits.

Many sub-Saharan Africa governments have an expenditure pattern that leads to fiscal deficits which are not conducive to macroeconomic stability. In many cases, one observes cycles of behavior, viz., governments spend during periods of boom (e.g., due to commodity price increases) but are subsequently forced to drastically reduce expenditures at the end of this period when the boom is over. In most instances, one could hypothesize that governments behave as though the increased resources were a permanent feature of the economy. The purpose of this study would be to identify patterns of government expenditure that may have contributed to the crises and the reasons for such behavior. Why do governments run such destabilizing fiscal deficits? What has been the expenditure pattern that leads to these deficits? If governments are responding to external shocks, do they presume ex ante that these shocks are permanent (e.g., as in windfall revenues) or temporary (e.g., as in oil price increases for oil-importing countries)? What are the marginal propensities to spend in different types of government expenditures when reserves fluctuate? Is the government wage bill protected over other items? Are there significant public expenditures in sectors better left to the private sector? What is the political economy of such behavior? These are the sorts of issues that could be addressed in such a study and must be answered prior to any additional resource mobilization in the public sector. This study could be conducted in a multicountry context and the current behavior of government expenditure patterns could be compared to that in the preindependence period.

3. Macroeconomic stabilization and reform.

Currently many sub-Saharan Africa countries are going through economic stabilization programs aimed at reducing inflation and improving their balance of payments. However, it is becoming apparent that, given the prevailing characteristics of the international financial and trading systems, the adjustment process will differ from what we have seen in the past; i.e., for many African countries, adjustment will have to take place in an environment of external credit rationing and/or different (reduced?) quantities and changing terms of external assistance (foreign aid) programs. Simultaneously, a considerable number of questions have been raised regarding the appropriateness and rationale of the typical stabilization programs, particularly in the case of sub-Saharan Africa. The hypothesis here is that these programs result in an unnecessary level of social costs in terms of short-term activity and employment and future growth due to declines in present investment rates. It is also argued that the process could be less painful if external creditors would lift their short-term credit constraints as a result of being assured about the appropriateness of future policies.

The issue, therefore, is whether there is a trade-off between the objectives of short-term stabilization and those of longer-term economic growth. In theory, there should be none, but in practice there may be some, in certain circumstances. The research would, therefore, focus on questions such as: What is the appropriate time horizon and optimal combination between expenditure contraction, expenditure switching and factor reallocation policies that minimize the present value of costs to a country attempting to close a balance of payments deficit that is unsustainable in the long run? The issue here is whether a longer time frame -- longer than the typical

horizon determined by the present stabilization programs and by private creditors -- could lower the value of such costs to an extent that will allow the country to compensate creditors through an interest premium and thus induce them to consider a longer period for repayment. In this case, both countries and creditors could gain by such an increase in the repayment period. This study would have to investigate the costs and benefits of alternative exchange rate and monetary managements characterizing alternative transition paths toward the new (sustainable) equilibrium.

There are, however, related issues that cannot be ignored, such as (a) the underdeveloped administrative and economic policymaking system in many sub-Saharan Africa countries; (b) the expected tenure of African governments (it is probably not long enough) and the related problems of time inconsistency; and (c) the credibility of such governments to undertake a longer-term phased program. Consequently, any research undertaken in this area will also have to take these factors into account.

4. Minimizing the effects of stabilization on the poor.

Most stabilization programs involve an increase in the relative price of exportables and importables and/or a decline in the general level of government expenditures so as to bring aggregate demand in line with aggregate supply. The effect of these actions is usually an increase in the relative price of foods (particularly cereal, which is the main traded good) and a reduction in the degree of subsidization, either of food commodities or public services, in the economy. An important area of research would be to identify ways of minimizing the distributive impact of these measures by retargeting and phasing the new (lower) level of aggregate subsidy in the economy. This work would identify specific foods which are basically consumed by low-income

groups or specific programs directly targeted to the most vulnerable groups (e.g., school feeding programs). Regarding public services, the objective would not be to cut the provision of services so as to keep the subsidy per beneficiary constant; cross-subsidization could be attempted. For example, user charges could be implemented for urban-curative medicine while the subsidy for the beneficiaries is maintained for rural preventive health; or, charges for higher education could be implemented so that the educational subsidy can be concentrated on primary education. This study, however, would have to also take into account the available administrative constraints and the delivery costs of these policy alternatives, as well as the relevant factors that determine the political economy of policy implementation.

B. PRIORITIES IN THE AREA OF PUBLIC ECONOMICS AND RESOURCE MOBILIZATION

This section identifies a set of topics relating to resource mobilization and public sector economics that warrants research in the specific context of sub-Saharan Africa. The areas covered are Public Sector Expenditure, Taxation, Public Enterprises, and Financial Intermediation. The emphasis is on research leading to improvements in the quality of policy analysis and advice and in the effectiveness of policy implementation.

At times, the discussion is concerned with the size of the public sector. Obviously, many social and political factors lie behind the determination of an appropriate role for the public sector and these are not discussed here. Nevertheless, certain decisions regarding size can be subjected to economic analysis. For example, do the benefits of a particular component of the public sector exceed its costs? Can the private sector supply a particular service or commodity more efficiently than the public sector? Is the rate of expansion in the public sector's role exceeding its administrative and executive capacity? At other times, the size of the public sector is treated as given and the discussion explores its internal efficiency or the consequences of its actions on the private sector. For example, would greater reliance on management contracts improve the operation of public enterprises? Is the allocation of funds between recurrent expenditures and capital expenditures appropriate? Do high rates of income tax reduce the role of savings in the private sector? These and similar questions are discussed in more detail below.

1. Public sector expenditure: Is it overextended?

The role of the public sector in sub-Saharan Africa has undergone a major transformation in the last fifteen to twenty years. Between 1966 and

1981, total public expenditures grew dramatically from 16.5 percent of GDP to 29.5 percent. The acceleration in public expenditure, especially in the period 1974 and 1980, was prompted by increases in capital expenditures. Prior to 1974, they rarely exceeded a quarter of total expenditures. By 1980, they accounted for one-third of total expenditures.

These figures raise the possibility that the public sector may have expanded too quickly. Research focussed on this issue should receive high priority. Three specific proposals are:

- (a) To conduct cost-benefit analyses of specific expenditure programs to determine whether or not the public sector has expanded, or intends to expand, in socially beneficial directions. One area suggested for such research was the common practice of taxing agricultural output in order to fund the provision of a subsidized public sector service to agriculture. Does this yield a net benefit?
- (b) To compile comparative data on the relative efficiency of public sector and private sector producers. Many services can be provided by both the public and private sectors. Information on unit costs would facilitate judgment regarding the choice of producer.
- (c) To examine whether public sector expenditures are subject to a "ratchet" effect following favorable shifts in the terms of trade and, if so, what can be done to improve cyclical management.

These suggestions address the question of the size of the public sector without becoming involved in complex political and social arguments. They are well-defined and researchable.

2. Public sector expenditure: Attempts to increase its efficiency.

Whether or not research of this kind leads to a reduction in the size of the public sector, it is clear that the public sector will remain an important economic force in most sub-Saharan countries. A second priority, therefore, is to ensure that the resources under the control of the public sector are used as efficiently as possible. The major topics for research on this issue include:

- (a) What can be done to improve the allocation of resources among sectors and among types of expenditures -- for example, recurrent expenditures versus capital expenditures? In this case, efforts to identify "best practice" procedures were deemed more valuable than additional analytical work. The compilation of acceptable norms for unit costs is seen as a possible means of eliminating gross misallocations.
- (b) Can the price for public sector services be equated more closely with marginal costs? This would improve efficiency by ensuring that consumers face prices that reflect cost, by reducing the need for rationing and by providing relevant information for future investment decisions.
- (c) Does foreign aid distort expenditure decisions? In many African countries, foreign aid finances a large proportion of total investment expenditure. The availability of these funds, the conditions attaching to them and the absence of inter-country coordination may have affected adversely the size and composition of public sector investment programs.

Other issues of public sector efficiency will be addressed in the sector on Public Enterprises.

3. Taxation.

Issues of tax policy revolve around the need for revenue, effects on the allocation of resources and effects on the distribution of income. In fact, sub-Saharan African countries have been able to increase the ratio of revenue to GDP quite rapidly over the last fifteen years or so. The average tax effort has increased from 12 percent of GDP in 1966 to 18 percent by 1981, and is now not unlike the levels attained in other regions even though per capita incomes are substantially lower in Africa. The rate of increase and the level attained represent an extraordinary achievement and, although deficits remain large, it seems that the priority for research should lie with questions of efficiency and equity rather than with a concern to generate an even higher ratio of tax to GDP. Accordingly, the following suggestions focus on the composition of tax instruments.

It is a commonly held view that taxation in Africa has been imposed on a relatively small part of the economy and that increases in revenue have been achieved by increases in rates rather than expansion of the tax base. The available evidence does not fully support this view in that, on average, countries have reduced their reliance on the taxation of imports and much of the increase in tax revenue can be attributed to increases in tax bases. Nevertheless, the share of revenue generated from import taxes remains high -- 40 percent -- by international standards and for a large group of countries tax structure has hardly changed in the last twenty years. This leads to the following research topics:

- (a) A comparative analysis of tax structures in sub-Saharan Africa: A comparison of countries where the evolution of the tax structure has been clearly different might illuminate the type of tax measures that have been

successfully introduced and which, in principle, should lead to an improvement in the allocation of resources and the distribution of income. Such a study would have to pay particular attention to constraints on tax administration and the possibility of evasion. A focus on whether countries should shift out of trade taxation and, if so, how that shift has been accomplished in selected countries would be appropriate.

A major study on tax structures could be supplemented by more focussed research on particular issues:

- (b) Does increased tax revenue lead to an increased rate of national savings? Since public sector resource mobilization is often justified by reference to the need for more investment, the effect of taxation on public and private savings merits attention.
- (c) What is the appropriate mechanism for taxing the agricultural sector? If land taxes and income taxes are thought to be administratively infeasible, can commodity taxation be used to extract the economic rent accruing to land without distorting production or consumption decisions? Given the importance of smallholder agriculture in Africa, this issue should be high on the research agenda. This proposal would involve an appraisal of the role of marketing boards in African agriculture.
- (d) Have tax expenditures served their expected purpose of encouraging or discouraging certain activities and, if so, at what cost to the exchequer? The package of incentives provided to foreign investors may be a particularly important area for study given the limits on aid and commercial borrowing.

Obviously, many other specific tax issues could be, and should be, identified in the context of specific countries. For example, fiscal policy in relation to the extraction of natural resources may be a crucial issue in some countries. In other countries, fiscal decentralization may be a relevant issue. Selection of such research activities, however, can only be made on the basis of country-specific information.

4. Public enterprises: Are they overextended?

Public enterprises are a dominant form of economic organization in many African countries. Their pricing and investment policies and their internal efficiency have significant macroeconomic implications for flows of resources between the treasury and the public enterprise sector as well as obvious microeconomic consequences for resource allocation and income distribution. Many of the commodities and services provided by public enterprises in Africa are often supplied by the private sector in other countries. Even commodities which are clearly public goods can be provided by the private sector, given an appropriate structure of incentives. An important issue for research, therefore, is the assessment of the relative merits of public sector provision of goods and services and various forms of private sector activity ranging from partial involvement in public enterprises to independent operation. Research topics related to this issue include:

- (a) Are there examples of successful private sector involvement in public enterprises? A comparative study of experience with management contracts, subcontracting, and joint ventures would provide policymakers with a better appreciation of the available alternatives and their likely consequences.

- (b) What does competition from the private sector do to the efficiency of public enterprises? The establishment of a public enterprise is often associated with legislation to prohibit private competition. Are there examples of countries where the private and public sectors compete?
- (c) What is involved in the process of divestiture and liquidation? One reason why governments are reluctant to take such actions is that it is unclear what these actions entail. How should terms of sale be set? How should assets be valued? This is an area where the evidence from successful divestitures or liquidations in the African context would be especially valuable.

5. Public enterprises: Improving their efficiency.

As with public expenditure, whether or not reductions occur in the number of public enterprises, they will remain an important factor in African economies. A second set of studies, therefore, should focus on means of improving their efficiency. Some suggestions have already been mentioned -- management contracts, private sector competition. Other possibilities include:

- (a) Analysis of the decision-making process. What is an appropriate degree of centralization? How are investment decisions taken? How are financing arrangements decided?
- (b) Analysis of the link between pricing policy and the flow of funds between the central government and public enterprises. A shift to a price policy more closely based on costs could simultaneously improve the allocation of resources and the government's revenue position.
- (c) Investigation of sectorwide issues such as pay policy for public enterprises or regulations governing their access to foreign loans and the role of government guarantees.

While most of these proposals are microeconomic in character, parastatals occupy a major role in African economies so that their role in influencing macroeconomic policy should not be forgotten. The last-mentioned proposal, for example, could well be investigated in a macroeconomic context since the government's wage bill is often a major component of the recurrent budget and since foreign borrowing by parastatals is often backed by government guarantee and thus ultimately becomes a part of the public debt.

6. Financial intermediation: Resource mobilization issues.

A concern with financial intermediation reflects a concern with the mobilization of resources, with the allocation of credit to competing uses and with the efficiency of the agencies providing intermediary services. The final area is the mobilization of financial resources. Formal financial markets are usually characterized by a high degree of concentration, minimal competition, rigid contract terms and relatively few financial instruments. Such conditions are not conducive to the mobilization of financial savings. Suggested research activities in this area include:

- (a) An effort to identify the behavioral, institutional and economic determinants of financial savings -- income, wealth, interest rates, contract terms, tax laws, etc. The objective would be to arrive at conclusions regarding the effectiveness of alternative policy instruments. For example, do interest rates influence the level of real saving, the distribution between financial and non-financial savings, or just the allocation among financial savings instruments?
- (b) Investigation of specific efforts to mobilize savings. What kind of financial institutions have actively tried to recruit deposits and with what success? Have the Post Office Savings Banks been a cost-effective means of generating savings in low-density rural areas.

- (c) Analysis of the impact of the structure of the financial system on the mobilization of savings. For example, what are the effects of the various financial regulations on institutions' incentives and ability to mobilize deposits? Should the government allow commercial banks to offer a larger range of financial services? How can the government encourage the creation of a wider array of financial instruments that are attractive to savers?
- (d) Investigation of the role and characteristics of informal financial markets. It is widely believed that informal financial arrangements play an important role in most African economies. Policy changes directed towards the formal sector may have repercussions on activities in the informal sector, and hence, on the total amount of savings in the economy. The characteristics of successful informal arrangements may also be relevant for the design of formal institutions.

7. Financial intermediation: The allocation of credit.

Turning to the allocation of credit, it is clear that many African countries attempt to direct resources to particular sectors or groups. Usually the techniques employed for this purpose are quantitative -- a certain proportion of funds must go to small enterprises, or credit provided to the industrial sector must not exceed a certain percentage of the total portfolio. These considerations lead to the following set of research issues:

- (a) If governments want to direct credit to particular sectors or groups, what is the most efficient means of procedure? Can quantitative restrictions be replaced by appropriate price incentives?
- (b) What are the costs of quantitative credit controls? And what is the most appropriate phasing for liberalization if countries want to move away from

credit controls? Are these special problems arising from existing market structures especially the dominance of a relatively small number of institutions?

- (c) What can be done to improve the maturity structure of loans? Most commercial banks provide short-term credit for trade, long-term loans being the responsibility of sector-specific development banks. Is this an appropriate market structure? Has the performance of development banks met expectations? What can be done to encourage commercial banks to engage in long-term lending?

8. Financial intermediation: The efficiency of intermediation.

The last set of research issues concerns the efficiency of financial intermediation in Africa. It is a widely held view that costs of financial intermediation are unusually high in Africa. What are the lessons of experience from relatively low-cost operations that could be used to guide policymakers faced by high-cost intermediaries? Are the high costs attributable to market structure, especially the limited amount of competition and the dominance of government-supported development banks? Alternatively, are the high costs a direct consequence of the heavy reliance on quantitative regulations that may rob the system of the necessary incentives for efficient operation?

C. PRIORITIES IN THE AREA OF AGRICULTURAL DEVELOPMENT AND POLICY

The elaboration of an ordered set of research priorities in agriculture must take into account the extraordinary heterogeneity of agricultural conditions in sub-Saharan Africa. What is perceived as the current agricultural crisis in sub-Saharan Africa has few common features across countries. Ethiopia and many of the Sahelian countries have famine problems associated with drought, but rural residents in the humid lowlands of Central Africa are unlikely to face any caloric deficiencies. Nigeria suffers the effects of declining oil revenues and has a debt problem which is not shared by several of the drought-afflicted countries. The problems of the Ivory Coast stem primarily from low agricultural commodity prices, while Tanzania suffers in addition from many policy-induced structural problems.

Apart from the heterogeneity of the current problems, the longer term prospects for and problems of agricultural development differ massively across countries. The main differences are associated with differences in (a) agroclimates and soils and (b) current population densities and rates of growth. For example, countries like Niger, or Upper Volta, have agroclimates and soils which sharply constrain the range of products which can possibly be produced, while Kenya can produce virtually all products of the major temperate and tropical climate zones within its borders. Or contrast Zaire with Kenya: Zaire has a low population relative to its food production potential and could rely on area expansion as the major source of agricultural growth for decades. In Kenya yield growth via land investments and modern technology will soon be the only source of growth available.

While in the short run the extent and the causes of the agricultural crisis differ enormously, much of the longer run issues of agricultural growth

are associated in virtually all countries with the rapid growth in population. These rapid rates of growth imply that rural populations and agricultural labor forces will continue to rise for the foreseeable future in most countries. Income and employment growth for these people is dependent on extremely rapid growth in agricultural production, irrespective of whether food self-sufficiency is a goal or not. The required rates of growth of agricultural output, 3 to 5 percent per year, are rates which have not been sustained for prolonged periods of time in the developed world or in developing countries. To achieve these growth rates requires rapid development in the long run sources of growth of agriculture. These are: technology; rural infrastructure; land investments, including drainage, irrigation and erosion control; mechanical investments and purchased input use; development of the core agricultural institutions of research; extension, credit, and marketing; and, finally, land rights and common property management. It is these long run issues which are emphasized in this research agenda. Nevertheless, African countries have many short and intermediate run policy problems associated with decisions on prices and subsidies. These issues are discussed first.

I. PRICING POLICIES: EFFECTS ON PRODUCTION INCENTIVES AND ON FOOD ON FOOD CONSUMPTION

1. Price versus nonprice factors as determinants of agricultural supply.

Recent policy advice to sub-Saharan Africa governments has concentrated heavily on price issues. Critics of this approach argue that nonprice factors are equally or more important in determining supply, especially at the aggregate level. That supply of individual cash crops is generally not less price responsive in sub-Saharan Africa than in other parts of the world is well established. Econometric studies also indicate that

aggregate crop supply is inelastic: estimates from inside and from outside sub-Saharan Africa range from 0.05 to no more than 0.3.

To settle the controversy discussed above and to become more useful in evaluating the consequences of price policy changes, future supply research must be considerably broadened to include the following:

- (a) the impact on crop-specific and aggregate supply of government investments;
- (b) the impact of price changes on private agricultural investment and hence on supply;
- (c) the measurement of cross-price elasticities;
- (d) the measurement of supply response of subsistence crops; and
- (e) the impact of monopoly procurement on the supply of the afflicted crop and its competing crops.

The main constraint to this research is the lack of reliable data at the micro level and the paucity of farm level surveys which observe the same farms for more than one year. While improved statistical systems will provide a long run solution to this problem, overcoming the data barrier within the next five years is only feasible with well designed multi-year farm management studies.

2. Sources of distortions and recent changes.

There are relatively few studies which examine the present levels and recent changes of agricultural price distortions across crops and among countries. Factors to be included in such comparative work should include the exchange rate, other trade distortions, parastatal marketing margins and practices, and input price distortions. Do input price distortions offset or reinforce output price distortions? Are there significant nonprice distortions arising from differential access of small and large producers to

marketing, input supply and credit services? What are the net transfers arising from the distortions between rural and urban groups? In particular, do the subsidies and government budget outlays for agricultural investments partly or fully offset taxation of output prices?

3. Political economy of price distortions, and government budget allocations to agriculture.

Policy advice in the pricing area will be hampered unless the political forces behind the government decisions are better understood, as policy advice will be ignored if it threatens government survival.

The questions to be addressed include:

- (a) Who are the major actors in agriculture?
- (b) What are their objectives?
- (c) What is the process by which policies are made and how do the actors intervene in that process?
- (d) Which actors tend to gain, under what circumstances?
- (e) How do the gains achieved influence subsequent policy making?
- (f) How does the relative role of the various internal and external pressure groups change across countries and over time?

For instance, as Mancur Olson argues, do members of small groups have disproportionate organizational power through collective action? Do special interest organizations and coalitions reduce efficiency and aggregate income where they operate? If, again as Olson argues, "distributional coalitions make decisions more slowly than the individuals and firms of which they are comprised, tend to have crowded agendas and bargaining tables and more often fix prices than quantities", what is the significance of these factors for the donor/national dialogue on structural adjustment, the content of policy reform

favoring agriculture vs. other sectors, and the period in which structural adjustment would come about?

4. Effect of food aid on distortion levels and price stability.

Food aid and commercial food imports are said to be major disincentives to increased production because they reduce the level of producer prices below 'border prices' and sometimes increase price instability due to uncertainty in import levels. The effect of food aid and import policies on levels and stability of producer prices, government revenues and patterns of public expenditure needs to be investigated.

5. Effect of pricing and subsidy policies on the consumption of food by the poor

There is a need to distinguish between chronic food insecurity - the inability of households to consume an adequate amount of food in normal years - and transitory food insecurity - the risk of periodic temporary disruptions in that consumption as a result of unstable food production, household income or foreign exchange availability. In analyzing food security the focus should not necessarily be on food production or in equating food security with food self sufficiency. Instead the focus should be on (i) food availability (and prices) as conditioned by trade policy and storage policy, and (ii) the determinants of the ability of different socioeconomic groups to buy food.

The identification of groups suffering from chronic food insecurity and the selection of remedial interventions requires income and consumption data. The same data can be used to investigate whether the changes in food consumption (e.g., wheat and rice) in recent years have been a response to changes in tastes or to relative prices. If the latter, they are reversible

and subject to change through price policy. If the former, as is assumed by some in sub-Saharan Africa, then it may prove difficult to "turn the clock" back to sorghum and millet.

Although urban consumption surveys were a popular research topic in the 1960s, the field has been dormant for 15 years. On the rural side very little is known as well. What can be done is shown by the comprehensive surveys carried out in Sierra Leone in 1974/75 by Njala University College, University of Sierra Leone, in cooperation with Michigan State University.

Consumption surveys will lead to the identification of the groups and estimates of their demand elasticities. Once this information is available, the effects of pricing, subsidy and stabilization policies on the food consumption and real incomes of the poor can be modeled via a variety of techniques, ranging from partial equilibrium to multimarket and general equilibrium techniques. The precise technique will depend on the particular way in which these interventions affect the poor as consumers and producers.

Another area of research is the appropriate mix of buffer stock versus trade in achieving price stabilization. Most countries try to stabilize real food prices in the face of highly unstable international markets. It is generally well known that national buffer stocks alone are a very expensive means for achieving food price stability compared to a policy of regulating food availability via trade. But country-specific work is required to translate these insights into country- and commodity-specific recommendations.

6. Famines

The impoverishment of farmers and herdsmen in some regions (due to the population explosion and slow or negative income growth) combined with

large fluctuations in incomes and food supplies, has increased the risk of periodic famines in Africa. Special research is required to understand better the indigenous stabilization measures available to the population and to reinforce these measures (e.g., on farm storage of food, access to credit and savings instruments) and public stabilization measures available to governments and international donors (e.g., the criteria to establish and use early warning systems, the size, location and operation rules for emergency stocks and the criteria to measure the benefits of investments in facilities to move emergency food supplies during periods of crisis).

II. GOVERNMENT INVESTMENT ISSUES

The list in the introduction of long run agricultural sources of growth shows that the public sector plays a unique role in smallholder agricultural development in a continent where physical and institutional infrastructure are at an early stage of development. Most agricultural production units in Africa are small and dispersed with highly diverse growing conditions. Smallholder agriculture does not enjoy many economies of scale in production and small farmers have a limited capacity to undertake massive investments. Size, externalities and/or lack of appropriability of investment returns imply that governments have a critical role in the development and dissemination of agricultural technology, in agricultural education, in investment in transport and communications facilities, and in irrigation.

Given the African governments' limited capacity to respond to these needs -- and this is recognized to be a more serious constraint in Africa than elsewhere in the developing world -- four central issues arise:

- (a) How do rates of return to investments vary according to the major features of the agro-economic environment: climate, soils, population density, agricultural price regimes, etc.?

- (b) How to increase the cost-effectiveness of each of these investments.
- (c) Whether and how to attempt cost recovery.
- (d) How to increase the long-run human and administrative capacity to undertake these investments.

These common issues arise for each of the investment categories below and will therefore not be repeated. Their study requires comparative studies across countries.

1. Agricultural research and research policy.

Within the World Bank, agricultural research is currently a high priority. A number of activities and studies are already underway in the Bank:

- (a) The study of the Consultative Group for International Agricultural Research on the impact of the CGIAR system will cover sub-Saharan Africa to some extent.
- (b) The technology component of the six-country study in the Development Research Department.
- (c) The review of agricultural research experience organized by the East and West Africa Regional Offices of the Bank.

Once these studies are completed it will become clear whether there will still be unresolved issues for research. Even if few research issues remain, it will become necessary to synthesize what has been learned in these studies in a succinct way which is easily accessible to researchers and policy makers.

2. Agricultural education.

The conventional wisdom underlying Bank policy in education is that investments in primary education have much higher rates of return than those in sector-specific and/or higher education. Yet trained manpower is

consistently observed to be a major constraint to improvement in the provision of public goods. Improved rates of return studies are required to determine the social and private returns to agricultural extensions.

3. Agricultural extension.

A review of the success of approaches to extension in sub-Saharan Africa, including the adaptation of the Training and Visit (T&V) system to African conditions, is a high priority. T&V has been successful in densely populated areas where intensification and yield increases were the only source of agricultural growth for the foreseeable future. Farmers may not be interested in labor intensive methods to raise yields, which were often emphasized in past T&V extension efforts. What types of technologies should the extension services push? Will their adoption justify the investment in extension? And how can extension be organized in cost effective ways when population density is low?

4. Irrigation issues.

The irrigation potential in many regions is high. But it is well established that the expensive larger irrigation projects are not cost effective, while small projects focusing on low cost diversion and small dams have been more successful. The fact that in the past output growth was usually feasible via area expansion may have much to do with low returns on large projects, as farmers could produce dryland crops at a lower labor cost than under irrigation. Management problems, such as those found in the Office du Niger and other large scale projects may have been a reflection of premature investment in irrigation. But population densities are rapidly increasing and agricultural labor forces are rising. An examination of irrigation strategies must go beyond the assessment of physical irrigation

opportunities and examine at what point irrigation investment becomes necessary and attractive to farmers.

5. Transport infrastructure.

Lack of transportation is one of the major constraints to agricultural development in sub-Saharan Africa. More donor investments have been made in direct impact projects, including monopoly marketing organizations, than in transportation network improvements. Research is needed on the effect of transportation investments in low population density zones with good agroclimatic potential, on agricultural production, input use and marketed surplus. (This research is more extensively discussed in the section on population research.)

III. RESOURCES, FARMING SYSTEMS, AND TECHNOLOGY

As discussed in the introduction, the rapid population growth will lead inevitably to major changes in farming systems, resource use and technology. Investment and land policy needs to be guided by a fairly precise understanding of what these changes are likely to be. The key questions are the following:

- (a) How are farming systems in different agroclimatic subzones likely to develop under the impact of increasing commercialization and population density? What land use patterns will emerge in terms of forestry, pasture and crop production? At what stage of intensification of agriculture will development of irrigation become a central issue, and where should the investment be directed? What is the future role of tree crops and agroforestry in ecologically fragile zones? When and where will large investments be required in land conservation?

- (b) What are the major technology options currently available? What technologies are likely to emerge in the future? It is well known that the stock of on-shelf, farmer-tested food crop technology is meager, especially for West Africa, although there are local and cropwise exceptions. Continuous evaluation of what is becoming available is, of course, essential for project preparation. But a longer perspective of what technologies might become important can be gained by comparative work with regions of the world where intensification has proceeded further.
- (c) What are the private and public investments required to assist the transition to desirable farming systems and the adoption of prospective technology?
- (d) What are the regulatory frameworks required to promote desirable changes in land use patterns, provide incentives for investment in land improvement and encourage appropriate resource management?
- (e) In particular, what are the relevant changes in land rights? (Land rights issues will not be discussed here but deferred to in the next section.)

Because the prospective farming systems and technologies differ sharply among agroclimatic zones, research in this area must be carried out separately for each major agroclimatic zone. Within each agroclimatic zone the work should be comparative across countries, as the initial population densities and market development differs massively among them. It is important to distinguish at least five major agroclimatic zones: the high rainfall semiarid tropics such as the maize and cotton areas in West Africa; tropical highlands such as the high-potential zones of Kenya; the sub-humid

lowlands such as the high risk root crop zones; the humid lowlands, including much of the Congo basin; and arid and low rainfall semiarid zones such as the Sudano-Sahel.

1. High rainfall semiarid tropics and the tropical highlands.

Past research indicates that the high rainfall semiarid tropics and the more accessible tropical highlands are moving technologically along familiar tracks. These are the areas with the best experiences in mechanical and biological technology, and where crop-livestock integration has the highest potential. Technological opportunities are available and/or can be developed along familiar lines. Fewer environmental problems are expected than in other ecological zones. Irrigation will not be a high priority in the foreseeable future. Where migration is feasible these regions typically experience immigration. The organization of land rights will present problems where immigration into low population density areas is banned or where the state is not willing to support the standard evolution towards increased privatization of land use and ownership rights.

2. The humid and tropical lowlands.

These zones often have very low population densities. Only tree crops have so far provided viable opportunities and in their absence these are often areas of emigration. Apart from alluvial regions in the Niger delta and in Congo basin, these zones have very fragile soils. The subhumid areas have stagnated technologically and research needs to examine what farming systems would be consistent with high worker productivity and resource conservation and what infrastructural development is optimal for such low-density areas. Given the large land reserves, the wisdom of attempting to develop land-saving

technologies and promoting the intensive use of inputs needs to be reconsidered.

Experiences in different locations of sub-Saharan Africa and the evolution of farming systems in similar agroclimatic zones in Asia should be studied. Forestry, forest management and the setting aside of forest reserves are major issues, as is the integration of field crop production with tree crops and perhaps forestry. Land rights issues revolve around the sorting out of forestry from crop production, the role of immigrants, and the protection of rights of local groups. Research which investigates the farming systems and technology issues of this zone is of high priority.

3. The arid regions and the low rainfall semiarid zones.

These zones present the most serious human and resource management problems. These are areas where little progress has been made on crop technologies, where livestock projects have often failed, and where desertification is a compelling environmental issue. The cropping systems in this area are relatively well understood. Biological research has come up with few high pay-off solutions, and in many areas the potential for mechanization is limited by the limited length of the growing season. In the long run, irrigation development is essential to accommodate growing populations. Yet the failure rate of irrigation projects is very high and the physical, organizational, and economic causes of the failure of irrigation projects must be understood.

Problems of resource degradation do not appear to be technological, but are primarily associated with extension of cropping to marginal lands, with growing demand for fuelwood, and with growing grazing pressure. Both for irrigation and resource degradation issues, the allocation of land use rights

is central. But unlike for the humid tropics, livestock raising, the allocation of grazing rights, and the protection of pastoral groups, are predominant issues in this region. Forestry issues do not involve commercial logging but the control of firewood collection and fodder from trees and bushes. A recent Bank report on desertification identifies common property resource management in the zone as the highest research priority. Resource preservation and equity effects of past and current systems of allocating land use and property rights need to be compared.

Research approaches in this research area will vary widely, but synthesis of existing knowledge, review of project experience and comparison with other continents which operate already at much higher population densities will be essential. Where existing knowledge is deficient, research methods will include the rapid assessment techniques for farming systems issues developed by Collinson for CIMMYT and extended and/or applied by other centers such as ICRAF or national research organizations. On some matters, more intensive systematic collection of farm management data will be required, as done, for example, by the ICRISAT program in Burkina.

IV. INSTITUTIONAL CONSTRAINTS TO AGRICULTURAL PRODUCTIVITY: LAND RIGHTS, CREDIT, LABOR MARKETS AND SPECIALIZATION

Rapid population growth, and the intensification of agricultural production associated with it, usually has the following consequences:

- (i) Land gets scarce and land rights tend to shift increasingly toward individualized tenure.
- (ii) Increased labor requirements per ha. of cultivated area and increased inequality of land holdings lead to the emergence of a labor market.

- (iii) Higher population density and improved infrastructure allow for increased specialization in output markets.
- (iv) Greater use of hired labor and purchased inputs, and increased requirements for long-term investment in equipment and land improvements lead to increased demand for credit.

In sum, increased agricultural productivity per hectare must be supported by rapid institutional changes in land rights, the labor market, the output markets and the credit markets.

The required institutional changes often occur spontaneously, but in many cases they need to be supported by appropriate legislation and other government interventions such as the creation of financial institutions and instruments, land registration systems or infrastructural investments. If these government actions are not forthcoming, or worse, if government interventions are misguided, productivity growth will be impeded.

In particular, deficiencies in land rights and credit markets might slow down investment and application of purchased factors; constraints on land sales and tenancy or on immigration might prevent the equalization of factor ratios, (i.e., lead to differential productivity) on small and large farms or on farms in different regions; or inadequate output markets might prevent specialization among regions or farm types according to comparative advantage.

How important are these problems for sub-Saharan Africa? Collier has assembled evidence for Kenya and Malawi suggesting that factor ratios diverge enormously, even if agroclimatic and soil differences are accounted for. For Nigeria he finds somewhat smaller productivity losses, but capital market imperfections still appear to be a major problem.

The institutional constraints can be numerous, and are likely to differ substantially among countries. They include:

- (i) solidification of tribal and/or national boundaries and constraints on internal or international migration;
- (ii) impact of past colonial land reservation for settlers;
- (iii) restrictions on land sales, subdivision or tenancy (exist both under communal and modern tenure);
- (iv) credit or liquidity problems on account of: lack of land title or transferability, legal constraints on using land as collateral, lack of attractive saving instruments, poorly developed credit institutions;
- (v) inadequate inter-regional trade;
- (vi) labor market problems such as minimum wage laws.

Research in this area must ultimately attempt to achieve a dual objective to:

- (a) measure the productivity losses (or welfare losses) associated with the institutional constraints, net of differences associated with agroclimatic and soils factors;
- (b) diagnose which of the potential causes (or combination thereof) is responsible for the productivity differences. The diagnosis is essential because the policy intervention to remove the constraint is specific to each of the causes.

A first phase of a research program on these institutional issues would therefore be aimed at establishing some "stylized" facts. These include the following two areas:

- (i) What is the extent of actual constraints to land transferability and insecure continuous access to land?
- (ii) What is the link between capital availability and the institutions of land ownership (or secure access to land)?

The collection of this information is less difficult and less costly than input-output data. This phase can thus be completed within 18 months. The initial phase clarifies the above issues and establishes whether there are a priori reasons to expect a relationship between land market imperfections and farm productivity. A second phase can then follow which focuses more formally on objectives (a) and (b) above, and collects the full set of data required to achieve them.

Data needs

In most of these topic areas, key issues will not be researchable without major new sources of data: effects of price policy changes cannot be estimated without improved supply and consumer demand elasticities. Estimating price elasticities and consumer demands requires farm management and consumer survey data covering several years. Evaluating technologies requires farm management data. Estimating the impact of institutional constraints on productivity and welfare requires the same detailed farm management data collected over several years. National authorities must be ultimately responsible and committed to assembling this data base. At best international agencies can provide the necessary technical assistance in statistical and survey methods.

D. PRIORITY ISSUES IN THE AREA OF POPULATION AND HUMAN RESOURCES

This section consists of two parts. The first identifies research priorities in the area of population and health. The second identifies priorities more specifically associated with the education sector.

I. POPULATION AND HEALTH

1. The future spatial distribution of population and its relation to investment in public infrastructure.

There are several indicators showing an inefficient spatial distribution of population in sub-Saharan Africa. High densities combined with traditional low input levels of agriculture are reducing returns to labor and yields in some areas. In others, low densities raise the cost of providing agricultural extension and social services, make yield-increasing investment in irrigation a poor investment, and prevent the development of land markets necessary to further private investments. Part of the problem is restrictions on international migration, but even within countries the distribution of population seems inefficient. Indeed, current population distribution may reflect past patterns of poorly-allocated investments over space, e.g., in the colonial period, or of restrictions on mobility due to ethnic or linguistic barriers that are now breaking down; there is little reason to assume that current distribution is the result of efficiently-operating market forces.

For the next several decades, with 70 percent and more of the labor force in agriculture and with most agriculture at traditional low-input levels, average returns to labor in agriculture might be higher if more labor were available in areas of rich agricultural (or other economic) potential and labor increases in areas of poor potential could be limited (all other things

being equal -- including pricing policy reform, improved technology, etc.). On the other hand, planned migration of large numbers of people (e.g., as is now going on in Ethiopia) to accomplish such redistribution probably cannot be justified economically because of its high cost, and may not lead to the "right" long-run distribution anyway, given the likelihood of planners' errors. However, planning of long-term social investments (which normally must be planned anyway) that affect spontaneous migratory movements -- e.g., investments in transportation and social infrastructure or elimination of diseases that prevent settlements -- should be undertaken with a view to reinforcing and encouraging certain migratory patterns.

What investments, especially in transportation, might governments undertake to better exploit the economic potential of areas now sparsely populated? Can certain investments be justified economically, even assuming high discount rates, by the likelihood of future unforeseen high positive externalities? What are the private and social costs and returns to current planned movements of people? This research should investigate optimal patterns of infrastructure development, including cost-benefit analysis of road projects taking into account externalities, agricultural potential of different regions, and future expected population growth. The research should include case studies of economic and social costs of and returns to planned migration (e.g., Somalia, Tanzania villagization) and an analysis of the extent to which existing population distribution in selected areas is a result of past nonoptimal patterns of infrastructure investment.

2. The changing African family: Demand for fertility control.

Fertility remains high in Africa, but there are significant signs of demand for modern contraceptives, including scattered evidence of increasing

abortion in urban areas, a decline in desired family size among young women, especially those with some education, and up to 40 percent of eligible couples using modern contraception in a few rural areas where services are good. Governments are interested in designing effective family planning and related programs to encourage later marriage, spacing of births and lower fertility.

But decisions about appropriate and cost effective approaches (e.g., the mix of information vs. services, appropriate messages and media for family planning campaigns, the emphasis to place on community organization relative to individually-oriented services, the importance of parallel services such as health and education for women for increasing demand, the appropriate targeting to men, women, younger or older couples) are difficult to make in an environment of little and highly-scattered information on existing demand, and on potential demand if information were more widespread. In particular, decisions about whether and how to target programs (how much to urban vs. rural areas; to young couples for delay of first births and spacing, vs. older women, for stopping childbearing; to women only or to men; through religious and community groups or through modern mass media and so on) are difficult to make without a better understanding of current demand. In addition, analyses of the demographic and health effects of future programs will rely in part on baseline data on use of nonmodern means to limit births; such baseline data will permit analysis of the extent to which future utilization of publicly subsidized programs reflects substitution away from former methods or a net increase in users.

The purpose of this research would be to systematically review existing information, including from anthropological studies, of such issues as:

- (a) women's motivations for childbearing; the effect of existing family legislation on women's need to use children to secure their own future; the costs and benefits to men of children;
- (b) the extent of, trends in, and causes of high adolescent fertility among married and unmarried women; the causes of early marriage;
- (c) the costs (e.g., labor market withdrawal) and benefits of breastfeeding;
- (d) the extent and type of current contraceptive practice, including use of traditional means of contraception; and
- (e) the extent of abortion, financial outlays by clients, age and other characteristics of clients, and health effects of nonmedical abortion.

Emphasis should be on linking what is known about demand for children and for contraception to program options with respect to targeting, etc. Studies should not be limited to the conventional approach of analysis of determinants of fertility using nationwide survey data and regression techniques, but should include more broad-ranging reviews of a variety of materials, including village anthropological studies, farm management studies, time allocation and labor force studies, hospital and clinic records, etc.

3. The changing African family: Designing appropriate family planning and related service programs.

The extensive literature on determinants of fertility in Africa sheds little light on how more accessible and higher quality family planning services would alter fertility, and consequently little on how services should be designed to best serve the needs of potential clients. This major deficiency arises in part because household data on characteristics of

potential users are almost nowhere matched to information on differences across potential users in access to services. Studies outside Africa indicate that response to availability of public services varies widely depending on characteristics of the services themselves as well as on the "demand" environment. Anecdotal evidence of widespread abortion in Africa and a growing commercial market for condoms in urban areas suggest higher demand for contraception than heretofore assumed, and indicates willingness to pay for contraception and abortion even among low income groups. Approaches to family planning programs to reach unmet demand and to create new demand are needed. Given very limited experience in family planning delivery in Africa, research, including experimentation with various approaches, can have a high payoff.

The purpose of this research should be to assess the cost effectiveness of alternative existing delivery systems within the public sector and outside of the public sector (commercial sector, missions and nongovernmental organizations). Research methods would include:

- (a) follow-up of acceptors and non-acceptors over time, to include analysis of the effects of alternative approaches to service provision (e.g., amount of client follow-up; training of workers and supervisors in appropriate responses to side effects; extent of workers' other duties; number of contraceptive methods available and emphasis on informing clients of alternative methods) on continuation, controlling for characteristics of users;
- (b) analysis using matched household and service data of determinants of service utilization, including not only household "demand" characteristics, but the characteristics of "supply", i.e., accessibility, quality and price of services;

- (c) analysis using focus group techniques in addition to standard survey research, with emphasis on "consumer" views of service quality;
 - (d) analysis of expenditures on and patterns of utilization of nonpublic sources of contraceptives and abortion; and
 - (e) cost and cost effectiveness analysis of alternative approaches to service provision, including integrated health and family planning delivery systems.
4. Paying for health care: The effects of fees for services on utilization, quality and management.

There is a growing case for increasing the degree of cost recovery in publicly provided health and family planning services and for seeking means to encourage private suppliers to enter the market, both as a means to increase resources, and as a means to improve the efficiency and (even) equity of existing systems. The case is built in part on evidence of high private expenditures on drugs and traditional health care, and low price elasticities of demand (outside Africa).

Little, however, is known about how specific fees for certain services now supplied free would affect demand and utilization under alternative assumptions about quality improvements. Even less is known about the administrative costs of collecting fees, and the implications of introducing financial accountability into highly centralized service delivery systems.

The purpose of this research would be to:

- (a) analyze data covering household expenditures on (and utilization of) health and related services (private and public), where prices, quality, and income vary;

- (b) undertake experimental work on the reliability of willingness-to-pay questions, e.g., via comparison of responses on willingness to pay to actual expenditures; and
- (c) analyze the collection costs (and effectiveness of) various fee mechanisms, including revolving funds for drugs and other expendables, creation of hospital parastatals, decentralized control of revenues, etc.

5. Paying for health care: Insurance and other forms of risk-sharing.

The serious problem of health finance cannot be adequately solved if the options considered do not include fostering mechanisms by which households can either (i) borrow resources to pay health costs or (ii) participate in insurance or other risk-sharing arrangements.

Such mechanisms, ranging from credit markets, to social insurance schemes, to community-based prepaid health plans, are still scarce and weak in Africa, lagging far behind trends in other regions. Why? What, if anything, should be done to hasten their development? Presumably, informal markets exist, for example, borrowing among relatives or within the community to finance emergency medical care, transport to distant hospitals, to cover loss of labor income, and so on. Still, cost recovery through fees at public hospitals and other health facilities for expensive curative care cannot be introduced until and unless private or public insurance is available.

The issues to be researched are: what are the characteristics of the mechanisms that exist now for borrowing or prepaying, in a representative selection of communities; how are households using these mechanisms and other alternatives (e.g., travel farther to get to free care); what are the constraints that limit expansion of credit and risk sharing; and what are the

differences between the patterns for rich vs. poor, urban vs. rural, etc.? To tackle these issues properly, the full range of credit markets available to households in selected study sites need to be assessed. Rural sites could be examined initially, with urban sites added later. Household surveys should be undertaken, together with interviews of the staff of leading institutions and risk sharing health care plans.

Following a descriptive analysis that pinpointed constraints and distributional questions, modeling techniques would be employed to assess possible new options, considering both supply (what will lenders and risk-sharing plans be willing to provide if certain constraints are eased, and under what conditions?) and demand (what will households be willing to pay for?).

6. Improving primary health care: Maternal and child survival issues.

Progress in dealing with high rates of disease and preventable deaths remains slow in Africa, partly because basic health services below the hospital level are still of low quality, not cost effectively designed, and not accessible to all localities. Of particular concern are the still high mortality figures among children under five and among women during pregnancy, at birth, and through the end of weaning. Over two-thirds of all preventable deaths may currently occur within these two groups. Infant mortality rates in Africa are ten times higher than in developed countries; maternal mortality rates are one hundred times higher.

Major research and other initiatives on many questions relating to these issues have been funded through numerous international and academic institutions (including WHO, UNICEF, USAID, the World Bank, and Rockefeller Foundation). But a number of areas that should be under extensive

investigation at present are not, due in part to funding limitations. Two of these areas that should be top priorities are:

- (a) How could the design and selection of minimal cost intervention "packages" (that is, combinations of immunization, growth monitoring, oral rehydration, nutrition education, antenatal care, perinatal care, and/or other maternal and child health services) be improved to take into account better the multiplicity of disease episodes that women and children under five must overcome in order to survive those high-risk years? Past studies have often focused on particular diseases one at a time, but success in saving a life from, say, a single bout of diarrhea, is of limited consequence if the same child will die three months later from measles or malaria, possibly due in part to weakened resistance stemming from the prior illness. Information is needed that can guide resource allocation choices with respect to the full survival problem, not just pieces of it.
- (b) With regard to women during pregnancy and at birth, how could the high mortality and disease rates be reduced? Previous research has concentrated on children, leaving maternal health largely neglected. At least 90 percent of maternal deaths (mainly associated with hemorrhage, infection, abortion, eclampsia, and obstructed labor) in principle could be prevented, with major benefits for the survival prospects of the mother's latest and preceding children.

The main goal should be to estimate and compare the costs and effects of the most promising intervention "packages" for a number of African settings, and to assess the contributions of the primary components (immunization, etc.) of each package. The most difficult methodological

challenge is how to estimate the effects of interventions. There are three main conceptual options:

- (i) estimate the change in the quantity and quality of services received by the target group, based on primary data collection through visits to sampled delivery points and surveys of users and the surrounding population; and then estimate the change in health status (mortality and morbidity) using relationships known from the general medical literature on the efficacy of the technologies involved, where the service has been effectively delivered (e.g., evidence from randomized clinical trials);
- (ii) estimate the change in health status directly from data collected in the study sites; or
- (iii) do (b) plus estimate the other benefits flowing from the change in health status (e.g., higher productivity, earnings, better leisure time).

The third is theoretically the best, but exceedingly difficult to accomplish satisfactorily. The second is better than the first, but still not always feasible -- considering the crude measurement tools that must be relied upon, the long-term nature of some impacts, and the high degree of interdependence among the multiple factors contributing to health changes. Analysis of maternal mortality is complicated by the need for large sample sizes because death associated with child bearing is not a frequent event.

A recommended strategy would be to start with studies using the first method and use that experience to carry out further analysis using the second method. The former studies would examine examples (preferably at least three, more if possible) of ongoing programs in different African communities, taking

some "success stories" and some "average performers". See Item 7 for further points on methods.

7. Improving primary health care: Who should do what at the "grass roots" level.

Despite everything that has been written about how primary health care should be structured so as to break more quickly and cost effectively the grip of high rates of disease and preventable deaths in Africa, evidence is still very limited on several crucial questions. These questions relate not only to which services to emphasize most, but also what technologies work best for providing those services and which delivery mechanisms make sense in the African context. Ongoing work has been unable so far to yield sufficient information vitally needed on two topics particularly:

- (a) How can community-based workers (such as volunteer health promoters, trained traditional birth attendants, or paid paraprofessionals) be more cost effective? What should their functions be? Can investment in them save costs elsewhere (e.g., can training for TBAs substitute for building more maternity beds)?
- (b) What types, sizes, and numbers of below-hospital facilities (health centers and posts) should countries strive for? What services should such facilities provide? What auxiliary outreach (e.g., mobile clinics) should they have for covering outlying areas?

The purpose of this research should be to analyze the costs and effects of a few strategies in operation now in selected African countries, based on data collected from local service delivery points, through household surveys, and during site visits to participating communities. Thus the research should focus on indicators of the quantity and quality of services as

delivered, emphasizing those services known from the general medical literature to have a reasonably high probability of being efficacious if appropriately provided. It will probably not be possible to discern statistically significant impacts on mortality and morbidity; but in order to pick up whatever can be identified the research should obtain information from service delivery points on patient visits and from households on (self-reported) symptoms and dysfunctions.

8. Improving primary health care: Health and hygiene promotional/educational programs.

Health improvements remain considerably impeded by the widespread persistence among African populations of inappropriate behaviors in regard to personal hygiene, sanitation, child rearing, diet and food preparation, and care of the sick at home. Even where water and food availability are highly constrained, better knowledge, attitudes, and practices in these areas could lower the extent and impacts of disease significantly. Progress requires programs that inform and convince people not only through mass media campaigns, village meetings and/or leadership by local officials. Yet efforts of this sort have so far had mixed results, often failing miserably. What works? If nothing works, why? How can future initiatives be more cost effective?

The purpose of this research is to assess the effectiveness and cost of several programs using household surveys and direct observation of household behavior both before and after exposure to promotional/educational campaigns. This will require synchronizing the research with (i) extension of existing programs into new areas and/or (ii) introduction of new programs. In either case, full advantage should be taken of the opportunity to shape

programs in accord with promising hypotheses or earlier findings. In studying behavior, this study will have to adopt a long enough timeframe (e.g., six months or a year after exposure) to allow for the high degree of "wearing off" of messages that is typical for these programs.

II. EDUCATION

Research in this area addresses three major questions: first, what kind of education should be provided; second, what policies should govern the expansion of education; and third, how should the investment be financed? There already exists a body of knowledge on these issues in the literature, although most of the findings come from case studies outside Africa. What follows are research priority topics to be undertaken in sub-Saharan Africa.

1. The provision of low cost primary schooling.

Given the low level of literacy and the rapid rate of population growth, this will be the number one challenge for educational investment in Africa. It is known that investment at this level of schooling is highly profitable from the social point of view. Yet projections show that if present demographic and financial trends continue, universal literacy will not be attained in Africa before the end of the first quarter of the next century.

In this context, two complementary sets of policies could be contemplated. First, additional resources could be mobilized by increasing cost recovery (see research topic 5 below). Second, ways to reduce costs could be adopted.

With regard to cost reduction, various possibilities exist. For example, could the school calendar be altered; could the existing facilities be used more intensively; could teachers' time be used more effectively; could the schooling cycle be shortened; could the mix between more and less

qualified teachers be altered? All these possibilities differ not only in their impact on costs, but also on the output of educational systems. For example, what would their effect be on individuals' learning outcomes; to what extent could unit costs be reduced without jeopardizing students' acquisition of basic literacy skills, if indeed a minimum (threshold) level of schooling is required to assure the retention of literacy? What are the tradeoffs between costs, educational quality and equity? Should coverage be expanded or enrollments restricted so that the limited resources could be better used to raise the performance of the enrolled students? In this case, there is clearly a tradeoff between equity and efficiency.

A related issue is that of increasing costs as coverage is expanded. Marginal costs might increase because expanding coverage implies a school population with greater diversity, both geographically and academically. At some point, rising marginal costs would begin to set in. This outcome may imply a decline in the return to expansion of coverage. However, expansion would still be justified for equity reasons. Hence there is again an efficiency-equity tradeoff. All of the above problems have hitherto received relatively little attention. Research under this topic seeks to remedy this deficiency.

2. The determinants of student achievement.

One of the immediate and measurable outcomes of schooling is the amount of cognitive learning imparted to the student. It is possible, through the use of what is known as "educational production functions" to control for parental background and other non-school factors that affect cognitive achievement, and isolate the effect of policy alterable pedagogical inputs like teachers qualifications, textbooks and time on task. From studies in

other regions, especially in Asia, it is known that the provision of textbooks significantly contributes to student achievement. However, there is a lack of studies on the determinants of learning achievement in Africa. It is important to know what room there is to move towards more cost-effective combinations of educational inputs. Two sets of studies could be undertaken in this respect. First, (quantitative) production function analyses of the determinants of student achievement along with the costing of the marginal effect of various factors (including better management and new technologies). Second, a set of descriptive studies identifying "exemplary schools" or "schools with best practices". These case studies can provide some information on the potential for improvements.

3. The most efficient way of providing specialized training.

The formation of skills through vocational or in-service training is an important and growing component of human capital investment in Africa. This investment is a response to a perceived gap in the skills imparted by academic schools, which are considered too general relative to the specific skills demanded by changing labor markets. Many times, with external support, countries have adopted a spectrum of solutions ranging from the inclusion of vocational subjects in the mainstream educational system, to the development of specialized technical training institutions, to the subsidizations of on-the-job training. The magnitudes of these new investments are substantial.

Surprisingly little is known about the efficiency of these alternative forms of human capital investment relative to each other or even relative to traditional academic schools. On the cost side, research is needed on the following issues: (a) What are the unit costs of alternative

training modes? Given that there are many types of training, can comparable cost measures be developed? (b) Who bears the burden of the cost of different types of training? What is the extent of total public versus private involvement? In the private sector, do trainees, their employers, or consumers pay for training? On the benefits side, even less is currently known on the most basic issue of the impact of training on productivity and workers' incomes.

The answers to these questions will be crucial in developing the tools needed to direct human capital investment in African countries, particularly those confronted with the necessity of having to restructure their economies. The present methods of planning for such investment on the basis of crude demand-driven manpower projections have been shown to be inadequate.

4. The role of education in rural and informal sector employment.

An increasing number of graduates of the educational system finds employment in the non-modern sector of the economy, or what is becoming commonly known as the "informal sector". An important question is whether education imparts skills that enhance the productivity of workers in this sector. Since the informal sector includes the self-employed and small business entrepreneurs, a related question is the extent to which schooling assists the entrepreneur in raising capital for the small business it operates. Since many of the self-employed are farmers, a similar question is raised regarding the effect of education on the farmers' efficient choice of inputs and eventual farm productivity. The share of informal sector employment in Africa will necessarily increase in the years to come, yet little is known on how school graduates who are engaged in self-employment

activities (including farming) perform in these "markets". The existing evidence in this respect is restricted largely to Asian and Latin American countries. Replication on a smaller scale of the farmers' education and informal sector studies undertaken in other countries should be undertaken in a number of selected African countries using production function analysis.

5. Mobilizing private resources for education.

Projections show that with present increases in the cost of schooling and given the already substantial share of the fiscal budget devoted to education, it will be difficult to reach African educational goals, such as universal primary education, by the first quarter of the next century. It is thus apparent that the private sector will have to bear a greater share of the financial burden in education, particularly at higher and secondary levels. This shift can be in the form of greater cost recovery in public schools or in increasing the role of private schools in the educational system. Key research questions in this area are:

- (a) What is the potential willingness to pay for educational services by households in sub-Saharan Africa? It is often said that, at present, private contributions to education are important but the full potential willingness to pay has not yet been fully tapped. It is important to document better that potential because such activities are outside the realm of central government and actual statistics on private involvement in education are rudimentary. For example, evidence from Mali and Malawi shows that households are willing to pay for improved educational services, e.g., having a school nearer the village. It is important to extend our knowledge on the willingness to pay in other countries as well, and also document the

level of excess demand for public educational services and the costs of rationing of places generated by extremely low fees.

- (b) What is the scope of increased private provision of schooling in Africa? Contrary to popular belief, there are many private schools in Africa. They range in quality from very informal schools in homes or gardens to elite institutions. From a policy perspective, it is important to determine the constraints on their operation so that they could be relaxed. For example, private coverage could increase if private schools were not in some cases prohibited by law. Another issue is whether private schools should be subsidized.
- (c) How could the financing and management of public school systems be decentralized? There is preliminary evidence that schools financed by local communities can be effective modes of delivery. The extent to which decentralization can increase private contributions should be studied.
- (d) What is the scope for loan schemes in Africa? The key to ensuring efficiency and equity improvements through greater private financial participation is the development of educational credit schemes.

6. Education for females.

One may assume that the difference between the social rate of return to education for girls and the private return expected by their parents is much larger than the comparable difference is for boys. If so, it becomes important to assess the efficiency of potential instruments for increasing the enrollment of girls in school. There has been very limited research on determinants of school participation by boys and girls in Africa and on the efficacy of public policies designed deliberately to influence those

participation rates. Given the evidence for high social returns to investing in formal education for girls, research on how best to improve the relative participation of females in schooling would seem to be a high priority.

7. Distance teaching.

This is another high priority for research in sub-Saharan Africa. What is the potential of distance teaching methods for reducing costs of secondary and post-secondary education and, potentially, for increasing quality of all levels of education? It may appear that distance teaching is futuristic and not at this point a serious subject for mainline educators to consider. Perhaps for this reason it is important to proceed cautiously on this subject. Nevertheless, in times of stringent fiscal austerity it is worth at least considering alternatives to the traditional way of providing instruction.

8. Educational policies and outcomes: A comparative study.

It is very difficult to suggest policy changes in a country without knowing in the first place what the current policies are, let alone what was the effect of past policies on socioeconomic development. A study could attempt to raise three pieces of information for as many African countries as possible. First, what is the historical record of past policy intentions, as pronounced in public statements or incorporated in official plan documents (e.g., "fees will be introduced in higher education"). Second, to what extent have the above policy intentions been implemented (e.g., have fees actually been introduced in higher education? To what extent? Has cost recovery increased from zero to 10 percent or to 80 percent?) Third, what has been the effect of implemented policies on social indicators, e.g., how much revenue was generated by the fees, and how was this spent? Has it resulted in an

expansion of higher education or an improvement in its quality? Did the implicit relaxation of the state budget permit an expansion of primary schools in rural areas?

Given the above information for a number of countries, lessons could be drawn in a comparative sense. For example, what explains the gap between intentions and implementation? Does the political regime matter or the fact that the initial political statements were too loose or unfeasible?, (e.g., "education will be provided free to all as a basic need"). Why was the same policy intention implemented in country A but not in country B? What types of implemented policies have had the most effect on what type of indicator?, e.g., did an expansionist educational policy result in a lowering of inequality measures regarding access to schooling by different socioeconomic/geographic/sex groups? Can the income distribution effect of alternative policies be traced? Are there any differences between countries on the socioeconomic indicators depending upon whether educational expansion took place at the basic or higher education level? To what extent have government policies actually introduced discrepancies between private and social costs and benefits instead of reducing them? (e.g., by subsidizing educational provision or by incorporating rents in civil service pay scales).

The result of this study will greatly improve the existing body of knowledge towards assisting African countries in the formulation of their educational policies.

APPENDIX

CONTRIBUTORS AND PARTICIPANTS TO THE CONFERENCES

PARTICIPANTS AT THE EASTON, MARYLAND WORKSHOP
OCTOBER 11-12, 1984

Robert ARMSTRONG, Senior Economist, EA2
Hans BINSWANGER, Chief, Agricultural Research Unit, AGR
Nancy BIRDSALL, Resource Mobilization Division, CPD
Ester BOSERUP, Brissago, Switzerland
Elkyn CHAPARRO, Public Enterprise Unit, WA
Tony CHURCHILL, Director, WUD
Paul COLLIER, Oxford University
Luis de AZCARATE, Director, CPD
David de FERRANTI, Acting Chief, Policy and Research Unit, PHN
Kemal DERVIS, Chief, Industry Policy Division, IND
Dennis de TRAY, Chief, Living Standards Measurement Study Unit, DRD
Ron DUNCAN, Chief, Commodity Studies and Projections, EPD
Stephen ECCLES, Assistant Director, WAP
Carl EICHER, Michigan State University
Alan GELB, Acting Chief, Productivity Division, DRD
Ravi GULHATI, Chief Economist, WA
Rolf GUSTEN, Senior Economist, WA
Rudolph HABLUTZEL, Senior Economist, WA2
Nick HOPE, Chief, External Debt Division, EPD
Tariq HUSAIN, Senior Economist, WAP
Paul ISENMAN, Senior Economist, WA1
Tony KILLICK, Overseas Development Institute, London
Deepak LAL, Research Administrator, ERS
Uma LELE, Chief, Development Strategy Division, DRD
Mark LEISERSON, Economic Adviser, CPD
Millard LONG, Chief, Financial Development Unit, IND
Robert MAUBOUCHE, Senior Economist, EA2
Gobind NANKANI, Nigeria Division, WA1
Akbar NOMAN, Office of the Vice President, WA
George PSACHAROPOULOS, Chief, Research Unit, EDC
Sarath RAJAPATIRANA, Office of the Vice President, ERS
Ronald RIDKER, Office of the Director, EA1
Marcelo SELOWSKY, Economic Adviser, OPS
Lyn SQUIRE, Chief, Resource Mobilization Division, CPD
Baran TUNCER, Office of the Director, EA1
Richard WESTEBBE, Senior Economist, WA2

PARTICIPANTS AT THE BELLAGIO CONFERENCE
FEBRUARY 25 - MARCH 1, 1985

Dr. J.L.S. ABBEY
Ghana High Commissioner
Sandringham
85 Range Road
Suite 810
Ottawa, Ontario
CANADA KIN856

Mr. Kingsley Y. AMOAKO
Resident Representative
The World Bank
P.O. Box 35410
Lusaka 1818 H Street, N.W.
ZAMBIA Washington, D.C. 20433 USA

Mr. Robert ARMSTRONG
Senior Economist
East Africa Office
The World Bank
1818 H Street, N.W.
Washington, D.C. 20433 USA

Professeur Achi ATSAIN
Centre Ivoirien de Recherches
Economiques et Sociales
(CIRES)
08 BP 1295 Abidjan 08
IVORY COAST

Dr. Robert BATES
Division of Human Resources
and Social Science
California Institute of Technology
1201 East California Boulevard
Pasadena, California 91125 USA
ENGLAND

Mr. J.W.S. De GRAFT-JOHNSON
Compleat Engineering and
Technical Consulting Services
P.O. Box 1
Trade Fair Site
Accra, GHANA

Mr. Hans P. BINSWANGER
Chief, Agricultural Research Unit
The World Bank
1818 H Street, N.W.
Washington, D.C. 20433 USA

Ms. Nancy BIRDSALL
Chief, Policy and Research Division
Health, Population and Nutrition Dept.
The World Bank

Dr. Ester BOSERUP
Nevedone
6614 Brissago
SWITZERLAND

Mr. Armeane M. CHOKSI
Chief, Trade & Adjustment Policy Div.
The World Bank
1818 H Street, N.W.
Washington, D.C. 20433 USA

Dr. Paul COLLIER
Institute of Economics & Statistics
Oxford University
St. Cross Building
Manor Road
Oxford OX1 3UL

Mr. Paul ISENMAN
Senior Economist
Western Africa Office
The World Bank
1818 H Street, N.W.
Washington, D.C. 20433 USA

Mr. V. DIEJOMOA
Director Directeur des Etudes
The Jobs and Skills Program
for Africa
P.O. Box 2532
Addis Ababa, ETHIOPIA
Dakar, SENEGAL

Dr. Carl EICHER
Department of Agricultural Economics
Agriculture Hall
Michigan State University
East Lansing, Michigan 48824-1039
USA

Mr. Ravi GULHATI
Chief Economist
East Africa Office
The World Bank
1818 H Street, N.W.
Washington, D.C. 20433 USA

Dr. A.G. HOPKINS
Center of West African Studies
University of Birmingham
P.O. Box 363
Birmingham B15 2TT
ENGLAND Washington, D.C. 20433 USA

Ms. Uma J. LELE
Chief, Development Strategy Division
The World Bank
1818 H Street, N.W.
Washington, D.C. 20433 USA

Mr. Harris MULE
Permanent Secretary
Ministry of Finance and Planning
P.O. Box 300007
Nairobi, KENYA
Washington, D.C. 20433 USA

Mr. Stephen F. O'BRIEN
Chief Economist
West Africa Office
The World Bank
1818 H Street, N.W.
Washington, D.C. 20433 USA

Mr. Charles KONAN-BANNY

Banque Centrale des Etats de
l'Afrique de l'Ouest (siege)
Avenue du Barachois
B.P. 3108

Mr. Tony KILLICK
Overseas Development Institute
10-11 Percy Street
London W1P 0JB
ENGLAND

Ms. Anne O. KRUEGER
Vice President
Economics and Research Staff
The World Bank
1818 H Street, N.W.
Washington, D.C. 20433 USA

Mr. Deepak LAL
Research Administrator
Economics and Research Staff
The World Bank
1818 H Street, N.W.

Mr. D.G. RWEGASIRA
Director of Research
African Development Bank
01 B.P. 1387
Abidjan, IVORY COAST

Mr. Marcelo SELOWSKY
Economic Adviser
Operations Policy Staff
The World Bank
1818 H Street, N.W.

Mr. Dunstan SPENCER
ICRISAT
B.P. 12404
Niamey, NIGER

Mr. Pius OKIGBO
SKOP Consultants
c/o Mr. Ishrat Husain
Resident Representative
The World Bank
P.O. Box 127
Lagos, NIGERIA

Mr. George PSACHAROPOULOS
Chief, Research Program
Education Department
The World Bank
1818 H Street, N.W.
Washington, D.C. 20433 USA

Mr. Sayed A.A. ZAKI
Under Secretary of Finance and
and Economic Planning
Khartoum, SUDAN

ROUTING SLIP		DATE: July 9, 1985	
NAME		ROOM NO.	
Dave de Ferranti		N842	
Nancy Birdsall		N452	
	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: re: Research Priorities, Population, Health and Nutrition, SSA Dave, Please confirm that these 8 represent the final versions sent to Selowsky, at least for those you did.			
FROM:		ROOM NO.:	EXTENSION:
Nancy		N452	6-1581

**Research Priorities, Population, Health and Nutrition,
Sub-Saharan Africa**

Nine priority areas for research over the next five years on population, health and nutrition in Sub-Saharan Africa follow. These are based in part on discussions at two recent conferences on research priorities for Sub-Saharan Africa, and in part on other inputs, including ongoing discussions of the work program for the Policy and Research Division, Population, Health and Nutrition Department.

I. Future Population Distribution and Economic Change in Sub-Saharan Africa

Background

Population distribution is poor in Africa in relation to natural resources. This is evident from even a cursory comparison of crude carrying capacity indicators with current population densities. High densities combined with traditional low-input levels of agriculture are reducing returns to labor and yields in some areas. In others, low densities raise the costs of providing agricultural extension and social services, make yield-increasing investment in irrigation a poor investment, and prevent the development of land markets necessary to further private investments. Part of the problem is restrictions on international migration, but even within countries, distribution of population is poor. Indeed current population distribution may reflect past patterns of poorly-allocated investments over space e.g. in the colonial period, or of restrictions on mobility due to ethnic or linguistic barriers that are now breaking down; there is little reason to assume that current distribution is the result of efficiently-operating market forces.

For the next several decades, with 70 percent and more of the labor force in agriculture and with most agriculture at traditional low-input levels, average returns to labor in agriculture might be higher if more labor were available in areas of rich agricultural (or other economic) potential and labor increases in areas of poor potential could be limited (all other things equal -- including pricing policy reform, improved technology, etc.). On the other hand, planned migration of large numbers of people (e.g., as is now going on in Ethiopia) to accomplish such redistribution probably cannot be justified economically because of its high cost, and may not lead to the "right" long-run distribution anyway, given the likelihood of planners' errors. However, planning of long-term social investments (which normally must be planned anyway) that affect spontaneous migratory movements -- e.g., investments in transportation and social infrastructure or elimination of diseases that prevent settlements -- should be undertaken with a view to reinforcing and encouraging certain migratory patterns.

What investments, especially in transportation, might governments undertake to better exploit the economic potential of areas now sparsely populated? Can certain investments be justified economically, even assuming high discount rates, by the likelihood of future unforeseen high positive externalities? What are the private and social costs and returns to current planned movements of people?

Research approach

Develop proposal for research project on optimal patterns of infrastructure development, possibly including cost-benefit analysis of road projects taking into account positive externalities, agricultural-potential of different regions, and future expected population growth; case studies of economic and social costs of and returns to planned

migration (e.g., Somalia, Tanzania villagization); positive analysis of extent to which existing population distribution in selected areas is a result of past nonoptimal patterns of infrastructure investment.

References

Boserup paper for Bellagio conference; background papers by Ho and others for PHN Population Issues in Sub-Saharan Africa; various Pingali and Binswanger studies.

II. The Changing African Family: Demand for Fertility Control

Background

Fertility remains high in Africa, but there are significant signs of demand for modern contraceptive, including scattered evidence of increasing abortion in urban areas, a decline in desired family size among young women, especially those with some education, and up to 40 percent of eligible couples using modern contraception in a few rural areas where services are good. Governments are interested in designing effective family planning and related programs to encourage later marriage, spacing of births and lower fertility. But decisions about appropriate and cost effective approaches (e.g., the mix of information vs. services, appropriate messages and media for family planning campaigns, the emphasis to place on community organization relative to individually-oriented services, the importance of parallel services such as health and education for women for increasing demand, the appropriate targetting to men, women, younger or older couples) are difficult to make in an environment of little and highly-scattered information on existing demand, and on potential demand if information were more widespread. In particular, decisions about whether and how to target programs (how much to urban vs. rural areas; to young couples for delay of first births and spacing, vs. older women, for stopping childbearing; to women only or to men; through religious and community groups or through modern mass media and so on) are difficult to make without a better understanding of current demand. In addition, analyses of the demographic and health effects of future programs will rely in part on baseline data on use of nonmodern means to limit births; such baseline data will permit analysis of the extent to which future utilization of publicly-subsidized programs reflects substitution away from former methods or a net increase in users.

Research approach

Commission review paper(s) by economist with background in demography and economic anthropology, to cover existing information, including from anthropological studies of such issues as:

- (a) women's motivations for childbearing; the effect of existing family legislation on women's need to use children to secure their own future; the costs and benefits to men of children;
- (b) the extent of, trends in, and causes of high adolescent fertility among married and unmarried women; the causes of early marriage;
- (c) the costs (e.g., labor market withdrawal) and benefits of breastfeeding;
- (d) the extent and type of current contraceptive practice, including use of traditional means of contraception; and

- (e) the extent of abortion, financial outlays by clients, age and other characteristics of clients, and health effects of nonmedical abortion.

Emphasis should be on linking what is known about demand for children and for contraception to program options with respect to targetting, etc. Studies should not be limited to the conventional approach of analysis of determinants of fertility using nationwide survey data and regression techniques, but should include more broad-ranging reviews of a variety of materials, including village anthropological studies, farm management studies, time allocation and labor force studies, hospital and clinic records, etc.

Reference

Boserup paper, PHN Africa population policy paper.

III. The Changing African Family: Designing Appropriate Family Planning and Related Service Programs

Background

The large literature on determinants of fertility in Africa sheds little light on how more accessible and higher-quality family planning services would alter fertility, and consequently little on how services should be designed to best serve the needs of potential clients. This major deficiency arises in part because household data on characteristics of potential users are almost nowhere matched to information on differences across potential users in access to services. Studies outside Africa indicate that response to availability of public services varies widely, depending on characteristics of the services themselves as well as on the "demand" environment. Anecdotal evidence of widespread abortion in Africa and a growing commercial market for condoms in urban areas, suggest higher demand for contraception than heretofore assumed, and indicate willingness to pay for contraception and abortion even among low-income groups. Approaches to family planning programs to reach unmet demand and to create new demand are needed. Given very limited experience in family planning delivery in Africa, research, including experimentation with various approaches, can have a high payoff.

Research approach

Initiate operational research on supply side issues, including studies of cost-effectiveness of alternative existing delivery systems within public sector and outside of public sector (commercial sector, missions and nongovernmental organizations). Research methods would include:

- (a) follow-up of acceptors and non-acceptors over time, to include analysis of the effects of alternative approaches to service provision (e.g. amount of client follow-up; training of workers and supervisors in appropriate responses to side-effects; extent of workers' other duties; number of contraceptive methods available and emphasis on informing clients of alternative methods) on continuation, controlling for characteristics of users;
- (b) analysis using matched household and service data of determinants of service utilization, including not only household "demand" characteristics, but the characteristics of "supply", i.e. accessibility, quality and price of services;
- (c) analysis using focus group techniques in addition to standard survey research, with emphasis on "consumer" views of service quality;
- (d) analysis of expenditures on and patterns of utilization of nonpublic sources of contraceptives and abortion; and

- (e) cost and cost-effectiveness analysis of alternative approaches to service provision, including integrated health and family planning delivery systems.

References

PHN Africa population policy paper; various PHNPR work program memoranda.

IV. Paying for Health Care: The Effects of Fees for Services on Utilization, Quality and Management

Background

There is a growing case for increasing the degree of cost recovery in publicly provided health and family planning services and for seeking means to encourage private suppliers to enter the market, both as a means to increase resources, and as a means to improve the efficiency and (even) equity of existing systems. The case is built in part on evidence of high private expenditures on drugs and traditional health care, and low price elasticities of demand (outside Africa). Little, however, is known about how specific fees for certain services now supplied free would affect demand and utilization of various income groups, and how increases in fees would affect utilization under alternative assumptions about quality improvements. Even less is known about the administrative costs of collecting fees, and the implications of introducing financial accountability into highly centralized service delivery systems.

Research

- (a) Analysis of data covering household expenditures on, and utilization of health and related services (private and public), where prices, quality, and income vary;
- (b) experimental work on reliability of willingness-to-pay questions, e.g., via comparison of responses on WTP to actual expenditures; and
- (c) analysis of collection costs (and effectiveness of) various fee mechanisms, including revolving funds for drugs and other expendables, creation of hospital parastatals, decentralized control of revenues, etc.

References

Notes from Bellagio discussion of public finance; N. Birdsall cost recovery paper; de Ferranti policy paper on health financing (in draft).

V. Paying for Health Care: Insurance and Other Forms of Risk-Sharing

Background

The serious problems in how health services are financed now in African countries cannot be adequately solved if the options considered do not include fostering mechanisms by which households can either (i) borrow resources to pay health costs or (ii) participate in insurance or other risk-sharing arrangements. Such mechanisms, ranging from credit markets to social insurance schemes to community-based, pre-paid health plans, are still scarce and weak in Africa, lagging far behind trends in other regions. Why? What, if any thing, should be done to hasten their development? Presumably, informal markets exist, for example borrowing among relatives or within the community to finance emergency medical care, transport to distant hospitals, to cover loss of labor income, and so on. Still, cost recovery through fees at public hospitals and other health facilities for expensive curative care cannot be introduced until and unless private or public insurance is available.

Research Approach

The first issues that need to be addressed are: what are the characteristics of the mechanisms that exist now for borrowing or prepaying, in a representative selection of communities; how are households using these mechanisms and other alternatives (e.g., travel farther to get to free care), what are the constraints that limit expansion of credit and risk-sharing, and what are the differences between the patterns for rich vs. poor, urban vs. rural, etc? To tackle these issues properly, the full range of credit markets available to households in selected study sites need to be assessed. Rural sites could be examined initially, with urban sites added later. Household surveys should be undertaken, together with interviews of the staff of lending institutions and risk-sharing health care plans.

Following a descriptive analysis that pinpointed constraints and distributional questions, modelling techniques would be employed to assess possible new options, considering both supply (What will lenders and risk-sharing plans be willing to provide if certain constraints are eased, and under what conditions?) and demand (What will households be willing to pay for?).

References

Collier paper for Bellagio; PHNPR work program notes;
N. Birdsall/de Ferranti papers.

VI. Improving Primary Health Care: Maternal and Child Survival Issues

Background

Progress in dealing with high rates of disease and preventable deaths remains slow in Africa partly because basic health services below the hospital level are still of low quality, not cost-effectively designed and not accessible to all localities. Of particular concern are the still high mortality figures among children under five and among women during pregnancy, at birth, and through the end of weaning. Over two thirds of all preventable deaths may currently occur within these two groups. Infant mortality rates in Africa are ten times higher than in developed countries; maternal mortality rates are one hundred times higher.

Major research and other initiatives on many questions relating to these issues have been funded through numerous international and academic institutions (including WHO, UNICEF, USAID, the World Bank, and Rockefeller). But a number of areas that should be under extensive investigation at present are not, due in part to funding limitations. Two of these areas that should be top priorities are:^{1/}

- (i) How could the design and selection of minimal cost intervention "packages" (that is, combinations of immunization, growth monitoring, oral rehydration, nutrition education, antenatal care, perinatal care, and/or other maternal and child health services) be improved to take into account better the multiplicity of disease episodes that women and children under five must overcome in order to survive those high-risk years? Past studies have often focused on particular diseases one at a time. But success in saving a life from, say, a single bout of diarrhea is of limited consequence if the same child will die three months later from measles or malaria, possibly due in part to weakened resistance stemming from the prior illness. Information is needed that can guide resource allocation choices with respect to the full survival problem, not just pieces of it.
- (ii) With regard to women during pregnancy and at birth, how could the high mortality and disease rates be reduced? Previous research has concentrated on children, leaving maternal health largely neglected. At least 90 percent of maternal deaths (mainly associated with hemorrhage, infection, abortion, eclampsia, and obstructed labor) in principle could be prevented, with major benefits for the survival prospects of the mother's latest and preceding children.

^{1/} Others are subsumed under Items VII and VIII following.

Research Approach

The main goal should be to estimate and compare the costs and effects of the most promising intervention "packages" for a number of African settings, and to assess the contributions of the primary components (immunization, etc.) of each package. The most difficult methodological challenge is how to estimate the effects of interventions. There are three main conceptual options:

- (a) estimate the change in the quantity and quality of services received by the target group, based on primary data collection through visits to sampled delivery points and surveys of users and the surrounding population; and then estimate the change in health status (mortality and morbidity) using relationships known from the general medical literature on the efficacy of the technologies involved, where the service has been effectively delivered (e.g., evidence from randomized clinical trials);
- (b) estimate the change in health status directly from data collected in the study sites; or
- (c) do (b) plus estimate the other benefits flowing from the change in health status (e.g., higher productivity, earnings, better leisure time).

The third is theoretically the best, but exceedingly difficult to accomplish satisfactorily. The second is better than the first, but still not always feasible -- considering the crude measurement tools that must be relied upon, the long-term nature of some impacts, and the high degree of interdependence among the multiple factors contributing to health changes. Analysis of maternal mortality is complicated by the need for large sample sizes because death associated with child bearing is not a frequent event.

A recommended strategy would be to start with studies using the first method and use that experience to carry out further analysis using the second method. The former studies would examine examples (preferably at least three; more if possible) of ongoing programs in different African communities, taking some "success stories" and some "average performers." See Item VII for further points on methods.

References

Chen work in Matlab, Gwatkin, DANFA project, Barnum, etc. on cost per death averted, measles and other data from Stan Foster. Rosenfield paper on maternal health. References in de Ferranti outline.

VII. Improving Primary Health Care: Who Should Do What at the "Grass Roots" Level?

Background

Despite everything that has been written about how primary health care should be structured so as to break more quickly and cost-effectively the grip of high rates of disease and preventable deaths in Africa, evidence is still very limited on several crucial questions. These questions relate not only to which services to emphasize most, but also what technologies work best for providing those services and which delivery mechanisms make sense in the African context. Ongoing work has been unable so far to yield sufficient information vitally needed on two topics particularly:

- (i) How can community-based workers (such as volunteer health promoters, trained traditional birth attendants, or paid para-professionals) be more cost-effective? What should their functions be? Can investment in them save costs elsewhere (e.g., can training for TBAs substitute for building more maternity beds)?
- (ii) What types, sizes, and numbers of below-hospital facilities (health centers and posts) should countries strive for? What services should such facilities provide? What auxiliary outreach (e.g., mobile clinics) should they have for covering outlying areas?

Research Approach

Analyze the costs and effects of a few strategies in operation now in selected African countries, based on data collected from local service delivery points, through household surveys, and during site visits to participating communities. Include control groups. Estimate the costs and effects for other alternatives (not directly observable now) using modelling techniques. On effects, rely mainly on approach (b) as outlined in Item VI. Thus focus on indicators of the quantity and quality of services as delivered, emphasizing those services known from the general medical literature to have a reasonably high probability of being efficacious if appropriately provided. It will probably not be possible to discern statistically significant impacts on mortality or morbidity; but in order to pick up whatever can be identified, obtain information from service delivery points on patient visits and from households on (self-reported) symptoms and dysfunctions.

References

See outline for synthesis paper (review of currently available evidence on resource allocation issues) and background papers cited therein by Gwatkin and others.

VIII. Improving Primary Health Care: Health and Hygiene Promotional/Educational Programs

Background

Health improvements remain considerably impeded by the widespread persistence among African populations of inappropriate behaviors in regard to personal hygiene, sanitation, child rearing, diet and food preparation, and care of the sick at home. Even where water and food availability are highly constrained, better knowledge, attitudes, and practices in these areas could lower the extent and impacts of disease significantly. Progress requires programs that inform and convince people not only through their contacts with health providers but elsewhere too -- e.g., through mass media campaigns, village meetings and/or leadership by local officials. Yet efforts of this sort have so far had mixed results, often failing miserably. What works? (If nothing works, why?) How can future initiatives be more cost-effective?

Research Approach

Assess the effectiveness and costs of several programs using household surveys and direct observation of household behavior both before and after exposure to promotional/educational campaigns. This will require synchronizing the research with (i) extension of existing programs into new areas and/or (ii) introduction of new programs. In either case, full advantage should be taken of the opportunity to shape programs in accord with promising hypotheses or earlier findings. On effectiveness, concentrate on change in behavior, adopting a long enough timeframe (e.g., 6 months or a year after exposure) to allow for the high degree of "wearing off" of messages that is typical for these programs.

References

See outline for synthesis paper.

IX. Substitution Question

Background

Evidence that life saved from measles, diarrhea, may be lost to something else. (Data from The Gambia, Nigeria). The main research question is to ascertain and cost the minimal intervention package that will improve child survival in Africa. Probably is attention to malaria, malnutrition, diarrheal and respiratory disease, FP, vitamin A, female education.

Research Approach

- (1) Studies analyzing success stories using multiple regression.
- (2) Case studies (qualitative) of effective health efforts including costs.
- (3) Gwatkin et al type review for Africa of C/E of programs but at larger scale than the 10 demonstration projects Dave reviewed? Combine with 1? Combine all 3?
- (4) Prospective study a la Matlab in Farafeni or equivalent in Africa, i.e. look at individual interventions and multiple interventions over time against reliable demographic backdrop.

References

Chen work in Matlab, Gwatkin, DANFA project, Barnum, etc. on cost per death averted, measles and other data from Stan Foster.

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ROUTING SLIP		DATE: June 17, 1985	
NAME		ROOM NO.	
Mr. M. Selowsky		E1023	
APPROPRIATE DISPOSITION		NOTE AND RETURN	
APPROVAL		NOTE AND SEND ON	
CLEARANCE		PER OUR CONVERSATION	
COMMENT		<input checked="" type="checkbox"/> PER YOUR REQUEST	
FOR ACTION		PREPARE REPLY	
INFORMATION		RECOMMENDATION	
INITIAL		SIGNATURE	
NOTE AND FILE		URGENT	
REMARKS:			
<p>re: Research Priorities -- SSA <u>(Sections II and III)</u></p>			
FROM:		ROOM NO.:	EXTENSION:
Nancy Birdsall		N452	6-1581

II. The Changing African Family: Demand for Fertility Control

Background

Fertility remains high in Africa, but there are significant signs of demand for modern contraceptive, including scattered evidence of increasing abortion in urban areas, a decline in desired family size among young women, especially those with some education, and up to 40 percent of eligible couples using modern contraception in a few rural areas where services are good. Governments are interested in designing effective family planning and related programs to encourage later marriage, spacing of births and lower fertility. But decisions about appropriate and cost effective approaches (e.g., the mix of information vs. services, appropriate messages and media for family planning campaigns, the emphasis to place on community organization relative to individually-oriented services, the importance of parallel services such as health and education for women for increasing demand, the appropriate targetting to men, women, younger or older couples) are difficult to make in an environment of little and highly-scattered information on existing demand, and on potential demand if information were more widespread. In particular, decisions about whether and how to target programs (how much to urban vs. rural areas; to young couples for delay of first births and spacing, vs. older women, for stopping childbearing; to women only or to men; through religious and community groups or through modern mass media and so on) are difficult to make without a better understanding of current demand. In addition, analyses of the demographic and health effects of future programs will rely in part on baseline data on use of nonmodern means to limit births; such baseline data will permit analysis of the extent to which future utilization of publicly-subsidized programs reflects substitution away from former methods or a net increase in users.

Research approach

Commission review paper(s) by economist with background in demography and economic anthropology, to cover existing information, including from anthropological studies of such issues as:

- (a) women's motivations for childbearing; the effect of existing family legislation on women's need to use children to secure their own future; the costs and benefits to men of children;
- (b) the extent of, trends in, and causes of high adolescent fertility among married and unmarried women; the causes of early marriage;
- (c) the costs (e.g., labor market withdrawal) and benefits of breastfeeding;
- (d) the extent and type of current contraceptive practice, including use of traditional means of contraception; and

- (e) the extent of abortion, financial outlays by clients, age and other characteristics of clients, and health effects of nonmedical abortion.

Emphasis should be on linking what is known about demand for children and for contraception to program options with respect to targetting, etc. Studies should not be limited to the conventional approach of analysis of determinants of fertility using nationwide survey data and regression techniques, but should include more broad-ranging reviews of a variety of materials, including village anthropological studies, farm management studies, time allocation and labor force studies, hospital and clinic records, etc.

Reference

Boserup paper, PHN Africa population policy paper.

III. The Changing African Family: Designing Appropriate Family Planning and Related Service Programs

Background

The large literature on determinants of fertility in Africa sheds little light on how more accessible and higher-quality family planning services would alter fertility, and consequently little on how services should be designed to best serve the needs of potential clients. This major deficiency arises in part because household data on characteristics of potential users are almost nowhere matched to information on differences across potential users in access to services. Studies outside Africa indicate that response to availability of public services varies widely, depending on characteristics of the services themselves as well as on the "demand" environment. Anecdotal evidence of widespread abortion in Africa and a growing commercial market for condoms in urban areas, suggest higher demand for contraception than heretofore assumed, and indicate willingness to pay for contraception and abortion even among low-income groups. Approaches to family planning programs to reach unmet demand and to create new demand are needed. Given very limited experience in family planning delivery in Africa, research, including experimentation with various approaches, can have a high payoff.

Research approach

Initiate operational research on supply side issues, including studies of cost-effectiveness of alternative existing delivery systems within public sector and outside of public sector (commercial sector, missions and nongovernmental organizations). Research methods would include:

- (a) follow-up of acceptors and non-acceptors over time, to include analysis of the effects of alternative approaches to service provision (e.g. amount of client follow-up; training of workers and supervisors in appropriate responses to side-effects; extent of workers' other duties; number of contraceptive methods available and emphasis on informing clients of alternative methods) on continuation, controlling for characteristics of users;
- (b) analysis using matched household and service data of determinants of service utilization, including not only household "demand" characteristics, but the characteristics of "supply", i.e. accessibility, quality and price of services;
- (c) analysis using focus group techniques in addition to standard survey research, with emphasis on "consumer" views of service quality;
- (d) analysis of expenditures on and patterns of utilization of nonpublic sources of contraceptives and abortion; and

- (e) cost and cost-effectiveness analysis of alternative approaches to service provision, including integrated health and family planning delivery systems.

References

PHN Africa population policy paper; various PHNPR work program memoranda.

II. The Changing African Family: Demand for Fertility Control

Background

Fertility remains high in Africa, but there are significant signs of demand for modern contraceptive, including scattered evidence of increasing abortion in urban areas, a decline in desired family size among young women, especially those with some education, and up to 40 percent of eligible couples using modern contraception in a few rural areas where services are good. Governments are interested in designing effective family planning and related programs to encourage later marriage, spacing of births and lower fertility. But decisions about appropriate and cost effective approaches (e.g., the mix of information vs. services, appropriate messages and media for family planning campaigns, the emphasis to place on community organization relative to individually-oriented services, the importance of parallel services such as health and education for women for increasing demand, the appropriate targetting to men, women, younger or older couples) are difficult to make in an environment of little and highly-scattered information on existing demand, and on potential demand if information were more widespread. In particular, decisions about whether and how to target programs (how much to urban vs. rural areas; to young couples for delay of first births and spacing, vs. older women, for stopping childbearing; to women only or to men; through religious and community groups or through modern mass media and so on) are difficult to make without a better understanding of current demand. In addition, analyses of the demographic and health effects of future programs will rely in part on baseline data on use of nonmodern means to limit births; such baseline data will permit analysis of the extent to which future utilization of publicly-subsidized programs reflects substitution away from former methods or a net increase in users.

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- (c) the costs (e.g., labor market withdrawal) and benefits of breastfeeding;
- (d) the extent and type of current contraceptive practice, including use of traditional means of contraception; and

- (e) the extent of abortion, financial outlays by clients, age and other characteristics of clients, and health effects of nonmedical abortion.

Emphasis should be on linking what is known about demand for children and for contraception to program options with respect to targetting, etc. Studies should not be limited to the conventional approach of analysis of determinants of fertility using nationwide survey data and regression techniques, but should include more broad-ranging reviews of a variety of materials, including village anthropological studies, farm management studies, time allocation and labor force studies, hospital and clinic records, etc.

Reference

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- (b) analysis using matched household and service data of determinants of service utilization, including not only household "demand" characteristics, but the characteristics of "supply", i.e. accessibility, quality and price of services;
- (c) analysis using focus group techniques in addition to standard survey research, with emphasis on "consumer" views of service quality;
- (d) analysis of expenditures on and patterns of utilization of nonpublic sources of contraceptives and abortion; and

- (e) cost and cost-effectiveness analysis of alternative approaches to service provision, including integrated health and family planning delivery systems.

References

PHN Africa population policy paper; various PHNPR work program memoranda.

Nancy

Mely-

FORM NO. 75
(6-83)

THE WORLD BANK/IFC

ROUTING SLIP		DATE: May 7, 1985	
NAME		ROOM NO.	
Messrs. ✓ Berg			
Measham Sai			
PHNPR staff			
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:			
<p>As output of the Easton and Bellagio conferences on research priorities, Sub-Saharan Africa, Marcelo wants 5-10 research topics suggested. They should be at least as specific as what I've drafted already. These do not cover <u>allocation of health resources</u>, nutrition, among other things. Please provide suggestions (oral OK) by May 13.</p>			
FROM:	ROOM NO.:	EXTENSION:	
Nancy Birdsall	N452	6-1581	

Nancy

(to discuss further after meeting with Per)

Possible topics:

- Cost-effective food supplementation schemes, including food-related income transfer
- Costs and benefits of putting more emphasis on nutrition-related activities in PHC (Costs including opportunity costs)
- Effectively managing nutrition programs and policies: identifying transferable factors that have contributed to success elsewhere.

ROUTING SLIP		DATE: May 7, 1985	
NAME		ROOM NO.	
Messrs. Berg			
Measham Sai			
PHNPR staff			
APPROPRIATE DISPOSITION		NOTE AND RETURN	
APPROVAL		NOTE AND SEND ON	
CLEARANCE		PER OUR CONVERSATION	
COMMENT		PER YOUR REQUEST	
FOR ACTION		PREPARE REPLY	
INFORMATION		RECOMMENDATION	
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NOTE AND FILE		URGENT	
REMARKS:			
<p>As output of the Easton and Bellagio conferences on research priorities, Sub-Saharan Africa, Marcelo wants 5-10 research topics suggested. They should be at least as specific as what I've drafted already. These do not cover allocation of health resources, nutrition, among other things. Please provide suggestions (oral OK) by May 13.</p>			
FROM: Nancy Birdsall		ROOM NO.: N452	EXTENSION: 6-1581

DRAFT

NBirdsall:mv

May 7, 1985

**Research Priorities, Population, Health and Nutrition,
Sub-Saharan Africa**

Nine

~~Five~~ priority areas for research over the next five years on population, health and nutrition in Sub-Saharan Africa follow. These are based in part on discussions at two recent conferences on research priorities for Sub-Saharan Africa, and in part on other inputs, including ongoing discussions of the work program for the Policy and Research Division, Population, Health and Nutrition Department.

I. Future Population Distribution and Economic Change in Sub-Saharan Africa

Background

Population distribution is poor in Africa in relation to natural resources. This is evident from even a cursory comparison of crude carrying capacity indicators with current population densities. High densities combined with traditional low-input levels of agriculture are reducing returns to labor and yields in some areas. In others, low densities raise the costs of providing agricultural extension and social services, make yield-increasing investment in irrigation a poor investment, and prevent the development of land markets necessary to further private investments. Part of the problem is restrictions on international migration, but even within countries, distribution of population is poor. Indeed current population distribution may reflect past patterns of poorly-allocated investments over space e.g. in the colonial period, or of restrictions on mobility due to ethnic or linguistic barriers that are now breaking down; there is little reason to assume that current distribution is the result of efficiently-operating market forces.

For the next several decades, with 70 percent and more of the labor force in agriculture and with most agriculture at traditional low-input levels, average returns to labor in agriculture might be higher if more labor were available in areas of rich agricultural (or other economic) potential and labor increases in areas of poor potential could be limited (all other things equal -- including pricing policy reform, improved technology, etc.). On the other hand, planned migration of large

numbers of people (e.g., as is now going on in Ethiopia) to accomplish such redistribution probably cannot be justified economically because of its high cost, and may not lead to the "right" long-run distribution anyway, given the likelihood of planners' errors. However, planning of long-term social investments (which normally must be planned anyway) that affect spontaneous migratory movements -- e.g., investments in transportation and social infrastructure or elimination of diseases that prevent settlements -- should be undertaken with a view to reinforcing and encouraging certain migratory patterns.

What investments, especially in transportation, might governments undertake to better exploit the economic potential of areas now sparsely populated? Can certain investments be justified economically, even assuming high discount rates, by the likelihood of future unforeseen high positive externalities? What are the private and social costs and returns to current planned movements of people?

Research approach

(1) Case studies of economic and social costs of and returns to planned migration (e.g., Somalia, Tanzania villagization); (2) coordinate with Transport and Agriculture Department for development of proposal for 3 to 5 year research project on optimal patterns of infrastructure development, possibly including:

of road projects taking into account future expected population growth; case

cost-benefit analysis of positive externalities, agricultural potential of different regions, and positive analysis of

References

Boserup paper for Bellagio conference; background papers by Ho and others for PHN Population Issues in Sub-Saharan Africa; recent paper done in one of the two West Africa departments (author's name available from Paul Isenman).

Vernis Pargali and Binkwanga studies.

What is the existing population distribution in the area? Is it a result of past infrastructure investment?

II. The Changing African Family: Demand for Fertility Control

Background

Fertility remains high in Africa. Governments are interested in designing effective family planning and related programs to encourage later marriage, spacing of births and lower fertility. But decisions about cost-effective approaches (e.g. the mix of information vs. services, the emphasis to place on community organization relative to individually-oriented services, the appropriate targetting to men, women, younger or older couples) are difficult to make in an environment of little information on potential demand.

Research approach

Commission review paper by economist with background in demography and economic anthropology, to cover existing information, including from anthropological studies, of such issues as women's motivations for childbearing; the effect of existing family legislation on women's need to use children to secure their own future; the costs and benefits to men of children; the extent of abortion and other forms of nonmodern contraception in Africa; the extent of, trends in, and causes of high adolescent fertility among married and unmarried women; the costs (e.g. labor market withdrawal) and benefits of breastfeeding; the causes of early marriage, etc. Emphasis should be on linking what is known about demand for contraception to program options with respect to targetting, etc. This would not in short be a conventional study of the determinants

of fertility using nationwide survey data and regression techniques, but a more broad-ranging review of a variety of materials, including village studies, farm management, time allocation and labor force studies, hospital and clinic records, etc. Among approaches above, high ✓

Reference

Boserup paper, PHN Africa population policy paper.

priority should go to abortion - the methods, the providers, ~~the~~ associated morbidity and mortality and the private and public cost of treatment.

III. The Changing African Family: Designing Appropriate Family Planning and Related Programs

Service

Background

Response to public services varies widely, depending apparently on characteristics of the services themselves as well as on the "demand" environment. Anecdotal evidence of widespread abortion in Africa and a growing commercial market for condoms in urban areas, suggest higher demand for contraception than heretofore assumed, and indicates willingness to pay for contraception and abortion even among low-income groups.

Research approach

Initiate operational research on supply side issues, including studies of cost-effectiveness of alternative existing delivery systems within public sector and outside of public sector (commercial sector missions and nongovernmental organizations). Research methods would include (a) follow-up of acceptors and non-acceptors over time, (b) analysis using matched household and service data of determinants of service utilization, including not only household "demand" characteristics, but the characteristics of "supply", i.e. accessibility, quality and price of services, and (c) analysis of expenditures on and patterns of utilization of non-public sources of contraceptives and abortion.

References

PHN Africa population policy paper; various PHNPR work program memoranda.

to include analysis of determinants of continuation by method, program, characteristics, etc.

(c) analysis using focus group techniques in addition to standard survey research with emphasis on "consumer" service quality and

IV. Cost Recovery for Health: Effects on Service Utilization, Quality and Management

Background

There is a growing case for increasing the degree of cost recovery in publicly provided health and family planning services and for seeking means to encourage private suppliers to enter the market, both as a means to increase resources, and as a means to improve the efficiency and (even) equity of existing systems. The case is built in part on evidence of high private expenditures on drugs and traditional health care, and low price elasticities of demand (outside Africa). Little, however, is known about how specific fees for certain services now supplied free would affect demand and utilization of various income groups, and how increases in fees would affect utilization under alternative assumptions about quality improvements. Even less is known about the administrative costs of collecting fees, and the implications of introducing financial accountability into highly centralized service delivery systems.

Research approach

(a) Analysis of data covering household expenditures on, and utilization of health and related services (private and public), where prices, quality, and income vary; (b) experimental work on reliability of willingness-to-pay questions, e.g. via comparison of responses on WTP to actual expenditures; and (c) analysis of collection costs (and effectiveness of) various fee mechanisms, including revolving funds for

drugs and other expendables, creation of hospital parastatals, decentralized control of revenues, etc.

References

Notes from Bellagio discussion of public finance; N. Birdsall cost recovery paper; De Ferranti policy paper on health financing (in draft).

V. Rural Markets for Risk-Sharing in Health

Background

Risk and capital markets appear to be very weak in rural Africa, among other things hindering private supply of health insurance. ^{Cost} recovery for expensive curative care cannot be introduced until and unless private or public insurance is available.

Research approach

Analysis of the risk-sharing market should be tied to analysis of related rural markets in Africa -- for question, assess whatever information is available, and in light of the savings in particular, but Household survey data on question and available information, propose methods for addressing the sources of finance for a variety of ~~the~~ activities which are uncertain (including illness) is a first step.

References

Collier paper for Bellagio; PHNPR work program notes; N. Birdsall/De Ferranti papers.

Presumably informal markets exist for example borrowing among relatives or within the community to finance emergency medical care, transport to distant hospitals, loss of labor in the home and so on. Still, cost

through fees at public hospitals and other health facilities

to cover

VI, Improving Primary Health Care

Background

Progress in dealing with high rates of disease and preventable mortality remains slow in Africa partly because basic health services below the hospital level are still of low quality, not cost-effectively designed and not accessible to all localities. Despite everything that has been written about how primary health care should be structured, evidence is still very limited on crucial questions regarding which services to emphasize most, what technologies work best for providing those services, and which delivery mechanisms make sense in the African context. Of particular concern -- and to be the focus here -- are:

- (i) How can community-based workers (such as volunteer health promoters, trained traditional birth attendants, or paid para-professionals) be more cost-effective? What should their functions be? Can investment in them save costs elsewhere (e.g., can training for TBAs substitute for building more maternity beds)?
- (ii) What types, sizes, and numbers of below-hospital facilities (health centers and posts) should countries strive for? What services should such facilities provide? What auxiliary outreach (e.g., mobile clinics) should they have for covering outlying areas?

Research Approach

Analyze the costs and effects of a few strategies in operation now in selected African countries, based on data collected from local service delivery points, through household surveys, and during site visits to participating communities. Include control groups. Estimate the costs and effects for other alternatives (not directly observable now) using modelling techniques. On effects, focus first on indicators of the quantity and quality of services as delivered, emphasizing those services known from the general medical literature (e.g., through randomized clinical trials) to have a reasonably high probability of being efficacious if appropriately provided. It will probably not be possible to discern statistically significant impacts on mortality or morbidity, for several reasons -- the crude measurement tools one must rely on, the long-term nature of some impacts, and the high degree of interdependence among the multiple factors contributing to health changes. Nevertheless, to pick up whatever can be identified, obtain information from service delivery points on patient visits and from households on (self-reported) symptoms and dysfunctions.

References

See ^{de Ferranti} outline for synthesis paper (review of currently available evidence on resource allocation issues) and background papers cited therein by Gwatkin and others.

May 17, 1985

Nancy:

Re: Research Priorities, SSA

Two on my list - abortion and patterns of contraceptive use - are included in II and III, respectively. But you might want to expand the treatment, or break up one or more studies. III, for example, looks very big to me. My sense is it would be good to take a deeper look at abortion - the methods, the providers, the morbidity and mortality, and, especially, the cost of treatment. This is potent ammunition for policy change on FP. You might consider including abortion with maternal mortality. I'll come back to that.

Re contraceptive use, it will be important to have good data on use continuation rates, by method, program, etc., and extended use-effectiveness rates. Where possible it would be good to look at this by provider to give support for more delegation of functions.

You have also "consumer satisfaction" of FP and health which I wrote down, not having read more than your titles. I would recommend using focus groups and similar techniques in addition to standard survey research to get at these quality dimensions. Indeed we greatly lack qualitative information and data filtered carefully through local cultures, in my view. It will be very important to have some African and anthropological expertise in these studies.

As for other suggestions, my top three are maternal morbidity/mortality, the substitution question, and nutrition. A note on each:

VIII, 1. Maternal Morbidity and Mortality. (My summer intern will do a review of this topic).

Background. Much neglected area of health care in Africa and elsewhere (MCH usually means child health care), very high rates (100 x developed country levels). Major implications for other children's survival and life prospects. Close link to high fertility, lack of spacing, need/desire for FP. Data very poor. Also 90% can be prevented at relatively low cost. Major causes hemorrhage, infection, abortion, eclampsia, obstructed labor.

Research Approach

- (1) Document levels and causes in several areas (prospectively).
- (2) Look at impact and cost of various approaches (at risk screening, TBA training, place of delivery, referral systems).
- (3) Prospective studies using different delivery models to compare C/E.

Reference. Rosenfield paper (attached).

IX, 2. Substitution Question. This is trickier and I am not sure about the best approach.

* to follow

Background. Evidence that life saved from measles, diarrhea, may be lost to something else. (Data from The Gambia, Nigeria). The main research question ~~probably~~ is to ascertain and cost the minimal intervention package that will improve child survival in Africa. Probably is attention to malaria, malnutrition, diarrheal and respiratory disease, and FP, ~~and FP~~, *add vitamin*, ~~(How to factor in female education)~~. *2*

Possible Approaches

- (1) Studies analyzing success stories using multiple regression.
- (2) Case studies (qualitative) of effective health efforts including costs.
- (3) Gwatkin et al type review for Africa of C/E of programs but at larger scale than the 10 demonstration projects, *Dave reviewed?* Combine with 1.? Combine all 3?
- (4) Prospective study à la Matlab in Farafeni or equivalent in Africa, i.e. look at individual interventions and multiple interventions over time against reliable demographic backdrop.

References. Chen work in Matlab, Gwatkin, DANFA project, Barnum, etc. on cost per death averted, measles and other data from Stan Foster.

3. Nutrition. You'll want to discuss with Alan. Recent Bellagio meeting on Low Cost Health concluded nutrition no. 1 among determinants of child survival. Clearly critical factor in high African mortality but more research needed. Not sure what? *more on determinants in particular settings.? look at C/E of different approaches.? demonstration projects with careful evaluation.? see if the same threshold phenomenon exists in African settings as Chen found in Matlab.*

Lary.

OFFICE MEMORANDUM

*file: Bellagio
SSA*

DATE April 1, 1985

TO Ms. Nancy Birdsall

FROM *M.S.* Marcelo Selowsky, OPSVP

EXTENSION 76153

SUBJECT Research Priorities in the areas of Population,
Health and Nutrition for Sub-Saharan Africa
The Bellagio Final Report

Thank you for sending me the minutes of the Bellagio session on Human Resources. What I need now is your help in putting together a short paper (10 single spaced pages) outlining the main priorities with some background for their rationale. In other words, some "stories" behind each subject, e.g., why do we think it is important. Attached please find the material that PHN presented in Easton which should constitute an important part of the paper.

PRIORITIES FOR BANK RESEARCH ON POPULATION,
HEALTH AND NUTRITION IN SUB SAHARAN-AFRICA

Too much "lending oriented" M.

Research priorities in these sectors should reflect several key themes in current lending program priorities. One is strong emphasis on population, and on finding and fostering ways of helping to slow rates of population growth.^{1/} Another is recognition of the importance of linkages between population and developments in health and nutrition, and of the need to invest in improving health and nutrition as a component of a sound population lending policy.^{2/} Recent reaffirmations of these points commit the Bank to doubling its population and related health and nutrition lending in the next few years.^{3/} A third key theme stresses searching for more cost-effective approaches in the design and delivery of services, given the pervasive misallocation, poor management, and weak institutions of these sectors in SSA at present. A fourth focuses on resolving persistent problems in the financing of services, through greater self-financing where possible--especially in health, the largest resource user of the three sectors and potentially the most able to achieve greater cost recovery.

Following sections discuss the implications of these themes (and of conventional other considerations--such as constraints on the researchability of some issues) for each sector.

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- 1/ Summaries of lending program priorities are available in two Strategy Papers, for East Africa and West Africa (Population, Health and Nutrition Department, May 1984, mimeos.)
 - 2/ See discussions of this issue in World Development Report, 1984 and 1980; Accelerated Development in Sub-Saharan Africa: An Agenda for Action, 1981; and Toward Sustained Development in Sub-Saharan Africa: A Joint Program of Action, 1984.
 - 3/ Addresses by A.W. Clausen in Nairobi, July 11, 1984, and Mexico City, August 7, 1984.

1. POPULATION

The Bank has been involved in research on population issues for more than a decade now. Much has been learned in that period,^{1/} but major gaps remain in areas of particular significance for supporting development and expansion of effective policy and program initiatives. If efforts to substantially increase Bank lending for population are to have lasting impact, then research closely related to these operational concerns should take precedence for the moment over efforts on general conceptual questions. For SSA in particular, three areas need to be emphasized: consequences of population growth and demographic change, social and economic determinants of fertility, and "what works" in family planning.

1.1 Consequences of Population Growth and Demographic Change

Further work on elucidating the consequences for development of population trends is needed to help build broader interest among SSA countries in addressing population issues. Family planning remains sensitive in much of Africa, but governments are increasingly concerned about what the developmental consequences of population growth may be. More rigorous analysis of consequences, particularly in four areas, would help considerably:

- a. impact on maternal and child health of high fertility (early onset of pregnancy and multiple, closely-spaced pregnancies)--which can be estimated more reliably now through World Fertility Survey and other recent data;
- b. impact on employment and implications for broader economic policy, considering roughly "how much" labor could be productively employed even under efficiency-oriented economic policies;
- c. impact on agriculture, especially land use and implications for product mix, increased inputs, and technology;
- d. social consequences arising from rural-urban migration, broader migration, and urbanization reflecting, inter alia, population trends.

The complexity of these issues, variation among countries, and difficulty of generating adequate data suggest that research on them should often focus at the country level and that it should be pursued cautiously.

^{1/} See review by S. Cochrane, "World Bank Research on Population Problems," Research News, Fall 1981, Vol. 2, No. 3

1.2 Social and Economic Determinants of Fertility

As family planning programs have begun in Africa, it has become painfully clear that public demand for family planning is weak--desired family-size is generally high. The broad social and economic influences on desired family size (poverty, education and other opportunities for women, expected child mortality) are known generally. But specific information on Africa and its disparate countries is very limited. More work is needed particularly on:

- how precisely to improve women's income-earning ability and education and what the fertility impact (and other results) may be;
- how economic incentives for family planning acceptors or their communities may work, though this may be very sensitive.

Another issue hard to research, but emerging as a prime concern to policy-makers, is: what constitutes appropriate public-policy influence as distinct from coercion?

1.3 "What Works" in Family Planning

To expand population and related health lending sharply over the next few years, much better information is required on "what works"--and on how to phase and scale-up programs. This should be the main focus of current research.

In Africa, as a practical matter, governments will be the main source of modern family planning (and health care) for some time, until income levels improve enough to sustain a broader private market. At present, family planning is usually linked with maternal and child health care. That is what these governments and their constituents want. It also makes programmatic sense, since maternal and child health and family planning are naturally tied. Where child mortality is high, particularly in Africa, parents are seldom interested in family planning until they see evidence that their children will survive. Lowering mortality has proven possible with simple and inexpensive health programs that deal with common respiratory and diarrheal infections, malaria, and measles. On the other hand, delaying pregnancy until the mother is out of her teens, and spacing births at least two years apart, can strengthen mothers and infants enough to reduce child mortality substantially. Finally, family planning often requires some backup from the health system.

There are thus practical reasons for providing family planning in conjunction with other basic maternal and child health care.

But how are such packages to be chosen and actually delivered in African conditions, with very limited management capacity, medical personnel, transport, and communication? Research has demonstrated that:

- providing a variety of family planning methods promotes acceptance;
- outreach workers backed by a few clinics can deliver pills, other contraceptives, simple medical advice, and basic medicines (e.g., oral rehydration salts or chloroquine) safely, effectively, and at low cost even in rural areas.

More extensive research is needed on:

- how much territory and how many people outreach workers can reasonably expect to cover;
- the pros and cons of different health and family planning service packages;
- what management systems work best at local, clinic, or more central levels;
- what training most assists outreach workers, clinical staff, or managers.
- the cost structure over time and the capacity for self-financing of such service programs.

Such research can be carried out in the project context, by including "operations research" component, or independently to pave the way for projects. A first key step is reviewing experience in Africa--that is now being done.

2. HEALTH

Bank research on health for SSA should serve several purposes. It should support efforts on population (e.g., by adding greater depth on issues concerning integrated family planning and maternal and child health services). It should support health projects and sector work, and related policy dialogue. And it should assist, when needed, in addressing health-related questions arising in other sectors (e.g., the impact of irrigation projects on the incidence of schistosomiasis, the benefits of water supply and sanitation improvements for health, or the relationship between health and productivity).^{1/}

To do this, initiatives are required on a wide range of topics, most of which fall within three broad headings: resource allocation, resource mobilization, and health science issues.

2.1 Resource Allocation

Certain precepts are widely held at present about how resources should be allocated within the health sector, both in SSA and elsewhere. They include: (i) that primary health care, somehow defined, should be emphasized over hospital-oriented secondary and tertiary level care, (ii) that low cost, low technology preventive services should be stressed relative to curative care, and (iii) that countries should press forward in several key areas simultaneously (e.g., in immunization, oral rehydration therapy, other maternal and child health care, and malaria control--to mention just a few). However, when one gets down to details, opinions differ sharply on where countries should be putting their resources currently, and the evidence available on all sides is universally weak.

Crucial questions remain unresolved about allocation (i) among different components of a given service (e.g., in maternal and child health care, how much for immunization versus oral rehydration therapy and other activities?), (ii) among services dealing with different health problems (how much for maternal and child health care generally versus malaria control?), (iii) among different elements of the delivery system, holding constant the "package" of services to be provided (how much for village outreach versus services at health facilities?), and (iv) among different technologies (how much for chemotherapy versus preventive measures in schistosomiasis control?). On all these dimensions, estimates of even the simplest forms of cost-effectiveness indicators (cost per death averted, or per case averted, or per healthy day of life gained) are either non-existent or extremely uncertain. Data on costs are poor; and figures--where they exist--on the health benefits (reductions in mortality

^{1/} Bank involvement in the health sector is of more recent origin than its population work. The first loan for health per se was approved in 1981. Research on health, other than as an adjunct to other sectors, began in 1983.

and morbidity) vary immensely, severely limiting possibilities for talking sensibly about other benefits (increased production, income, and consumer welfare).

Research cannot eliminate this problem entirely, but it can help. Methodologies have been developed and tested for generating improved estimates of costs and effectiveness within a systematic framework applicable for all diseases, services, and delivery systems. Experiments using these approaches in Ghana and Malawi, as well as countries in other regions, have demonstrated that they can be applied in the SSA context.

Moreover, such research would not be without potentially significant policy impact. Despite institutional and political constraints, the scope for change in resource allocation within the health sector is larger than it first appears. The implications for efficiency and improvements in health status are at this point only vaguely discernible, but might well be considerable.

Consequently, one priority for health research should be a major effort to obtain more and better quantitative information needed for putting allocation choices within the sector on a sounder basis, through analysis of a broad selection of the principal diseases, service options, and delivery system alternatives.

2.2 Resource Mobilization

The issue of how health services should be paid for, and what should be done about chronic gaps between ambitious public goals and constrained public expenditure for health, are now very much in the forefront among SSA country health officials. Less well appreciated is the further fact that insofar as health care consumes scarce public and private resources including foreign exchange for pharmaceuticals, persistent misallocation and ill-conceived financing policies in the health sector can limit opportunities for progress in other sectors. Also, although uncontrolled escalation in health care costs is not yet as much a problem in SSA as in the developed countries, few countries have faced the fact that it could become so in future if not anticipated early.

Recent Bank reviews of health financing questions have suggested that new policies aimed at dealing with these issues should include, among other things, greater self-financing of the sector through expanded cost recovery from users by means of user charges and, where possible, risk-sharing devices (which can range from small, community-based groups to more formal arrangements--e.g., through agricultural estates or other employers). However, much remains still to be worked out about the efficiency, equity, administrative and other aspects of such policies--both in general and for the SSA context specifically--before adequate, practical guidance can be provided. As part of this work, more needs to be learned about the roles of price (including time and travel costs) and

other factors (especially, the quality of services offered) in influencing demand for health care in SSA. In addition, questions about the organizational composition of the sector (e.g., should alternatives to public provision of services be encouraged?) deserve careful examination.

Research on these topics is far from easy, but recently completed analyses in Mali and outside the region have shown it can be done. Household survey data collection in this field has been carried out productively even in very primitive conditions.

Thus, a second priority should be thorough exploration of resource mobilization questions, focusing on cost recovery, user charges, risk sharing, and organizational composition.

2.3 Health Science Issues

The Bank currently contributes about \$2 million annually to support research on the complex of biological, chemical, medical, pharmacological and related disciplines involved in the identification and development of new health technologies. The vast majority of that sum goes to the Tropical Diseases Program at the World Health Organization.

Given this already substantial commitment, and the much lower levels of current funding for resource allocation and mobilization studies, no new initiatives on health sciences issues are recommended at present. Other institutions active in health have greater comparative advantage to those issues, whereas the Bank is one of the few places where economic and policy work on health care in developing countries is being done.

3. NUTRITION

Much has been written about research on nutrition--what has been done and what should be done. A recently completed review of the Bank's experience in the sector, both in lending and in research, provides a comprehensive update.^{1/} In addition, the Bank has for several years been a leading participant in a consultative group on nutrition that, under the auspices of the UN, has involved a large number of international institutions and donors in setting research priorities and supporting new studies.^{2/} Among the areas identified by this group, the Bank has sponsored analyses on (i) linkages between nutrition and mortality, (ii) approaches to nutrition education, and (iii) the nutritional consequences of agricultural development projects.

Looking to the future, and leaving aside issues already stressed by other sectors (e.g., food security and production questions by the agriculture sector, and health and nutrition linkages by the health sector), research for SSA should focus on two principal areas.

First, further work is needed on the nutritional consequences of shifts from subsistence production to surplus production, whether the shift is to commercial food crops or to non-food crops. Analysis should be done of the effects on local food prices and availability, on household consumption/expenditure patterns, and on intra-household distribution of nutritional requirements and consumption of the shift to surplus production. This work also might look at whether these effects differ depending on whether the shift occurs spontaneously or as a result of external initiative (say as part of direct government intervention).

Second, more needs to be learned for the SSA context about how changes can be achieved in traditional child rearing practices that contribute to malnutrition among the under five cohort. Substantial reductions in second and third degree malnourishment, even given the presently high incidence of extreme poverty and low levels of food production in SSA, are possible if improvements in feeding, weaning, hygiene, and disease care habits and attitudes can be brought about. Yet conventional nutrition education programs have had little impact. Research in this area should concentrate on identifying cost-effective new methods of encouraging improved practices (e.g., through protocols at health centers or support by community leaders).

There does not at this time appear to be a case for work on supplemental feeding programs, given the severe constraints on resources that would be needed to support such efforts. However, some attention conceivably might be devoted to another area--concerning famines. When famines occur for whatever reason (drought, war, etc.), those children who survive are at risk of long term subnormal physical or mental development. More needs to be known about what can be done, during the famine or later, to minimize these risks.

1/ "Nutrition Review," Population, Health and Nutrition Department, April 1984 (mimeo).

2/ See also A. Berg, Malnourished People: A Policy View, June 1981.

OFFICE MEMORANDUM

DATE January 25, 1985

TO All Participants

FROM *u.s.*
Marcelo Selowsky, OPSVP

EXTENSION 76153

SUBJECT Conference on Research Priorities for Sub-Saharan Africa -
Bellagio, Italy, February 25 - March 1, 1985

M -
*① Copy to B. Her Z
R. Ridker*
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Enclosed please find a copy of the paper by Dr. Ester Boserup, to be discussed on Tuesday, February 26, at the morning session of our Conference in Bellagio.

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Participants:

Messrs. Abbey
Amoako
Armstrong
Atsain
Bates
Binswanger
Choksi
Collier
De Graft-Johnson
Diejomoah
Eicher
Gulhati
Hopkins
Isenman
Konan-Banny
Killick
Lal
Mule
O'Brien
Okigbo
Psacharopoulos
Rwegasira
Spencer
Zaki

Ms. Birdsall ✓
Mrs. Krueger
Mrs. Lele

Demographic data
programs
private sector / w + p
age at marriage

Ester Goserup:

Research Priorities for Population Policies in Sub-Saharan Africa.

The economic changes in many developing countries have demonstrated that high rates of population growth can go together with rapid economic growth over a long period. Moreover, the decline of fertility in nearly all non-African countries have confirmed the expectation that economic development would induce to reduction of fertility ~~and~~. Africa¹⁾ is now the only major region without fertility decline.

The main causes of the lack of fertility decline are obvious: The demographic transition began later in Africa than elsewhere, and economic development has been less successful than in most other parts of the world. There was considerable natural population growth both in Asia and Latin America in the colonial period, while there seem to have been very little growth of the indigenous population in Africa, and considerable net emigration by slave transports to America. So, Africa remained sparsely populated, accounting for a declining share of world population, and only very recently did this trend become reversed.

The fertility decline in non-African countries has been the result of structural changes in the economy, accompanying increasing industrialization²⁾. A larger and larger share of the populations became engaged in occupations, which encourage to lower fertility, for instance because they are located in urban areas, or require medium or high levels of education. Moreover, persons

within a given occupational group get motivation for smaller family size, for instance because they come to make less use of child labour, obtain more security by landownership, or by non-familial support in old age and emergencies. However, in most of Africa, the degree of industrialization and urbanization is still low, and agriculture continues to use primitive methods. There are also some special features of African land tenure and family organization, which encourage to high fertility, but also these features² are related to the delayed economic development, which explains the preservation of cultural features which have disappeared in most other parts of the world.

There are several reasons for the low degree of industrialization in Africa, and one of them is the unequal, spatial, distribution of the population.³⁾ Because of its hot climate and rich mineral resources, Africa is complementary to Europe with its cold climate, dense population and relatively poor natural resources. To utilize the African resources, the Europeans opened mines and plantations and put in a minimum of infra structure, mainly some transport facilities, linking mines and major plantation districts to coastal harbours. In most cases, the local population was too small and scattered to provide sufficient labour for the production for exports to Europe, and for the construction and upkeep of the infra structure. Therefore, labour was brought in by voluntary or forced migration from more distant areas of Africa, and in some cases from Asia.

In many of the scattered enclaves around mines and plantations, which had been supplied with some infra structure, the local

population of subsistence producers took to production of export crops. The money incomes they earned by sale of these crops were used mainly for taxes, for local services and for purchase of European manufactures, while they continued to produce food, and other products and services, for family use. Often immigrants from the interior of Africa were attracted to these enclaves with small scale indigenous production of export crops. So, the enclaves, of which most were located in coastal areas, got higher population densities and more intensive types of subsistence agriculture than the vast, thinly populated, areas in the interior of the continent, which continued to produce mainly for subsistence.

In most of Africa, the lack of transport facilities prevented production of export crops, except for high value products, which were worth transporting long distances by head transport or animal back. Therefore, for a large share of the African population, the best, if not the only, means to acquire money incomes was short term or longer term labour migration to the areas with export production; and this large scale labour migration contributed to make the spatial distribution of the African population very unequal. Today, there are some large, and many small, areas with a population, which is dense in relation to the natural resources; but in between these, and particularly in the vast interior of the continent, there are huge areas within all climatic zones with very sparse population and large unutilized resources of land, water, and minerals.

While many parts of Asia, the Arab regions, and Latin America had preindustrial urbanization many centuries ago, Africa had very little indigenous urbanization in the colonial period. The towns which grew up in this period were service towns, centers of colonial

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administration and foreign trade. They produced little either for urban or rural African consumption, and consumed little African products. A large share of the small urban population were Europeans and Asians, ~~which~~ were supplied with food and manufactures from their home countries. Thus, in the colonial period, most African economies consisted of three sectors: A vest sector of subsistence production with labour migration, a partly monetized sector ~~xxxx~~ in the enclaves, with with indigenous export production supplemented by subsistence production, and a ²montized sector of towns, European-owned mines and plantations.

But now cities are large enough

The population in each town and enclave was too small to make industrial production economical, and the large underdeveloped regions, which separated them, ~~xxxx~~ prevented development of larger markets. The mining towns did not, as do mining towns in more developed and densely populated regions, attract processing industries, except for some ~~xx~~ crude processing of ore by the mining companies. Although both towns and enclaves have been growing rapidly after independence, the structural pattern inherited from the colonial period continues to predominate in most countries, and to act as a powerful obstacle to industrialization. The rate of urbanization is lower than in other parts of the world, most towns are still mainly service[?] towns, separated by large unurbanized areas with poor, if any, transport facilities. The few industries suffer from lack of sufficient markets, and only a very small part of the African population is occupied in modern production, and work under conditions, which provide incentive to smaller family size.

Because past rates of population growth were much lower in

Africa, than in other parts of the world, land using subsistence systems, i.e. long fallow agriculture and pastoralism are used much more frequently than elsewhere. In large parts of Africa, there is more land than the sparse population needs for the growing of crops. Most of the land is either bearing forest, or is used as pastures for herds and flocks. In these forests and pastures small plots are cleared for cultivation and used only until they become infested by weeds, or crop yields decline for other reasons. When this happens, another plot is cleared and brought under cultivation. The result is an agricultural system characterized by a low frequency of cropping in each piece of land, while large areas are left to grow natural vegetation, and in these periods are available for hunt, grazing, and gathering of food, fuel, and other materials.⁴⁾

It is often assumed, that an area with sparse population from which labour migrates in search of employment, has submarginal land or is overpopulated. In fact, labour usually leaves because there ~~are~~ no possibilities for earning money incomes in the region, either for lack of transport facilities, or for other reasons. Not poverty of the uncultivated land, but lack of market excess for surplus production is to blame. When transport facilities are very poor, local producer prices become unprofitable, even if prices should be high in export harbours or internal centers of consumption, and labour migration becomes more economical than production for sale.

Population increase will be rapid in Africa for many decades, so there is need for a very large expansion of agricultural production. If the transport network is improved, then agricultural production in many sparsely populated areas could be multiplied, if long fallow agriculture and pastoralism are replaced by more intensive systems.

Opening up of new areas in between the existing enclaves will relieve population pressure in the most densely populated areas and provide industries, located in these areas, with larger markets. More scope will ~~be~~ provided for the development of secondary towns, which can lodge the infra structure that is needed for modernization of the surrounding agriculture.⁵⁾ Studies are being made of the agricultural possibilities in different climatic zones of Africa. These studies should be coordinated with studies of other natural resources in the same area, in order to discover priority areas for investments in transport and other public infra structure, which could help to create larger markets for both agricultural and industrial products. Research of this type seems to be urgently needed, because the large transport investments planned for the coming decades seem more focussed upon long distance transport, than upon opening new regions for productive activities, but some of the transport investments could perhaps^a be made to serve also this purpose, if research is carried out soon.

A replacement of long fallow agriculture with more intensive systems may be a means not only to raise output, incomes and employment, but also to reduce family size,* because the long fallow system provides even more motivation for large family size than do other systems of subsistence agriculture.⁶⁾ When long fallow systems are used, adult men and large boys fell trees and bushes, before the land is again used for cultivation, but usually all other work in the fields is performed by women and children. Because women are responsible for the production of vegetable food for the family, they make extensive use of child labour. Moreover, in regions with pastoralism and long fallow agriculture, members of the local tribe or village community have inalienable rights to clear as

much land for cultivation as they need for family consumption, and they have right to pasture animals in the land, which is not sown to crops in a given year. If a chief in such a community assigns land for cultivation, he will assign an amount of land, which is in direct proportion to the size of the family. Thus, a man with several wives and a large number of children can dispose of many times more land than a man with a single wife and a few children.

When women and children do nearly all the agricultural work, the father of a large family is likely to become a rich man, while the father of a small family will remain poor. Therefore, the family size for which this system provides motivation is much larger than the ones which are advantageous for men who apply more intensive agricultural systems, in more densely populated areas, and for peasants, who did so in Europe before the beginning of the demographic transition in that area. Except for countries that for ideological reasons impose a system of collective agriculture, regions with intensive land use have private property in land. Neither private land owners, nor persons, who must rent land at high rents, have an economic interest in having a larger family than can be supported by the land area at their disposal, if non-agricultural employment opportunities are scarce or unattractive. Their status in the village depends upon the amount of land they own, and their status is reduced rather than enhanced, if they have a larger family than their land can support.

Moreover, if they are substantial land owners, they do not depend upon support from their children in old age and emergencies. They can lease or sell land, or have it cultivated by hired labour.

By contrast, an African cultivator in areas with tribal tenure cannot sell or mortgage land, and he cannot obtain a high status as landowner. His status and ~~xx~~ wealth depends not upon land, but upon family size, and by having several wives and many children he is provided for in old age and other periods of disability. Similarly, pastoralists in areas with common grazing land obtain status, wealth and security by having large herds, cared for by large numbers of offspring. So, in regions of traditional African production and land tenure, polygamy is frequent, family size large, and bride prices high.⁷⁾ Many African chiefs in cultivating tribes obtained high status and great wealth by having huge families, sometimes dozens of wives and hundreds of children, and even today, when much land has passed into private property, and many Africans live in urban areas, a large family continues to be a male status symbol in Africa.

However, the situation is changing because of the rapid population growth. Fallow is shortened and land passes into private property, either after land reforms, by illegal action, or by gradual change of custom. In many areas, emerging shortage of land induces part of the youth to emigrate to sparsely populated areas, where they can get more land for cultivation than in their home village. There is some scattered evidence, that differences in population density and agricultural methods have some influence on marriage age. In Rwanda and Burundi, the most densely populated countries in Africa, marriage age has been increasing gradually and is now relatively high on African standards.³⁾ There is some evidence also from a region in Nigeria, that shortage of land

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nothing at all. J. Ardrey Kees

prevents young people from setting up independent households, and, therefore, they marry later. ⁹⁾ It would be useful to have more systematic studies of ^{how} ~~the~~ ^{effect} ~~of~~ land shortage and change to individual ownership, ~~the~~ marriage age and ^{male} attitudes to family size. More information about this could provide a guide for Government decisions concerning land policy, tenure, and farm size.

The marriage pattern in Africa is different from that of Asia. In the latter region, a large part of the recent fertility decline has come about by increase of the age of female, first marriages, but in Africa there seem to have been little change in marriage age, except for some large cities and a few rural areas with dense population. Because of the traditional male preference for polygamy, and for a large number of children, female marriage is virtually universal, and girls are married off at a young age. Divorce and abandonment are frequent events, but both after these and after widowhood, remarriage follows quickly, if the women are in child bearing ages. ~~xxx~~ With this marriage pattern, the period in which women do not live in a sexual union becomes short. By contrast to Asia, the reduction of fertility caused by women living without a sexual partner is much smaller than the reduction due to spacing of births. Therefore, an increase of the female marriage age could be an important means to reduce fertility. 10)

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While girls marry early in most of Africa, the marriage age for men is much higher. This is related to the sex distribution of agricultural work, and its effects on male migration. Because most or all of the work with food production is done by women and children, adult men can leave the village in large numbers, not only for seasonal work, but for several years. Moreover, a man does not forfeit his right to get land assigned for cultivation by emigration. He can

reclaim this right, when he later returns to the village. These features have contributed to make the male, rural population of Africa highly mobile, and to make many African women overburdened with work. In areas with export crops, they often help the men with the production of these crops. Export crops are most often men's crops, but their wives may help to produce them, and sometimes also to process and sell them, in addition to their production of food crops for family use, their domestic work and child care. Therefore, also in such regions, women make extensive use of child labour, and men have economic motivation for polygamy and for having many children. Therefore, both in areas with export crops and in areas with subsistence production bride prices are high, and the need to earn enough money to pay the bride price motivates young men to labour migration.

In some regions, especially in the Southern part of Africa, many married men migrate and leave their wives as heads of household, or under the supervision of the older generation. As result, marital fertility seems to be somewhat lower in these areas than in other parts of Africa.¹¹⁾ However, this migration pattern does not seem typical for Africa. In most regions, it seems to be young, unmarried men, who migrate, often when they have finished school. In order to obtain the bride price, and because early female marriage is customary in most of Africa, parents obtain husbands to their young girls by marrying some of them off, as second wives to much older men, not infrequently men who are 20 or 30 years older than the girls.¹²⁾ If some of the young men later return to their villages, they may

Lesboeghe

women who belong to a cohort, which is younger and larger than their own. Also in this case, there will be a large age distance between the spouses. In four of the five countries, for which information about age differences in women's first non-polygamous marriages is available (Cameroun, Ghana, Kenya and Senegal) this age difference was 9 to 9 years. This should be compared to differentials of no more than two to five years in all other parts of the world, except for Bangladesh. 13) The age differentials would of course be even larger, if polygamous marriages were included.

The low marriage age, the large age differences between the spouses, the frequency of polygamy, the unequal work burden between the sexes, the high bride prices, and the low educational status of women, all combine to keep the status of women low. Traditionally, the status of African women is that of non-adults. Also in countries, in which there is no legal discrimination against women, they suffer from effective, factual discrimination. They are unable to decide over their own marriage and divorce. Their husbands or other male family members have the legal or factual right to decide over them and their children. They have no right to accept employment, engage in other money transactions, and dispose of own income, without permission from male family members. Eventhough African women often provide most or all of the economic support of children, their husband, or older members of their husband's or their own family have the legal or factual right over their children where these shall live, their education, future occupation, and marriage partners.

Countries with a low status of women are usually the ones, in which men and older family members are strongly in favour of large

families, and girls are from a young age told that their role is to be ^eobedient to these persons and to bear many children. If, moreover, they are unable to support themselves economically, and risk divorce if they fail to bear many children, it is easy to explain why their families are large, and demand for contraception low or non-existent. The regions, in which women's status seems to be lowest, i.e. Africa, the Arab countries, and Muslim countries in South Asia, have higher fertility levels than other parts of the world.

By contrast to women in Muslim societies outside Africa, women in traditional African societies had the advantage of being less economically dependent upon male relatives, because they had access to land and could support themselves and their children by subsistence agriculture, but in many parts of Africa, this is no more the case. The organization of food production in Africa is different from the types of family production in Asia, and earlier in Europe, where women assisted their husband in the production of crops. African women have a traditional right to cultivation of one or more plots of land, in which they can produce the necessary food for family consumption, and if possible a surplus for sale in the local market. However, both in formal land reforms, and when private property in land is introduced by change of custom, women's cultivation rights are overlooked or eliminated.¹⁴⁾ Men become owners of the land, either as individuals or as heads of family, and women lose the right to cultivate land, if the men want to dispose of it, and if they become widows, divorced, or abandoned.

Even when women have access to cultivation, their economic position has often deteriorated. Their possibility for producing a food surplus has become reduced, partly because the size of their

families has increased, and partly because they must shorten the fallow periods and use more labour intensive methods, or their food production is pushed off to poorer land, or land more distant from the village, when the village population increases, and the men want to expand their production of export crops. This means further work for the women with weeding and fertilization, or long transports between the fields and the village, or both. Moreover, women have no money to buy fertilizer and other inputs, if they cannot produce a surplus for sale and they are alone, or their husband use the money earned by sale of his export crops on his own fields. Women are also handicapped in obtaining credits, ~~when~~ because they have no land to offer as security, and no independent legal status.¹⁵⁾

These changes reinforce women's interest in having a large family, because women become more and more dependent upon both child labour and support from adult children later in life. In many rural areas of Africa, even small children may contribute more to family provision of goods and services than to consumption, partly because of their direct contribution, and partly because they allow the mother to use more of her time on work of higher productivity, than the types of work done by children. Older children, especially girls, are an important labour force at the disposal of the mother, who may be tempted not to send them to school, thus making it less likely that they will later restrict family size.

If modernization of agriculture reduces the reliance upon female and child labour, or if women are deprived of cultivation

rights, mothers will need less help from their children, while they are small, but with less employment opportunities in agriculture they will become more dependent upon their husband, and if he dies or deserts them upon their adult children. Their increasing need for children as economic security may outbalance their reduced need for children as labour power.

However, more important than the effect on fertility, is the effect of women's changed position on African food production. Because food production is considered a part of women's domestic duties, not only male farmers, but also most African governments have taken little interest in its development. Agricultural research and extension, credits, and sales promotion have been focussed on export crops, and if extension services and training facilities were established for food crops, men and not women were approached by and benefitting from these services.¹⁶⁾

With larger family size, women need to produce more food for subsistence and in most areas they have less help from children, because of the rapid increase of school attendance. So, stagnancy and decline of women's food surplus for sale goes together with rapidly increasing urban demand for food.

Some African governments are now taking steps to speed up commercial food production, in order to reduce imports, but since women are the main food producers in Africa, it is important that government support to agriculture should include measures to improve women's access to credits, training, extension services, better technologies, and land. Therefore, not only studies of the likely effects of fertility of changes in women's role in agricultural production, but also studies of the best means to promote women's food production should be

given high priority.

There have been many economic changes in Africa, which could be expected to have influence on fertility. In the first period after independence, many Africans had large increases of income. Many moved into well paid administrative jobs, others got increasing income by getting employment in other urban activities, especially urban construction and urban services. Some got well paid industrial employment, and many rural Africans got larger incomes as a result of increasing prices for export crops. Many families with migrant members got increasing incomes, because these migrants transmitted earnings to family members left behind. But the good times did not last. Prices declined for many African export crops and minerals. In some countries, employment in the modern sector declined, and it became more difficult to earn a living by self-employment or in a small family business. Also the possibilities for migration deteriorated, and often migrants had to return, because they were unable to obtain or preserve employment in either African or non-African countries. The scarcity of educated persons was reduced and replaced by unemployment among school leavers.

In order to evaluate the likely effects of these economic changes on fertility, income changes must not be confounded with the structural changes in the economy, by which they are often caused.¹⁷⁾ Changes in income have a positive, structural changes in the economy a negative effect on fertility. People may enter an occupation, or move to an area, which induce to lower fertility. They may in such cases begin to restrict fertility, in spite of the fact that the new situation provides them with a larger income. But,

if they obtain a higher income because of an increase of wages, or a windfall profit in their usual occupation and residence, the only change in their situation is that they can now afford to have a larger family than before, and this is more likely to delay than to enhance fertility decline. Moreover, the increase of income accompanying occupational, spatial, and occupational change can be so large, that the fertility reducing effect of these changes is delayed. In other words, the income effect on fertility may be larger than the structural effect.

It is often assumed, that spread of education, especially for girls, would make parents more inclined to limit family size, because children become less valuable as family aids, when they attend school. However, if educated children are less valuable as child labour, they are more valuable as support for the parents later in life, and with the high value placed on education in Africa, the advantages of expected support from educated offspring did probably more than counterbalance the disadvantage of less benefit from child labour. Due to the severe scarcity of educative skills in Africa in the period after independence, skill differentials in Africa are much larger than elsewhere, and until recently employment opportunities for educated persons were good in large parts of the continent. Because of the large skill differentials, educated parents, especially those living in metropolitan areas, had incomes, which were very large by African standards, and they were willing to make sacrifices in order to raise a large educated family, which would give them both prestige and economic security in the future. There is little doubt, that the unusually large skill

differentials in wages and salaries, and the exceptionally large rural urban income differentials in Africa, contribute to explain the very high fertility and the low contraceptive use in urban areas, in the period after independence.

Many members of the Africa[~] elite probably descends from the large and wealthy rural families, who were the ones, who could best afford to give their children, or some of them, high level education. The high incomes of the small elite with high level education allow them to satisfy both the desires³ for the luxuries of modern life, and to continue the family tradition of having large families. Members of the elite group, who come from relatively small families, may want to prove that they have advanced in status by also having large families. Contrary to occupational fertility differentials in other parts of the world, the wives of the male members of administrative, managerial and professional occupations have higher fertility than wives of males in other occupational groups in three of the five African countries, for which such information is available in the World Fertility Survey.¹⁸).

Many Africans had little, if any, increase of income after independence, but those who had no improvement did usually expect that their economic future would be bright and their conditions for rearing a large family better than before. However, in later years, not only income development, but also expectations for the future have changes for the worse. In most African countries, the earlier attitude of optimism has changed to one of disappointment and a bleak look at future prospects. It is feared that educated children may be unable to find jobs, and with diminishing employment

opportunities for educated children, salary differentials for level of education are diminishing or likely to diminish in the future. Moreover, governments fear the effects of increasing pressure on the labour market for educated youth, and some governments begin to change their hostile attitude to family restriction.

These changes can hardly avoid to make many more Africans, especially in urban areas, inclined to delay the next birth or terminate procreation, especially in countries, ~~especially in countries~~ in which a change of government attitudes facilitates the spread of knowledge on, and the access to, contraception. Perhaps, the effect of economic crises on attitudes may help to explain the differences in contraceptive use in Ghana and Kenya. Ghana was hit by economic crisis much earlier and much harder than Kenya, and contraceptive use seems to be higher in Ghana than in Kenya, although educational levels are lower, and the availability of family planning services is less widespread. Kenya has one of the oldest family planning programmes in Africa with much better coverage in rural areas than the Ghanaian programme. A much larger share of the women are aware of the existence of the programme, but it is less used than that of Ghana. 19)

Usually, men are the ones, who first give up traditional attitudes and cultural customs, when they no more coincide with their economic interests, and many of the changes in African societies: in availability of land and urban housing, in employment opportunities and possibilities for migration have either increased the economic burden of children from the father's point of view, or reduced the actual or expected contribution from children.

Moreover, African husbands and fathers are much more likely to decisionmakers in family matters than women in childbearing ages. Therefore, interviews with men would seem to be at least as important as interviews with women, but there have been very few of these. The studies of attitudes to family size, which have been made in some African countries, are usually based upon summary interviews with women, asking them about desired family size, and desire or non-desire for additional children.

These answers to these questionnaires are difficult to interpret. The instructions used for the world fertility survey did not clarify whether it was expected, intended, desired, or ideal family size, which was to be studied, and women were often "guided into giving more meaningful numerical answers",²⁰⁾ by the interviewers. It may be questioned whether a clear distinction between these alternatives can at all be made by women, who from a very young age have been socialized to put their own desires and interests behind those of their husbands and other family members. Their answers may well reflect, what the women - rightly or wrongly - assume would be the answers of these persons.

Some studies made for the International Labour Organization in Ghana are more revealing.²¹⁾ Both men and women were interviewed, and instead of questionnaires based upon large samples, but giving ambivalent answers, a limited number of free interviews were made by highly qualified interviewers. These studies reveal stress, due to the conflict between the traditional pro-natalist attitudes and the economic possibilities for rearing a large family. They also reveal differences in attitudes between spouses to continued

procreation, and women's particular difficulties in such cases. There is need for more information of this type, which deliberately focus upon the conflict between traditional attitudes and the economic strains resulting from recent development of the African economies.

What are parents economic expectations for the future? To which extent are they influenced by increasing difficulties in finding good employment for educated and other children? If they risk to rear a large family, how do they expect to obtain sufficient income to support themselves and the children?

In many non-African countries, the obligation to provide economic support for the family is mainly an economic burden for the father, because the mother is mainly or exclusively occupied with domestic chores, but most African fathers contribute less to family support, than fathers in most other parts of the world, partly because African family legislation and custom give the fathers all rights over the children, but little, if any, responsibility for economic support of their children, and the mother of these children, and partly because African women are accustomed to and, at least in the past, were able to support their children without male help, if that was necessary.

However, in countries, where fathers are allowed to pass the burden of family support unto the mother, men's motivation for fertility restriction is weak, even in cases, where economic motivation for large family size has disappeared. So, the effect of economic and structural changes on family size will be delayed. This is very important because of the strong sex hierarchy in Africa, where men are the decisionmakers in family matters, and women are socialized to the role of a hard working mother of a large family, seeking economic security in this role. Changes in

family legislation giving men more responsibility for children and their mothers, would no doubt ~~promote~~ the interest in family restriction in Africa, by providing men with more motivation.²¹ *Probably,* women would also become more motivated to restrict family size, if their marital insecurity was reduced by changes in family legislation.

It has been suggested, that both parents may be more motivated to have a large family, when they can rely on a wider kin group to support them and their children, if necessary, and that fertility decline may also be delayed, if parents who have few children are likely to be ~~burdened~~ with care of children of more imprudent family members.²²) But the effects of kin solidarity on fertility seem far from obvious. If the wider system of kin support would disappear, parents would ~~not~~ necessarily become more motivated for restriction of family size, because in that case, they would become even more dependent upon support from their own adult children in case of old age and emergencies. In fact, while the access to wide kin support is meant to delay decline of fertility in Ghana and Nigeria, it has been suggested that the lack of wider kin support in Bangladesh contributes to delay fertility decline in that country.²³) It could be argued, that if not only the wider system of kin support, but also the system of support to parents by adult children begin to break down, before parents ~~obtain~~ security through government support, or other results of economic development, fear that some of the children will no more feel obliged to support them, may make at least the mother even more inclined to seek security in a larger number.

It is generally believed that contraceptive use, not only by modern, but also by traditional means, is very low in Africa. The evidence for this belief is the number of visits to family planning clinics, and answers to questionnaires, which are unlikely to cover fully the use of abstinence, abortion and other traditional means to reduce fertility. If moreover, the age distribution of pregnant women is used to decide whether fertility is controlled or "natural", delay of births ^{periods of} in economic distress will escape discovery, because it is likely to affect all age groups proportionately. For the same reason, reduction of fertility by precautionary spacing will escape attention or be underestimated. ²⁴⁾ This type of behaviour is likely to be frequent among populations, who only dispose of unreliable methods to prevent pregnancy, as was the case in industrialized countries in the early period of fertility decline, and as is the case in nearly all of Africa today. Moreover, information about induced abortion is not available, and this may be a serious gap, because also abortions tend to be frequent, when reliable means of contraception are scarce or unavailable.

Lestacqhe has made an interesting attempt ^P to measure the effects of contraception, and other intermediate variables, on fertility in different parts of Africa, by means of a method developed by Bongaarts.²⁵⁾ In most cases, the variables accounted for (period outside sexual unions, infertility and subfecundity, spacing by abstinence after childbirth and lactation, and contraception, except for abortion) are far from adding up to the 15 children, that are usually considered normal fecundity. More studies of

this type could throw light on the actual use of fertility restricting factors, deliberate as well as unintended.

Long periods of female sexual abstinence after child birth are traditional in Africa, probably as a means to protect the health of child and mother. Today, the length of these periods of deliberate birth spacing show large national and local variations, from two to three months in some cases, to two years in others. The custom of sexual abstinence for married women promoted prostitution and the spread of venereal disease, with the result that infertility and subfecundity reached high levels in many parts of Africa. Men usually divorce a wife, supposed to be infertile or subfecund, but both husband and wife remarry, thus spreading venereal disease, if that was the cause of the reduced fertility. Before modern health services reduced the incidence of both venereal disease and malaria, total fertility rates in some parts of Africa were down to 4 children or less, as the result of infertility, subfecundity and spacing of births. In addition, high infant and child mortality further reduced family size.

These traditional and health restrictions on family size tend to become reduced by economic development, and this seems to be the main explanation of the observed increases in fertility and family size in regions, which earlier had a high incidence of disease.³ and Further increases of family size in such regions are to be expected. Besides the traditional periods of abstinence after child birth, also the custom of prolonged lactation contributes to reduce fertility. In some cases African children are weaned after six to nine months, in other cases breastfeeding is continued

until the child is eighteen months old, or more. Nearly everywhere in Africa, infant mortality is high and so is child mortality in the period after weaning. Therefore, observed tendencies to shorten or abandon lactation are causing concern, partly because of the effect upon child ~~mortality~~, but also because of the effects on spacing of births.

The problem is a difficult one⁴. Many pregnancies and long periods of lactation after each birth are a nutritional and health strain on the mother, especially rural women, who must also work hard in agriculture. ²⁶⁾ From the point of view of women's health, birth spacing ought to be measured by the distance between the end of lactation and the beginning of a new pregnancy, and not by the distance between one birth and the next pregnancy. To replace spacing by traditional female sexual abstinence by spacing through prolonged lactation is an advantage for the father, and perhaps for the children, but a threat to the health of the mother. Therefore, it is important that abandonment of the traditional periods of abstinence should be replaced by contraception rather than by prolonged lactation.

Wide spacing of births and long periods of lactation between the periods of pregnancy are serious handicaps to wage and salary employment for married women, which is another means to reduce fertility. The shift to small family size in the industrialized countries was promoted by reduction in the total length of the reproductive period, by rapid succession of a few ^{new} births and relatively short periods of lactation. The change to this pattern

of reproduction went together with increasing female employment in the types of jobs, which are difficult to reconcile with lactation. The reduction in the period of lactation, which is observed in some African countries may be a first step in such a development, with early termination of reproduction as the second step. Such a transformation of the reproductive pattern is a means to stimulate women's interest in other activities than mothering. Propaganda for wide spacing of births and prolonged breastfeeding may, therefore, be a step in the wrong direction. There is need for interdisciplinary research to study all aspects of the complicated problems of prolonged lactation and birth spacing.

African men have better possibilities for preventing that their sexual partner become pregnant, than the women have, as long as women's status is low and family planning services rare. If a significant share of African men in urban areas, and perhaps some in rural areas too, become interested in prevention of births, it is unlikely that objections from their sexual partner should prevent increasing use of contraception. It is much more likely that husbands should use contraception without asking permission of their wives, than that the opposite should happen. Many wives would probably docilely follow the advice of their husband, if he would wish to delay the next pregnancy or terminate procreation. Many others may only have awaited a change of mood of their husband to begin to use contraception, especially if attractive offers ^{of contraception} are available. They may even welcome the chance to reduce their heavy burden of pregnancies, breastfeeding and child care, if they can do so without risking a marital conflict.

Notes:

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2/29

file Bellagio
SSA

Human resources

Boxrup

Imp. to slow pop, but more imp. to absorb

Research priorities

① skewed distribn of pop in Africa, partly due to colonialism. H_o dense areas and in-between these, underpopltd regns (though some h_o good des prospects)

Where mit transp instrmnt be done to exploit ag psblts → larger home mkt for indstry + indrnytn of agriculture.

Market forces will not arrange = long-term infrastructure instrmnts.

2 probs.

more people

how fast -- How can govt accomdte rapid Δ ? + people?

Better to h_o slower growth

Not good evidence tht fert. will stay hi.
② Need research to ask: Is hi fertility inevitbl given chngs suc indep?

a) land situatn h_o chngd; should reduce hi-fert incentiv. Priv property rts begng. In other parts of world, land-owng peasants marry later etc. There is some

②

(?)

evidne tht happenng in Africa
(was needed on this from ag point of view anyway)

[What info - authors?]

(2a) Have someone lk quickly at exstg info

Doesn't like WFS des. fam. size approach.
Bad questn; shld ask men not women? (women will follow happily once men want fewer children);

pure income effect

Policy intervention?

Note: Income rose considerably after independence for many -- and there were optimistic expectations. Income effect ^{led to} high fertility in unimproved period after independence. The gains came w/out structural change. Consider for example those who moved to towns & experienced big gains. But now wages ~~are~~ in urban areas falling, posibilty for emigration to Europe falling. Don't need representative samples -- need deep interviews. To learn among what groups, where, stress is leading to lower des. fam. size. through price saturation From f.p. point of view, condoms for men paid for better than health-centered services for women.

(3) women

Prob of security -- within marriage, & old age ^(if male dies, etc) with breakd of tribal security, women perhaps more dependent than ever on their children

Men generally pay school fees?

modernization of African marriage legislation, forcing upon men more resp. for child support, wife support, liens on wages. Would reduce d.f.s. of men & reduce need of women, thereby causing hi fert.

(3a) look at family legislation

abortion

④ Research on "contraceptive" use in Africa, include male absence from home, abortion etc. ^{abortion}
Lestaege - Bongaarts \rightarrow gap. # wld be as high as 15. So how much abortion?

duration
vs.
frequency

⑤ long breastfeedg ^{+ spacing} - Sensible to push this?
Need discussion. Long breastfeedg is deep
back, ~~takes~~ keeps women out of modern
labor force

Collier

Selowsky distracts bet res. (a) to disseminate knowledge
(b) new, unanswered questions

4 of 5 res. projects I hv are (b)
Readers may want to distinguish as they read paper

4 roles for labor mkt -
allocation of labor
accumulation human cap, prior to b mostly during employment
motivation of labor
financing role of wage to empl. for pleasant
and risk-bearing
eq., given poor cap. mkt.

Need to shift concern from allocation (where 90% of wt. has been)
to what may be more wrong (3 other issues).
Worse, res. on lab. allocation has been misleading,
following Harris-Todaro model w/ wage rigidity.
Poor desc. for long term. Wages have been
flexible downwards. Even when wages have been
above floor, mig./unemp. a myth. For one thing,
employers select criteria + everyone knows.
Young unemployed in town has more to do with
structure than level of wages.

Research projects

① labor allocation in peasant agriculture. In
east + southern Af, little labor goes through the
market, as low as 5-10% in some countries.
Given peasants inherit diff. land/labor endowments,
5-10% inadequate to equate marginal returns, worsening
as land allocated not by chiefs but by inheritance.
→ Even greater loss of output (pp 7-9)

Employment
expansion
of shift to
agriculture?

Less a prob. in W. Af.
Need comparative study -- why W. Af. diff. from E. Af.?

② p. 15 + preceding
Primary education

Case for expansion of educ. is overwhelming -- don't
need research. Way round budgetary constraint
is to charge for sec. educ. → fiscal
benefits, egalitarian, few distortions. That has
been demonstrated.

Need research on low-cost, prim. educ.
How to deliver it efficiently.

③ study of labor turnover, to learn how
hum cap accumulated OJT

Compare Britain + Japan. Africa needs to be closer
to Japanese model, giving firms incentive to
invest in employees. This would substitute
for poor financial markets. Need to have low starting
wage + his seniority premium.
When min. wages came, firms flattened seniority
premium.

If low starting wages, wage empl not raised,
his added advantage of improving pleasant security

Post-age 40 should see people quitting to go back
to peasant agriculture. Good measure of urban-rural-urban
mi gaps are excessive.

Need comp. study of labor turnover for institutions
- labor allocation
- human cap. formation

pp 17-23

④

Replicate work by Leonard (pp 24-30) on motivation
of employees in public sector. Employers themselves
said reasonable workload was 150% (?) of what
they were doing.

Promotion incentives lacking. Need
intra-firm, inter-firm pattern rather than
opposite.

Returns to hum. cap. neg where promotion
opportunities blocked

Other activities in ^{public} sector easier to monitor + study
than ag extension

? factors
health
workers

⑤ wages to break risks & cap. relt constraints in ~~rural~~ agric.

Study effects of wage empl. on ~~contribution~~ to output in peasant ag. Shld be a component of risk-bearing study.

Need to study how money gets sucked out of farms into ag., not opposite.

Zakei

Research agendas of papers seemed to come after the fact

Boserup -- likes ~~new~~ idea of lkg at effect of changing econ opps on pop. And likes idea of lkg at optimum pop. levels in dfrnt areas of Africa. Mentn of f. p.

Threshold -- by design in part → research (?)

Sees too little emprcl evdnc in paper

He questions dichotomy bet food crops + cash crops. Men produce grains + cassava for. Women take care of back yard garden. So how can they be trekking to distant plots + overburdened?

Need to provide family w/ alternate opportunities for prestige -- for women + men. Disagrees w/ separation of prestige between men + women.

He finds it difficult to do separate studies of women.

Collier

likes that it calls for studies bringing out diff. among countries

Empirical

Surprised by Collier's emphasis on other three besides
allocatn. Don't look at other roles of lab. mkt.
in isolation from the 1st one.

Will he to study match & post-employment
training in the urban 5-10% allocatn (he
means urban?) part of the market.

In Af, cost of educ. getting hi. Sch's w
boardg factors are closing. Children finding
fewer chances for training & educatn.

Amoako

Collier - Based on too few countries

pp 4-6. Conclusion that urban unemp. not prob
He's questioning? What about other countries?
Evidence on subsidies to sec. educatn...

He believes transfer from urban to rural areas
must be declining

Evidence too narrow

Boserup

Psacharopoulos

Let's be less concerned w pop #s and more
w pop. quality

Collier -

Not sure we shld shift away from labor
allocatn issues. Public / priv sector.
Min. wage. Fears Japns approach, prefers.

LA v. school training. Close public schls (?)...
disagrees that need no more research to
justify primary education, [e.g. length of
prim. educ.]

Res agenda

pop will rise. Will be allocated
according to market opps.
of int to make pop. more literate
for reasons of efficiency, equity. → They
monetize nonmarket effects

Hansmann
+ Wolf

① What shld be minimum [length of primary
schlg]? Need more [literacy retention] studies

② What are cost-effectiveness inputs
- [missed something]
- teacher salaries

To what extent shld salaries be
reduced, textbooks more used

③ Way education provision is financed. Agree
more reliance shld be placed on
hh, but need [studies on WTP];
need price + income elast. of dem.,
esp. for quality of schlg
- Priority #1 is fees in hies education,
esp. W. Africa

④ Evidence on [who gets excluded?]
- Quantity rationing / exam. rating /

ability to pay rationing

What abt loan schemes?

More on who pays / who benefits

Disseminate

- ① Agrees re manpower forecasting
 - ② Sec^{condary} technical / vocational
- } make it more clear

↓
Tanzania -- need more local evidence,
need to replicate studies

res' area

- ③ comparative labor mkt / educ studies. Disseminate to other areas

See F + D on different ^{financing} policies bet
East + West Africa

Brickell

Chen's

objects to policy-induced failures

Bates

anthropology -- more research needed, since 90%
of labor allocated through family. As
policy forum going on won't look at that
literature

Binswanger

infrastructure + pop density.
Pop is extremely unevenly distributed. Zaïre

could support 2 billion people. Boserup's work on pop. density + ag. indicated. Moreover, link to transport, market access etc. critical.

Such variation in AF in density + reqs. on what they need for infra-structure, transport

Much of Bank's failure is due to pushing ag. methods inappropriate to low-density.

Ag. crisis -- due to rapid pop. growth -- Boserup changes required must come about so quickly. Rapid investments both in public infrastructure + in private investments. Not fast enough. Institutional changes too -- credit research + extension,

in
intensify

Present markets

Insurance mkt in agric are universally absent bec of correlation in risk.

Credit markets are similarly constrained. Public institutions face same prob

Save institutions need to be strengthened. Since intertemporal markets so constrained, nothing works.

→ children

Okigbo

On Boserup's distribution of pop. in SSA skewed.

No homogeneous prescriptive technology.

Is Africa overpopulated -- not for long haul.

but markets as they exist do not allow for migration (?) etc.

So what form should intervention be?
One solution is limiting population growth.
Where -- where high density \pm low?

Alternative is to intervene to improve technology / production \pm . Most Aff. govt. would prefer latter.

Shouldn't treat region as a whole, as though 1 simple prescription.

On Collier: Don't jump too quickly to prescription. Nowhere get type of discipline + allegiance to firm as in Japan. Wants to look at psychological basis for peculiar type of labor discipline in Japan before transplanting to Japan.

One rev. proposal critical -- how motivate public employees. Thinks it's pure superstition that productivity in public sector low -- yes if compare to Union Castle but not if compare to indigenous private sector. Perquisites, pay scales etc. not better in public sector than in private sector. Stability of employment in public sector declining where govt. themselves unstable.

Surprised abt technical schls. In U.K., policy has been to bifurcate secondary edcn + lay more emphasis on technical

management

pop

- ① policy
- ② fp efficiency del. system / ③ role of priv sector / WTP
- ④ pop. dist. questions

health

cost-recovery
insurance / risk-bearing

educ

How to improve cap. mkt. / risk
(loan schemes)

② markets

③ interacts among socl prgs.

④ pop. dist. questions

Abbey

Market women pay for someone to keep their savings for them.

Now Harris-Tod denied. 15 yrs ago Nigam said so.

Unemployment down but they're discouraged.

(Object to Collier)

Wants more historical analysis

Selowsky

Skewness of pop. density. Why worry?
Issue is to what extent people followed
"wrong" signals. E.g. govt. subsidy services
too much in one, not another, or pricing
policy of gov. Or too little infrastructure,
social underinvestment

copy
over
another.

Muls

Boserup -- refreshing, ideas seem to make
sense. Are ideas empirically valid?
Take ~~them~~^{assertions} as hypotheses -- e.g. that
African women are obedient. In fact,
attitudes of Af. women may be more
influenced by their peers

Need more or specific measures to
bring fam. pl.

Not all births take place within
families. Biggest challenge is unwed mothers.

Need to look at adolescent fertility.

Infrastructure + markets. If free market economist in 15th c, Columbus would not have discovered America. Boserup is correct -- If govts. should identify areas of ec opp + build infras. there

Re Collier, ^{of Boserup} opposition to generalizing from a few countries + studies. 3 comments --

1) Even if employment in modern sector increases, absolute increases of other 80% will increase.

Res. agenda should focus on that 80% -- how small-scale farmers employ themselves, how increase their productivity. Norag. employment in rural sector

2) linkage bet educn, productivity + employn - outside as well as within. Know very little abt effect of educ in outside agric. sector. Soc anthrop. found that formal educ reduces ag. prod. 160 ^{primary} school-leavers in Kenya -- expectation of family is that he'll get wage employment. If he returns to rural sector, he's looked down as failure. Even low marriage rates. Alcoholism. Need to look at these important human dimensions.

Don't have good evidence of return to educ bec ~~the~~ wages \neq marg. prod.

Re study of labor turnover --
[missed something]

Abbey

Collier point re his returns to educ in changing ag. situatn, contradicts Mul's anecdote

Wants more work on returns to educ in rural areas.

Benman

— With 100% literacy, clearly helps in ag. area. Where only a few get expectations differ. Thus need to look at the process of transition, partly a cultural and political one.

— The Bank ought to be focussing on concerns of Af. officials + analysts. What is "dissemination" depends on what people believe. E.g. people in Bank a few yrs ago didn't believe educ as investment

Gulhati

What about management? Improving effectiveness of [management] -- macroeconomic, parastatals
Technical assistance -- how effective has it been? What kind of residue?
Training -- informal, mid-career
He had inconclusive discussion of gender of funds.

Also important -- haven't empirically tested -- anthropological lit

Hypkins

Unclear about nature of crisis -- discussion shows much uncertainty about nature + dimensions of crisis.

1. Support comment that infrastructure would support shift of people.

2. Re hier or lower educ, concept of development matters. In ^{many} African societies, education is development

3. Resource flows within agriculture. West Africa -- know great deal about mobility of labor

Deejamaah

Labor markets -- institutional factors are v. imp. Not enough basis to generalize to all Af from Nigeria Kenya + Tanz. Means need more comparative work.

Re cost recovery in education, conclusion cannot be applied generally, Wrong for Nigeria. In northern Nigeria, reluctant to acquire western education, even tho it's free. Fees would worsen the situation. Fee increases have led to reduction in enrollments in the north.

On pop. + f.p. Values are shifting toward reduction in fertility. Need better understanding of what determines

fam. size preferences of people in modern sector especially.

De Graft-Johnson

How disseminate info effectively? Need effective dissemination. Otherwise difficult to formulate govt. policy

Boserup

Two points -

1. There is evidence on women. Even if disseminated, men might not read it.
2. F p / Bank is to double its spending. Need to know how men + women look at these things, investments in f p will be poor.

Collier

4 misunderstandings

1. Not advocacy public schls be closed or sold
2. Not advocacy study of priv ~~to~~ public ^{defn'ts}
3. productivity of extension agents used not wages, but visits, i.e. direct measurements. Among extension agents, educ reduced productivity; opposite among vet officers
4. Not claiming that unemployment fell in Tanzania; on contrary Tan2 has prob bec of manpower planning.

4 points

1. ^{perhaps} tried to replicate Kenya study elsewhere.
Expectations by job seekers change ~~to~~ over time.

2. Japan model -- where Japanese seniority
premium applied in India, will follow....

Japanese pattern of labor turnover ~~was~~
did apply in Africa prior to 1950s.

3. Labor absorption in peasant agric. Reason
I haven't focussed on it is demand,
Carl Eicher

4. Cost recovery in sec. education. Diejamaoh
willing needs to be taken on board.
On equity grounds, I stand by my point.

OFFICE MEMORANDUM

DATE December 10, 1984

TO Distribution List

FROM Marcelo ^{M.S.}Selowsky, OPSVP

EXTENSION 76153

SUBJECT Bellagio Conference on Research Priorities for Sub-Saharan Africa
(February 25 - March 1, 1985)

We have finally completed the program for the Conference and I am very happy you will be able to attend. Please allow sufficient time for the preparation of your travel plans and schedule your arrival in Milan for Sunday, February 24, 1985. A reservation for that day, for all the participants, has been made at the Hotel Dei Cavalieri in Milan. Your department should cover the travel expenses of the trip.

Enclosed please find a program and a list of participants.

Distribution:

Messrs: Armstrong
Gulhati
O'Brien
Isenman
Lal
Psacharopoulos
Binswanger
Choksi

Mrs. Krueger
Ms. Lele
Ms. Birdsall

~~Ms. Birdsall~~

1. file: Bellagio SSA

Copy to J. North
John

I just heard
about this from
Marcelo
today.

Nancy
Birdsall

Is the timing
convenient?
(If it is the first
I have heard,
also).

12/11

Conference on Research Priorities
for Sub-Saharan Africa
Villa Serbelloni, Bellagio
February 25 - March 1, 1985

PARTICIPANTS

Dr. J.L.S. ABBEY
Ghana High Commissioner
Sandringham
85 Range Road
Suite 810
Ottawa, Ontario
CANADA K1N8S6

Mr. Hans P. BINSWANGER
Chief, Agricultural Research Unit
The World Bank
1818 H St., N.W.
Washington, D.C. 20433
USA

Mr. Kingsley Y. AMOAKO
Resident Representative
The World Bank
P.O. Box 35410
Lusaka
ZAMBIA

Ms. Nancy BIRDSALL
Chief, Policy and Research
Health, Population and Nutrition Dept.
The World Bank
1818 H St., N.W.
Washington, D.C. 20433
USA

Mr. Robert ARMSTRONG
Senior Economist
East Africa Office
The World Bank
1818 H St., N.W.
Washington, D.C. 20433
USA

Dr. Ester BOSERUP
Nevedone
6614 Brissago
SWITZERLAND

Professeur Achi ATSAIN
Centre Ivoirien de Recherches
Economiques et Sociales
(CIRES)
08 BP 1295 Abidjan 08
IVORY COAST

Mr. Armeane M. CHOKSI
Chief, Trade and Adjustment Policy Division
The World Bank
1818 H St., N.W.
Washington, D.C. 20433
USA

Dr. Robert BATES
Division of Human Resources
and Social Science
California Institute of Technology
1201 East California Boulevard
Pasadena, California 91125
USA

Dr. Paul COLLIER
Institute of Economics and Statistics
Oxford University
St. Cross Building
Manor Road
Oxford OX1 3UL
ENGLAND

PARTICIPANTS

Mr. J.W.S. De GRAFT-JOHNSON
Compleat Engineering and
Technical Consulting Services
P.O. Box 1
Trade Fair Site
Accra, GHANA

Mr. V. DIEJOMOA
Director General
Nigerian Institute of Social
and Economic Research
(NISER)
Private Mail Bag 5
University of Ibadan Post Office
Ibadan, NIGERIA

Dr. Carl EICHER
Michigan State University
East Lansing, Michigan 48823
USA

Mr. Ravi GULHATI
Chief Economist
East Africa Office
The World Bank
1818 H St., N.W.
Washington, D.C. 20433
USA

Dr. A.J. HOPKINS
Center of West African Studies
University of Birmingham
P.O. Box 363
Birmingham B15 2TT
ENGLAND

Mr. Paul ISENMAN
Senior Economist
Western Africa Office
The World Bank
1818 H St., N.W.
Washington, D.C. 20433
USA

Mr. Charles KONAN-BANNY
Directeur des Etudes
Banque Centrale des Etats de
l'Afrique de l'Ouest (siege)
Avenue du Barachois
B.P. 3108
Dakar
SENEGAL

Mr. Tony KILLICK
Overseas Development Institute
10-11 Percy Street
London W1P 0JB
ENGLAND

Ms. Anne O. KRUEGER
Vice President, Economics and Research Staff
The World Bank
1818 H St., N.W.
Washington, D.C. 20433
USA

Mr. Deepak LAL
Research Administrator, Economics
and Research Staff
The World Bank
1818 H St., N.W.
Washington, D.C. 20433
USA

PARTICIPANTS

Ms. Uma J. LELE
Chief, Development Strategy Division
The World Bank
1818 H St., N.W.
Washington, D.C. 20433
USA

Mr. D.G. RWEGASIRA
Director of Research
African Development Bank
01 B.P. 1387
Abidjan, IVORY COAST

Mr. Harris MULE
Permanent Secretary
Ministry of Finance and Planning
P.O. Box 30007
Nairobi, KENYA

Mr. Marcelo SELOWSKY
Economic Adviser
Operations Policy Staff
The World Bank
1818 H St., N.W.
Washington, D.C. 20433
USA

Mr. Stephen F. O'BRIEN
Chief Economist
Western Africa Office
The World Bank
1818 H Street, N.W.
Washington, D.C. 20433
USA

Mr. Dunstan SPENCER
ICRISAT
B.P. 12404
Niamey, NIGER

Mr. Pius OKIGBO
SKOP Consultants
c/o Mr. Ishrat Husain
Resident Representative
The World Bank
P.O. Box 127
Lagos, NIGERIA

Mr. Sayed A.A. ZAKI
Under Secretary of Finance
and Economic Planning
Khartoum, SUDAN

Mr. George PSACHAROPOULOS
Chief, Research Program
Education Department
The World Bank
1818 H St., N.W.
Washington, D.C. 20433
USA

**Conference on Research Priorities
for Sub-Saharan Africa
Villa Serbelloni, Bellagio
February 25 - March 1, 1985**

PROGRAM

1. Sunday, February 24

Arrival in Milan. Overnight stay at Hotel Dei Cavalieri.

2. Monday, February 25

9:30 a.m. Departure for Bellagio.

12:30 p.m. Lunch at Villa Serbelloni.

2:30 p.m. Afternoon: Session I. The Context.

Anne Krueger (Chairperson): "Introductory Remarks"

Harris Mule: "The View from Africa"

Paper: A.J. Hopkins "The Historical and
Institutional Context."

Discussants:

Charles Konan-Banny

Ravi Gulhati

Stephen F. O'Brien

3. Tuesday, February 26

9:00 a.m. Morning Session: "Human Resources"

J.L.S. Abbey (Chairperson)

Papers: Ester Boserup
Paul Collier

Discussants: Sayed A.A. Zaki
Kinsley Y. Amoako
George Psacharopoulos

General Discussion

Rapporteur: Nancy Birdsall

2:30 p.m. Afternoon Session: "Agricultural Development"

Harris Mule (Chairperson)

Paper: Carl Eicher

Discussants: Achi Atsain
Dunstan Spencer

General Discussion

Rapporteur: Hans Binswanger

4. Wednesday, February 27

9:00 a.m. Morning Session: "Issues in Pricing Policy"

Stephen F O'Brien (Chairperson)

Paper: Achi Atsain

Discussants: Charles Konan-Banny
Pius Okigbo

General Discussion

Rapporteur: Uma Lele

2:30 p.m. Afternoon Session: "Resource Mobilization and Public Finance Issues"

Ravi Gulhati (Chairperson)

Paper: Robert P. Armstrong

Discussants: V. Diejomoah
J.W.S. De Graft-Johnson

General Discussion

Rapporteur: Paul Isenman

5. Thursday, February 28

9:00 a.m. Morning Session: "Macro Economic Adjustment and Trade Policy"

D. Lal (Chairperson)

Paper: Tony Killick

Discussants: Harris Mule
J.L.S. Abbey

General Discussion

Rapporteur: Armeane Choksi

2:30 p.m. Afternoon Session: "The Economics of Transition and Political Economy of Policy Reform"

Anne Krueger (Chairperson)

Paper: Robert Bates

Discussants: Achi Atsain
D.G. Rwegasira

General Discussion

Rapporteur: Stephen F. O'Brien

6. Friday, March 1: Summary and Conclusions

9:00 a.m. Morning Session:

Mr. V. Diejomoah (Chairperson)

Presentation: Deepak Lal
Marcelo Selowsky

General Discussion

Afternoon

Departure from Villa Serbelloni

OFFICE MEMORANDUM

file Bellagio SA

DATE February 7, 1985

TO All World Bank Participants

FROM *M.S.* Marcelo Selowsky, OPSVP

EXTENSION 76153

SUBJECT Conference on Research Priorities for Sub-Saharan Africa -
Bellagio, Italy, February 25 - March 1, 1985

1. I would like to remind you that a reservation has been made for you at the Hotel Dei Cavalieri in Milan on Sunday, February 24. Please make sure to include this reservation on your travel request. This is important because all the participants must be picked up together at the Hotel Dei Cavalieri the next morning, February 25, and taken to the Villa Serbelloni in Bellagio.

2. Enclosed please find a copy of the Easton Report.

3. All arrangements regarding Bellagio have been completed, and I'm looking forward to your participation in the Conference.

World Bank Participants:

Messrs. Armstrong
Binswanger
Choksi
Gulhati
Isenman
Lal
O'Brien
Psacharopoulos

Ms. Birdsall ✓
Mrs. Krueger
Mrs. Lele

Report on the Easton Workshop on Research
Priorities on Sub-Saharan Africa ^{1/}

October 11-12, 1984

Contents

- I. Introduction and Overview
Annex I
- II. Report of Group A: Agriculture Policy
- III. Report of Group B: Macroeconomic Stabilization and Trade Policy
Annex III
- IV. Report of Group C: Resource Mobilization and Public Economics
- V. Report of Group D: Employment and Human Resources
Annex V

^{1/} This report is based on the written contributions of H. Binswanger, R. Gusten and U. Lele (Group A); A. Choksi, K. Dervis, R. Duncan, R. Gulhati, N. Hope and G. Nankani (Group B); R. Armstrong, M. Long and L. Squire (Group C); N. Birdsall, T. Churchill and G. Psacharopoulos (Group D); D. de Ferranti, B. Herz and J. Rosen also contributed to the report.

I. INTRODUCTION AND OVERVIEW

Introduction

1. The workshop on Research Priorities for Sub-Saharan Africa, held October 11-12, 1984 in Easton, Maryland, was the first activity of a project to draw an agenda for research priorities that could guide Bank as well as outside the Bank research in this area. The final objective is to draw a research plan for the next five years that could be submitted for funding to the Bank and outside donors. The Workshop was to bring together Bank Staff (both consumers and producers of research) so as to identify and reach some consensus on priority areas of research. This report makes explicit areas where some consensus was reached and others where this was less obvious.

2. The agenda (attached) for the Workshop was to be as comprehensive as possible. The only ground rules were that the research was to address key questions relevant to the development process in Africa, and that the emphasis was to be on policy-related issues.

3. This report is organized as follows: Section I overviews the major taxonomies of studies that were identified in the workshop, taxonomies that cut across the working groups. Other recurrent issues that appear across working groups are discussed. Sections II, III, IV and V present the report of each group prepared by the rapporteurs and other members of each group.

Overview of Types of Studies

1. Studies to help predict better the future

These types of studies aim at predicting and projecting course of events that are rather independent or rather exogenous to policy changes. They project the environment in which policies will have to be developed. Nevertheless, their better understanding might be a reason to identify new policies or improve existing ones. An important area are the future consequences of rapid population growth and its relationship with the present observed deterioration of the agricultural resource base. Rapid population growth will have important consequences for per capita capital accumulation and the possibilities of improving the human resources base, specifically in areas like education and health. The consequences of the present trends in land desertification and deforestation are also important aspects. A second type of area, where there was less consensus -- although it was more a problem of emphasis and degree, rather than of general principle -- refers to efforts aimed at better predicting the external environment, particularly the future movement of commodity prices so as to predict better the future comparative advantage of countries. Some argued that our capacity to predict future events is limited and that the direction of improved policies is rather independent to a better prediction of the future. Others argued that such predictions can help governments to better target their investment in infrastructure so as to increase the responsiveness of the economy to these future developments.

2. Studies to assess the scope of public policy and policy reform

This area was clearly the largest one. Throughout the discussion, a general sense of agreement was developed: the notion that governments are intervening too much and too erratically in product and

factor markets at the expense of areas where governments have a substantially higher comparative advantage, i.e., areas of high externalities like technology and extension, the proper expansion and management of urban and agricultural infrastructure, of soil erosion, and human resource formation. Major areas of studies discussed were the following:

(a) Short-term Macroeconomic Management:

From past events it has become clear that (i) the world's environment will remain unstable, as far as cycles in terms of trade and capital flows is concerned; (ii) that failures to adjust early in time to fluctuating terms of trade can have substantial long-run costs; the cost of postponement, and thus of strong stabilization programs, have had forced economies into situations of less than full employment for long periods of time. It is fundamental to smooth macroeconomic policy overtime: To avoid situations of excessive aggregate spending when terms of trade improve temporarily (as well as external borrowing) as well as situations of inflationary finance of the fiscal budget that cannot be sustained. The political economy of government spending is a key area of concern.

(b) The Costs and Benefits of Policy Reforms. Non-Economic Objective

By now there is unanimity regarding the direction of changes in the incentive mechanisms in most countries. The underpricing of exportables and of the most efficient import substitution

sector, the underpricing of food agriculture, and the underpricing of saving incentives are some key samples. Large part of these interventions can be explained by government actions aimed at achieving non-economic objectives, particularly short-term objectives. Two general areas of studies are important to promote policy reforms: First, to be able to show more precisely to governments the costs and benefits of these reforms and particularly emphasize the long run gains of them. Second, to identify more efficient interventions to achieve some of these non-economic objectives.

(c) Managing the Transition. The Speed and Sequencing of Policy Reform.

A consensus emerged on the great importance of this topic. Short-term costs of policy reforms - particularly if they have high political costs - might inhibit governments to undertake these reforms even if they have large long-run payoffs. It then becomes fundamental to design the implementation of these policies - its speed and sequencing - so as to minimize these costs, even at the expense of lowering the net present value of reform. This is relevant in several and important types of reforms like trade and exchange rate policy, taxation and agricultural pricing.

3. Studies on Political/Institutional Issues.

While most participants granted the link between research and policy change, some argued that the link between research and political/institutional reform is much less clear. It was also pointed out that this is an area where the Bank has a very limited comparative advantage. Nevertheless, two specific topics were deemed to be of crucial importance. First, institutional reforms in the operation of public enterprises, particularly in the area of improved incentives. Second, issues of land tenure and property right in agriculture, which have a strong effect on the efficiency in which factor and product markets work in that sector.

4. Other Recurrent Issues Discussed in each Working Group.

Data base. A recurrent observation concerned the inadequacy of the data base for carrying out many important research projects. Every one acknowledged the necessity of a substantial investment in data improvement. The Bank, many felt, should define an approach to this problem. It might consider, for example, helping African governments formulate a focussed data improvement program; making technical assistance available; and increasing the funding for purpose-specific data collection in a project context. How much of the responsibility for generating better data should rest with the African countries themselves, and how the institutional constraints involved should be overcome, are questions not easily answered. It seemed clear, however, that unless the data problem is

tackled in a serious way, the situation that exists today (i.e., that research does not focus on Africa in part because the existing data for Africa are not good enough) will still be a major obstacle five years from now.

Comparative research. Cross-country analysis was seen as a particularly good mode of research. Knowledge about what is working and how it can be replicated is very much needed; a major source of such knowledge is research on success stories and on best applications of various policies. Furthermore, comparative studies make it possible to predict what the consequences of certain policy changes are likely to be, and this is useful information to convince governments of the need for policy reform.

Workshop on Research Priorities
for Sub-Saharan Africa
October 11-12, 1984
Tidewater Inn, Easton, Md.

Wednesday, October 10

5:00 p.m. Departure from the World Bank, Washington

7:45-9:00 p.m. Dinner at the Tidewater Inn
Speaker: Shahid Husain - "A Perspective on the Bank's
Operations in Sub-Saharan Africa"

Thursday, October 11

8:45-9:30 a.m. Plenary Session
Speaker: Ravi Gulhati - "A Users Perspective on Research
Priorities"

Paul Isenman - "Further thoughts"

9:30-12:30 p.m. Working Group Sessions (Coffee Break at 10:30 a.m.)

Group A: Agricultural Policy

Group B: Macroeconomic Stabilization and Trade Policy

Group C: Resource Mobilization and Public Economics

Group D: Employment and Human Resources

12:30-2:00 p.m. LUNCH

2:00-6:00 p.m. Continuation of Working Group Sessions (Coffee Break at 4:00 p.m.)

6:45-7:30 p.m. Cocktails

7:30 p.m. DINNER - Speaker: Anne Krueger - "Research on the Political
Economy of Policy Reform"

Friday, October 12

Plenary Session - Chairman: Luis de Azcarate

9:00-10:15 a.m. Rapporteur Group A
Discussion

10:15-10:30 a.m. Coffee Break

10:30-12:30 p.m. Rapporteur Group B
Rapporteur Group C
Discussion

- 8 -

Friday, October 12 (Cont'd)

12:30-1:30 p.m. LUNCH

Plenary Session - Chairman: Luis de Azcarate

1:45-2:30 p.m. Rapporteur Group D
Discussion

2:30-3:15 p.m. "Cross sectoral and left out issues" - General Discussion

3:15-3:45 p.m. Wrap up - Marcelo Selowsky

3:45-4:00 p.m. Final Remarks by Chairman

4:15 p.m. Departure for Washington

OPSPV
9/20/84

RETREAT ON RESEARCH PRIORITIES FOR SUB-SAHARAN AFRICA
PARTICIPANTS

Robert Armstrong, Senior Economist, EA2
Hans Binswanger, Chief Agricultural Research Unit, AGR
Nancy Birdsall, Resource Mobilization Division, CPD
Ester Boserup, Brissago, Switzerland
Elkyn Chaparro, Public Enterprise Unit, WA
Tony Churchill, Director, WUD
Paul Collier, Oxford University
Luis de Azcarate, Director, CPD
David de Ferranti, Acting Chief, Policy and Research Unit, PHN
Kemal Dervis, Chief, Industry Policy Division, IND
Dennis de Tray, Chief, Mining Standard Measurement Unit, DRD
Ron Duncan, Chief, Commodity Studies and Projections, EPD
Stephen Eccles, Assistant Director, WAP
Carl Eicher, Michigan State University
Alan Gelb, Acting Chief, Productivity Division, DRD
Ravi Gulhati, Chief Economist, WA
Rolf Gusten, Senior Economist, WA
Rudolph Hablutzal, Senior Economist, WA2
Nick Hope, Chief, External Debt Division, EPD
Tarik Husain, Senior Economist, WAP
Paul Isenman, Senior Economist, WA1
Tony Killick, Overseas Development Institute, London
Deepak Lal, Research Administrator, ERS
Uma Lele, Chief, Development Strategy Division, DRD
Mark Leiserson, Economic Adviser, CPD
Millard Long, Chief Financial Development Unit, IND
Robert Maubouche, Senior Economist, EA2
Gobind Nankani, Nigeria Division, WA1
Akbar Noman, Office of the Vice President, WA
George Psacharopoulos, Chief Research Unit, EDC
Sarath Rajapatirana, Office of the Vice President, ERS
Ronald Ridker, Office of the Director, EA1
Marcelo Selowsky, Economic Adviser, OPS
Lyn Squire, Chief Resource Mobilization Division, CPD
Baran Tuncer, Office of the Director, EA1
Richard Westebbe, Senior Economist, WA2

II. REPORT OF GROUP A: AGRICULTURE POLICY

Participants* in the agricultural session at Easton, Maryland took for granted the importance of several issues in drafting the research agenda outlined below. These are worth outlining at the outset to set the stage for the agenda. First, agricultural sectors hold the key to the economic development of African countries because of their generally large shares in GNP and exports, in the proportion of populations employed, their contribution to government revenues and to the supply of food, raw material, labour and capital to the urban/industrial sectors. The sector also constitutes an important (actual and potential) market for the goods and services produced in the non-agricultural sectors. Agricultural growth is thus fundamental to Africa's overall economic development with major implications for the scope of research.

Second, not all the roles of agriculture outlined above are mutually consistent. Excessive reliance on agriculture as a source of government revenues can be a major disincentive to increasing agricultural production. Out-migration encouraged by urban-biased policies can lead to labour constraints in agricultural production, also reducing marketed surpluses. And policies encouraging import substitution of food crops can result in a decline

* Uma Lele, (Chairperson), Rolf Gusten (Rapporteur), Hans Binswanger, S. Eccles, Carl Eicher and T. Husain; Ester Boserup and Paul Collier, part-time.

in agricultural exports. Socioeconomic research needs to clarify the influence of alternative policies on these competing roles of the sector as they affect overall economic development.

Third, agriculture is recognized to be unique among productive sectors because of its close relation with the physical environment. Climatic changes create short-term fluctuations in production with implications for domestic supply (and price?) stabilization policies. Soil fertility and rainfall patterns also affect crop productivity differentially with implications for optimum cropping patterns.

Structural factors interact with these environmental elements with implications for long term economic policy. For instance, acceleration in the rate of population growth in the 1970s has caused a sharp increase in the labor/land ratio and migration into agriculturally marginal areas, with adverse effects on factor productivity. Soil degradation caused by population pressure has been accompanied by major shifts in the relative prices of energy and agricultural inputs, vis-a-vis Africa's agricultural exports. Changes in relative factor costs have implications for the choice of technology, investment priorities and pricing policies. These remain largely unexplored in agricultural research in Africa.

Fourth, the public sector plays a unique role in smallholder agricultural development because of the importance of public goods in a continent where physical and institutional infrastructure are at an early stage of development. Its presence cannot be taken for granted in economic analysis. Furthermore, most agricultural production units in Africa are small and dispersed with highly diverse growing conditions. Smallholder agriculture does not enjoy many economies of scale in production and small farmers have a

limited capacity to undertake risks involved in the adoption of new technologies. These various factors imply that governments have a critical role in the development and dissemination of agricultural technology, investment in transport, communications and irrigation. These investments require large quantities of capital which only the public sector is frequently willing or able to provide.

Given the African governments' limited capacity to respond to the needs of economic development -- and this was recognized to be a more serious constraint in Africa than elsewhere in the developing world -- in the short run priorities need to be established in allocating scarce governmental resources to achieve agricultural growth. In the long run, governmental capacity itself needs to be increased to serve these critical functions with implications for research.

Fifth, a major share of expenditures in African countries is currently financed by donors. Food aid has also begun to comprise a greater share of donor assistance, both because of Africa's growing food deficits and increasing agricultural surpluses in OECD countries. An examination of the role the donors have played in shaping incentives through the establishment of domestic investment priorities and policies can help improve their future effectiveness.

Sixth and finally, policy improvement requires a broadened national awareness of the consequences of existing policies, the potential impact of alternative policies and the ways to manage reform. Domestic analysis of the effects of alternative policies requires trained manpower and effective research institutions as well as an information base with which to carry out policy analysis. Any recommendations for research priorities in Africa which

do not suggest methods to develop national data bases and analytical capacity are unlikely to be implemented.

The agenda presented below focuses largely on long-term issues. The group felt that much too little is known about the environment which constrains the allocative efficiency of African producers and consequently far too many quick fixes have been attempted. Nevertheless, a variety of research issues related to short-term adjustment have also been identified. The research recommended here deals with outcomes as well as processes, and considers actions of producers as well as of those who influence producer behaviour including governments and external factors. Finally, the group felt that in carrying out research, examination of second-best alternatives is essential to take into account objectives other than allocative efficiency such as equity among sectors, regions or classes, or the feasibility of policy implementation. Far too often African governments lack the instruments implicit in implementing first- best options.

INVENTORY OF RESEARCH TOPICS

In the review of priority issues identified for further research, below, we have noted, in parentheses, Bank units where relevant research is currently on-going or is in the proposal stage. A table outlining the responsible work-units and research titles is included at the end of the paper. While the coverage of this research seems broad on the surface much of it is at an early stage and by no means covers the waterfront. Current bank research is also constrained by data limitations. Thus while expansion of research effort in Africa is essential, it is critical to ensure that the research process augments rather than preempts the limited data and analytical

capacity in Africa and helps avoid duplication of research effort which can occur through research concentration on a few "popular" topics and countries.

I. Agricultural Production Incentives

It is frequently observed that overvalued exchange rates and high marketing margins of parastatals explain the low levels of official producer prices. Yet there are relatively few studies which examine the extent and sources of agricultural price distortions across crops and over time among countries.

Also non-economic factors are known to influence official producer prices. For instance crops grown by large farmers are often observed to receive higher shares of final market prices than those grown by small farmers, implying the greater political power wielded by large producers. Is there systematic evidence relating to the political determinants of production incentives? (DRDDS)

What are the non-price factors which influence producer decisions? For instance, it is frequently argued that other things being equal food crops which can be sold relatively easily in informal markets are more attractive to producers than export crops, the marketing of which is almost always government-controlled. (DRDDS)

Crops for which returns are higher are known to lead to increased relative production of those crops. And yet there is relatively little empirical analysis of the effect of price distortions (and nonprice market incentives) on production, consumption, government revenues and exports. What are the precise magnitudes of relative and aggregate supply responses in Africa? (DRDDS)

In the discussion of methods to evaluate pricing systems, it was

recognized that partial equilibrium analysis can only provide a general guide to reduce distortions. In several countries, more ambitious multi-market models or general equilibrium models have been built to trace the impact of interventions in one market on other markets so as to evaluate the consequences of entire policy packages. These models have usually been designed to deal with short- or medium-term consequences. Obstacles to a more widespread use of these models include technical skill to build and operate such models as well as the difficulty of determining the parameter values to use in such models. Good sets of country-specific supply (EAPDR) and demand parameters are required, including estimates of some crucial cross-elasticities. Given the current limited analytical capacity in Africa, as well as an early stage of development of such models it is important that the practical application of these techniques within African ministries or universities is done only after their critical evaluation by professionals well versed in techniques as well as policy issues. It should take into account the benefits and costs of scarce analytical resources in Africa in the use of these techniques given the high opportunity cost of these resources.

The broader issue of exchange rate valuation also has to be addressed in analysis of incentives. Devaluation and common Bank pricing system advice imply changing entire price structures rather than individual prices. What limited evidence exists suggests that aggregate supply elasticities for Africa are very low, but no lower than the levels for several other regions of the world. A recent Bank aggregate supply study (which does not include many African countries) suggests that differences in government investments (of the type mentioned above) account for a far greater portion of the variation in

agricultural growth than do price regimes (AGR/EPD). One has to be cautious about drawing conclusions from econometric analysis alone, however, since the efficiency of government expenditures needs to be taken into account in allocating resources and more detailed case study oriented research is needed to ascertain the factors which influence effectiveness of government investments in agriculture (DRDDS). Nevertheless three questions arise:

1. What has been the effect of government investment on output growth in Africa? Developing a medium- and long-term analysis of supply determinants will require inclusion of government investment as a factor in shifting the aggregate agricultural supply curve. Determinants of private broad investments needs also to be studied in the context of supply response. (DRDDS)

2. Do certain African countries discriminate against agriculture on the price side but support it on the investment side? If government investment and pricing policies are somewhat independent (as in Asia), can a case be made to tax agriculture in order to finance a more rapid expansion of investment? A comparative study of net resource transfers and their effects on agricultural production across countries is needed to address these issues. (DRDDS)

3. What are the appropriate organizational forms and management systems for input and output marketing and for trade? While more research may not be necessary to demonstrate that private traders can be more efficient than parastatals in the marketing and distribution of grain crops or fertilizers, the nature of market failures and implications for public policy need to be studied. For crops which require rapid processing after harvest, such as oil palm or cotton, the options are greater, including cooperative

marketing and processing organizations as well as parastatals and private traders. Moreover, in these crops, credit disbursement and recovery can often be managed effectively by linking them to marketing activities. The issue of export crop price stabilization via marketing boards arises due to variation in international prices, but African governments consider price stabilization equally as necessary for food crops. The complexity of the issues related to pricing and marketing is indicated by the high priority given by the Bank's operational staff to more work in this area. (DRDDS)

Input subsidies are said to be detrimental to allocative efficiency, and to create a major burden on the government budget, reducing incentives for governments to promote input use. Research should investigate the impact of input subsidies under alternative producer pricing regimes, particularly where low-priced crops are a major source of government revenue. (AGRES, DRDDS)

Food aid and commercial food imports are said to be major disincentives to increased production because they both reduce the level of producer prices and sometimes increase price instability due to uncertainty in import levels. Food aid is also said to change consumer tastes and consumption patterns in favour of imported preferred cereals, leading to high cost import substitution of these crops. Inefficient domestic production of preferred foods often leads, in turn, to expenditure of a major share of limited government revenues on the production of those crops. The effect of food aid and import policies on levels and stability of producer prices, government revenues and patterns of the public expenditure needs to be investigated. (DRDDS)

Government and donor programs have tended to emphasize official credit and subsidized rates. The extent to which credit is a constraint to

increased agricultural production needs to be ascertained under various conditions. Also, the need for provision of credit as distinct from subsidized credit needs to be ascertained. (AGRES, DRDDS)

II. Resource and Farming Systems Issues

While Sub-Saharan Africa is experiencing extremely rapid population growth, initial population densities, farming systems and technologies differ enormously across the major agroclimatic zones of Sub-Saharan Africa. Some countries with large endowments of land relative to population will be able to rely on area expansion for agricultural growth for quite some time, while others will only be able to grow by applying science-based technologies and by investing substantially in land improvements. Ecological resource issues such as desertification and deforestation are related to the impact of population densities on resource use and land investments. In order to assist countries in dealing with these problems, we need to have an understanding of the following issues:

1. How are farming systems in different agroclimatic subzones likely to develop under the impact of increasing commercialization and population density?
2. How will rural-urban and intra-rural migration change the age and sex structure of farm labor within different regions? Will these changes have an impact on supply response? Will they be beneficial to agricultural production and rural incomes? (DRDDS) What explain the frequent coexistence of low wages and labor security problems in development projects (ARG).
3. What are the technologies, and the private and public investments required to assist in the transition to desirable farming systems?
4. What are the regulatory frameworks required to promote desirable

transformations and to provide incentives for appropriate resource management? In particular, what are the relevant changes in land rights?

(AGRES)

Research in these areas, even if comparative, needs to be organized with the specific agroclimatic zone, rather than a country, as the unit of analysis. We need to distinguish at least five major subzones:

1. the high rainfall semi-arid tropics such as the maize and cotton areas in West Africa;
2. tropical highlands such as the high-potential zones of Kenya;
3. the sub-humid lowlands -- such as the high-risk root crop zones;
4. the humid lowlands -- including much of the Congo Basin; and
5. arid and low rainfall semi-arid zones such as the Sudano-Sahel.

Past research on farming systems and mechanization indicates that the high rainfall semi-arid tropics and the more accessible tropical highlands will present few high priority socio-economic research problems. These are the areas with the best experiences in mechanical and biological technology. Technological opportunities are available and/or can be developed along familiar lines, and mechanization is progressing as farming systems evolve towards annual cultivation. Few environmental problems are expected. Where migration is feasible they experience immigration. The organization of land rights will present problems only where immigration into low population density areas is banned or where the state is not willing to support the standard evolution towards increased privatization of land use and ownership rights.

The humid and sub-humid tropical lowlands often have very low population densities. Only tree crops have provided viable opportunities and

in their absence these are often areas of emigration. The subhumid areas have stagnated technologically and research needs to examine what farming systems would be consistent with high worker productivity and resource conservation and what infrastructural development is optimal for such low-density areas. Given the large land reserves, the wisdom of attempting to develop land-saving technologies and promoting the intensive use of inputs needs to be reconsidered. Experiences in different locations of Sub-Saharan Africa and the evolution of farming systems in similar agroclimatic zones in Asia should be studied. These regions are generally assumed to have fragile ecological systems and the deforestation issue is of major concern. Forestry, forest management and the setting aside of forest reserves are major issues, as is the integration of field crop production with tree crops and perhaps forestry. Land rights issues revolve around the sorting out of forestry from crop production, the role of immigrants, and the protection of rights of local groups. Research which investigates the farming systems and technology issues of this zone is of high priority. (AGRES)

The arid regions and the low rainfall semi-arid zones present the most serious human and resource management problems. These are areas where no progress has been made on crop technologies, where livestock projects have often failed and where desertification is the compelling environmental issue. The cropping systems in this area are relatively well understood. Biological research has come up with few high pay-off solutions, and in many areas the potential for mechanization is limited by the fragility of the soils. Problems of resource degradation do not appear to be technological, but are primarily associated with extension of cropping to marginal lands, with growing demand for fuelwood and with controlling access to pastures.

These are issues in which the allocation of land use rights is central. But unlike the humid tropics, in this region livestock raising, the allocation of grazing rights and the protection of pastoral groups are predominant. Forestry issues do not involve commercial logging but the control of firewood collection and fodder from trees and bushes. A recent Bank report on desertification identifies common property resource management in the zone as the highest research priority. Resource preservation and equity effects of past and current systems of allocating land use and property rights need to be compared. (AGRES)

III. Government and Private Investment Issues

The core investments with which we are concerned are agricultural education, research, extension, irrigation, transport infrastructure and agricultural statistical systems (DRDDS). While the development of comparative advantage, given changes in price signals, is difficult to predict, investment choices must be made now for programs with gestation periods of 5 to 10 years, and on-line output of 5 to 40 years. In addition to the net impact of taxation and public sector investment on agricultural production (discussed above, page 6), in-depth knowledge of regional farm cultivation and technology systems is essential for making judgments about investment priorities, (see pages 8-11 for a discussion of these variants). Socio-economic research in outside agencies, such as the Bank, is unlikely to produce appropriate investment plans for countries because this type of intensive information is needed for evaluation and planning. Outside research should study (1) how payoffs for each of the investment categories might be expected to differ in different environments, and (2) given high-potential payoffs, how best to organize or provide incentives for public investment in

each area.

Agricultural Education. Trained manpower is consistently observed to be a major constraint to improvement in the provision of public goods. Research is needed to investigate determinants of the demand for and the supply of trained manpower to the agricultural sector, the curricula of agricultural training systems, the donor impact on training, and the effect of such training on agricultural productivity.

Agricultural Research. The cost of doing agricultural research is significantly higher in Africa than in Asia and complex environmental factors reduce the possibility of quick payoffs from the research which is successfully conducted. This may explain why African research system productivity is so low, despite the substantial increases in funding in the 1970's. However the effect on agricultural productivity of the management and organization of research institutions including internal incentive systems and the research orientation to national and regional needs and potential also needs investigation. (DRDDS, WA)

In the context of the earlier discussion on farming systems an additional question needs to be raised; what types of technologies should be developed in regions where labor is very scarce and future growth will continue to come from area expansion? Also, should such areas receive as much research investment as high population density regions? (AGRES)

The T. & V. extension system being promoted in Africa assumes that technical packages exist and that the main constraint to adoption is the producers' lack of information about such packages. This may be true in certain high population density situations. Others concerned with agricultural research systems (Collinson 1/), however, claim that technical

packages suited to farm-level resource endowment, which ensure sufficient economic returns, are not available, especially in low population density, low rainfall areas. Research is needed on constraints to adoption, to identify the relative priority to be accorded to technology generation and extension.

Irrigation Issues. The irrigation potential in many regions is high. But it is well established that the expensive larger irrigation projects are not cost-effective, while small projects focusing on low cost diversion and small dams have been more successful. The fact that in many countries output growth is feasible via area expansion, may have much to do with low returns on large projects. Management problems, such as those found in the Office du Niger and the Gezeira zone, are also potential obstacles to successful implementation of irrigation schemes. A comparative study of the impact of irrigation project organization on water management efficiency is necessary. (AGRES)

Transport Infrastructure. Lack of transportation is one of the major constraints to agricultural development. (DRDDS) More donor investments have been made in direct impact projects, including monopoly marketing organizations, than in transportation network improvements. Research is needed on the effect of transportation investments in low population density zones with good agroclimatic potential, particularly on the rapidly changing production environment resulting from growing population pressure.

IV. The Political Economy of Agricultural Policy

The issues outlined above are largely economic, while the actors

1/ M. Collinson, "Technological Potentials for Food Production - Eastern and Central Africa," mimeo, August 1983.

influencing agricultural policy in Africa are diverse in their interests and orientation, and include a complex set of domestic and external institutions. Research on the political economy of policymaking requires that five additional questions relating to public choice issues be addressed, namely:

1. Who are the major actors in agriculture?
2. What are their objectives?
3. What is the process by which policies are made and how do the actors intervene in that process?
4. Which actors tend to gain, under what circumstances?
5. How do the gains achieved influence subsequent policy-making?

In focusing on these issues it is important to understand the policymaking process. Research is needed on African countries' institutional endowments and their subsequent expansion, the growth of organized interests, the role of the privileged classes, both in the process of policymaking and in its subsequent rewards, the relative impact of small/large farmer interests and the influence of other interest groups. (DRDDS)

The relevant questions for further research are (1) how does pressure group politics influence the content of agricultural policy; (2) how does the relative role of the various internal and external pressure groups change across countries and over time; and (3) and how does the influence of such groups in policy-making affect agricultural growth and rural/urban and intra-rural income distribution? For instance, as Mancur Olson argues, do members of small groups have disproportionate organizational power through collective action? Do special interest organizations and coalitions reduce efficiency and aggregate income where they operate? If, again as Olson argues, "distributional coalitions make decisions more slowly than the individuals and

firms of which they are comprised, tend to have crowded agendas and bargaining tables and more often fix prices than quantities," what is the significance of these factors for the donor/national dialogue on structural adjustment, the content of policy reform favouring agriculture vs. other sectors, and the period in which structural adjustment would come about?

A Concluding Statement

There are two questions which are fundamental to improving the state of knowledge and policy in Africa. First, why is it that not even the findings of existing research get reflected in better policy? Either governments and donors know what the most effective solutions are but cannot adopt them due to institutional/political constraints, or the knowledge of what really works is far more limited than is generally assumed. Here the motivations of governments and donors which affect policy, and the "research/-extension" gap in the field of policy making (similar to that in the process of technology adoption by farmers) needs a critical evaluation.

Secondly, with a few minor exceptions, the data on African agriculture are appallingly inadequate, despite the approximately \$8 billion of developmental assistance provided to Africa to date. Yet governments and donors have devoted relatively little energy to improving the quality of data and analytical base. Future research must consider ways to improve data collection and utilization of existing data, if the establishment of research priorities in Africa is not to be a hollow promise.

CURRENT AND PROPOSED RESEARCH: AFRICAN AGRICULTURE

<u>PAGE</u>	<u>DIVISION/PROJECT</u>	<u>TOPIC</u>
5	DRDDS/MADIA	Pricing and Marketing system impact on production incentives
5	DRDDS/MADIA	Political determinants of incentive policy
5	DRDDS/PEAP	"
5	DRDDS/MADIA	Crop-specific price elasticity of supply
5	DRDDS/PEAP	"
6	EAPDR/Prop.	Country-specific crop supply parameters
6	AGR & EPD	Aggregate supply elasticities (few African)
6	DRDDS/MADIA	Government investment impact on agricultural output
6	DRDDS/PEAP	"
7	DRDDS/MADIA	Net inter-sectoral resource transfers
7	DRDDS/MADIA	Agricultural pricing and marketing systems
7	AGRES	Fertilizer subsidy impact review; Western Africa
7	DRDDS/MADIA	Input subsidy effect on government budgets
8	AGRES	Credit markets and private capital accumulation; Burkina
8	AGRES	As part of "Agricultural Mechanization in Sub-Saharan Africa and in one or two proposed studies.
8	AGR	Methodology for Analysis of Rural Labor Markets
9	DRDDS/MADIA	Rural emigration and farm system response
9	AGR	Review of Land Rights issues in Sub-Saharan Africa.
10	AGRES	Proposed research project on Farming Systems, Technology and Resource Management in Humid Tropical Lowlands.
11	DRDDS/MADIA	Allocation of public sector agricultural investment

- | | | |
|----|-------------|--|
| 11 | AGRES | Proposed research project on Farming Systems, Technology and Resource Management in the Sudan-Sahelian Zone |
| 12 | DRDDS/MADIA | Performance and productivity of national research systems |
| 12 | AGRES | Proposed research project on Farming Systems, Technology and Resource Management in Humid Tropical Lowlands. |
| 13 | WAPDR | Past agricultural research organization and allocation |
| 14 | AGRES/Prop. | Irrigation project organization and water management |
| 14 | DRDDS/MADIA | Transport system constraints in agricultural marketing |
| 14 | DRDDS/PEAP | Policy-making process and actors |
| 14 | DRDDS/MADIA | " |

III. REPORT OF GROUP B: MACROECONOMIC
STABILIZATION AND TRADE POLICY

The discussion of this topic was organized into two large areas: First, issues of macro-management associated with crisis situations stemming from unsustainable levels of expenditures and second, major macroeconomic resource allocation issues that cut across several sectors, in this case overall trade policy.

I. Macroeconomic Crisis and Issues of Demand and
Expenditure Management

1. Positive Issues: How crises occur?

Macroeconomic crises are defined here as situations of unsustainable levels of total or government expenditures given the resources provided by the export sector and external borrowing (and fiscal revenues in the case of government "overspending").

Documenting the determinants of external shocks - commodity or input prices, external credit and the colinearity between this credit and terms of trade - is required. Second, how governments have responded or adjusted to this fluctuations.

- (a) Have they acted as if these shocks are temporary
(when they are negative) or permanent (when they are
positive)?

- (b) Do they try to postpone adjustment?
- (c) Do they try to protect the public wage bill?
- (d) Do they use money creation as a substitute for taxation or external borrowing?
- (e) Do they inject price controls to prevent inflationary pressures or increase scarcities to be translated into prices?
- (f) How did the Government predict the behavior of external creditors?

2. Normative Issue A: How to prevent crises

From a policy point of view it is fundamental to improve the understanding of the medium and long-term consequences of these short-term crises. It has become evident that the long-run effects of stabilization packages to overcome these crises have been much more costly than expected (part of this is discussed in next section 3). A better understanding of the long-run consequences of unsustainable short-term levels of aggregate and (public) spending is important to convince government of the need of more realistic levels of expenditures in face of external shocks.

A better understanding and prediction of the behavior of external creditors and donors is important particularly if private creditors behave in a procyclical fashion, i.e., they are willing to lend more in periods of commodity boom and less in periods of terms of trade decline.

3. Normative Issue B: How to minimize the cost of stabilizing an economy which is already in crisis: Issues of Transition

Unsustainable levels of aggregate expenditures and (public expenditures) financed by external borrowing (and money creation) require a contraction of aggregate demand and an increase in the price of traded goods so that the economy can adjust by increase exports and/or lower imports, i.e., switching. The problem can be posed as follows: What is the optimal speed and the optimal combination of expenditure reduction and switching policies that would minimize the present value of the cost of the stabilization effort subject to the external constraints. Several research activities can then be identified: If supply elasticities increase overtime, to what extent gradual programs and programs that rely on switching policies (rather than expenditure contraction) can lower the employment and output losses of the stabilization effort? What are the key factor and product market elasticity responses that are needed to evaluate those options? How do the structure of markets (for example, the existence of parallel markets) affect the movement of factors and thus affect the short and long-term supply elasticities of traded goods? What is the role of expectation formation resulting from different speeds at which stabilization programs are implemented and its effect on the elasticity response of different sectors? What is the effect of alternative speed and contraction/switching mixes on the distribution of the costs of the stabilization program, i.e., the effect on particular groups of high political visibility?

II. Trade Policy and Associated Policy Reforms

There was an agreement that trade policy has to evolve toward (a), better and more predictable incentives to exportables; (b), a more neutral trade regime, i.e., more equal incentives to be given to the export sector in relation to the import substitution sector. The issue is basically how to undertake and implement these policy reforms. These themes are discussed below.

1. Alternative Transition Patterns.

As in the area of macrostabilization, the key issue is to identify transition paths that are sustainable, even if they involve some loss of efficiency from a long-run point of view. This means that the short-term costs of the path cannot be excessive for some key groups (which impair on the political survivability of the government) and that the path must show some quick result for some groups so that a constituency of winners can quickly be formed. For example, is it possible to start an export expansion policy before the contraction takes place in the highly protected import substitution sector, so that resources can be quickly pulled into the expanding sector. Lessons of experience and some selective modeling of the key factor and product markets involved in this reallocation (calibrated to specific situation) might throw some light on these issues.

To the extent devaluation is key to a trade liberalization effort the issue is how to have it stick, i.e., to avoid a quick erosion of the initial real devaluation. To the extent a trade reform involves an increase in the price of food (in most cases food is a traded good),

the question that arises is whether other complementarity policies can be implemented to avoid its impact on the poor and on wages. Subsidized target programs might be a solution.

2. Predicting the effects of trade reforms and implications for government investment in infrastructure

Considerable discussion took place in the group regarding the need and the feasibility of predicting the commodities and lines of output that a country might eventually be able to export as a result of a more neutral trade regime. A good example of such an issue is whether to study why African countries have lost markets for primary exports and what, in light of expected market trends, they can and should do to recover market shares. Those opposed argued that: our capacity to predict future events is limited; the direction of most government policies that are needed are rather independent or not very sensitive to a better prediction of the future; and governments have a tendency to overstep the proper bounds of public sector micro interventions and to implement interventions inefficiently, and so we avoid in our research encouraging more interventions. Those arguing for did not disagree with these general points in principle, but pointed out the importance in production of primary agricultural products of public sector allocation and other decisions relating to physical infrastructure, research, extension, credit, etc., as well as crop-specific decisions relating to pricing and taxation. Specific studies suggested were to analyze the nature and intensity of competition from outside Africa so that a better understanding of African exports there could be developed.

3. Issues of exchange rate management

Several issues of exchange rate management were discussed:

- (a) the desirability of having parallel foreign exchange markets to isolate the current account from capital movements, and how to unify these markets if that becomes the objective.

- (b) Complementary policies required to sustain exchange rate adjustments so that its real effect does indeed stick and thus its benefits do not get eroded.
- (c) What is the experience with dual rates for exports as an alternative to equivalent tax/subsidies schemes in promoting particular exports? Under what conditions and constraints can these be effective policies?
- (d) What is the experience with auction schemes for imports? What roles do they play in a process of improving the neutrality and efficiency of a country's trade regime?
- (e) What are policies regarding the proper pegging of the nominal exchange rate to other currencies and the monetary implications (loss of monetary control) of such policies?

4. Infant Industries Experiences

Infant industry protection through import restrictions has been advanced as an argument for some of the present trade policies in Africa. The issues are: (a) how to determine the magnitude and the length of time for that protection, (b) can such protection be obtained by instruments other than import restrictions. By now, many countries have had sufficient experience with infant industry protection to permit an ex-post evaluation of that policy. The issue here is not only whether these industries have matured and can export, but also its opportunity cost in terms of the cost of that protection during the period in which they were producing above world prices. What is important is to document the length of time that was required for these industries to become competitive in world markets. A second issue is whether there might be a case for "infant protection" to new export activities, i.e., to give temporarily to this sector incentives other than a proper exchange rate.

5. Wages and Competitive Advantages

A discussion took place regarding the influence of high wages on the lack of competitiveness of African exports. The question posed by some members of the group was why wages seem so high in Africa, particularly in the formal economy. Other members thought that high wages per se was not the issue, particularly when government wage policy is an important determinant of what level. For competitiveness, what matters is the ratio of the nominal exchange rate to the wage rate (actually this is precisely the definition of the real exchange rate). Obviously, each exogenous increase in nominal wages without adjusting the nominal exchange rate means a decline in the real exchange rate. According to some members, the issue is the low exchange rate in relation to the wage rate, not the level of wages per se.

6. Issues Regarding Debt Management and Foreign Direct Investment

Regarding debt management, two areas were discussed. First, the need to analyze alternative restructuring and reschedulings of the existing debt. The question is what are the net benefits of postponing repayments in relation to its costs in terms of additional interests? In other words, are there substantial gains in postponement - derived by the fact that it takes time for the traded sector to respond to a better set of incentives? The other area is analysis of ex-post African debt experiences, with the purpose of building analytical framework to help countries evaluate ex-ante borrowing strategies. Is it possible to devise new types of contracts that would bring down the costs of downside risks to borrowers?

There was agreement that private direct investment has played an insignificant role in Africa. The issue is what part of these quite low investment flows are due to genuinely low rates of return, and what part

to investors' perception of risks. Does IFC have an important role to play here? What types of international insurance schemes could be designed to lower this risk?

7. Research to improve country parameters for medium and long-run projections

It was pointed out that additional econometric work to estimate country parameters could substantially improve the projection of countries' macroeconomic, balance of payments, and fiscal situations. These scenarios are critical for defining the public investment programs as well as for providing a basis for actions by foreign donors and creditors. Present exercises along these lines are very weak.

Macroeconomic Adjustment and the Economics of
Transition in Sub-Saharan Africa (SSA):
Some Proposals for Research

Group B

by Gobind Nankani

West Africa Programs I Department

Background

1. The Bank's first Africa Report (1981) drew attention to the looming crisis in Sub-Saharan African economies. Since then, the crisis has deepened and now begins to assume the proportions of a disaster. Macroeconomic performance indicators for SSA, reported in the Bank's 1984 report on Africa, tell the story. Per capita GDP rose by 1.3% in 1960-70, 0.7% in 1970-80, but has fallen by about 4% per annum since 1981. Between 1980 and 1982, prices of non-oil primary commodities declined by 27 percent in current dollar terms. Debt-servicing has surfaced as a major problem, and debt reschedulings have only provided a brief respite. External capital flows to SSA have stagnated (public) or declined sharply (private). The recommended agenda for action emphasizes incentives (especially exchange rates and agricultural prices), public/private sector balance, public expenditure programming including infrastructural support, and institutional reform. Of these four areas, the first three fall directly or indirectly within the aegis of macroeconomic adjustment policies, while the fourth, institutional reform, is often a necessary complement to macroeconomic adjustment programs. The upshot of these developments and recommended responses has been a compelling need for SSA to undertake macroeconomic adjustment efforts aimed at the twin aims stabilizing as well as restructuring their economies. The pursuit of these twin objectives makes unprecedented demands on our knowledge of the functioning of SSA economies.

2. These macroeconomic adjustment efforts have to be undertaken in economies with peculiar features: large agricultural or mining sectors and small industrial sectors; high degrees of trade openness; large public sector role; highly underdeveloped and oligopolistic capital markets; dualistic and segmented labor markets; product markets that are frequently oligopolistic; generally skewed income distribution characteristics -- especially intra-urban and rural-urban; a high incidence of capital flight; large parallel markets; and weak political

institutions. 1/ Many of these features are symptoms of market failures as well as of low supply elasticities. Clearly these structural and institutional constraints have a bearing on the attainability of specific (especially supply-side) results often expected from manipulating macroeconomic instruments. Others are policy-induced constraints which, although more amenable to change, must be recognized as shifting constraints in the transition process. There is nothing unique as such about SSA economies (relative to say Latin American economies) having such structural, institutional or policy-induced constraints. However, to the extent that these constraints take particular configurations in SSA, the design of macroeconomic adjustment persons must recognize and address them adequately.

3. The key questions raised by the preceding discussion are: What is the degree of effectiveness of traditional macro-economic policy instruments (fiscal, monetary, exchange/trade, wages and incomes) in SSA economies with their peculiar structural, institutional and policy-induced constraints? What are the results of macroeconomic policies that do not address the coexistence of these constraints? How else should these constraints be addressed -- by integrating macro- and sectoral analyses in analytical models, by particular sequencing strategies, by allowing for longer adjustment periods, by having more limited objectives, by adopting less structured "rolling macroeconomic and structural adjustment programs", or some combination of these?

4. The rest of this note proposes a two-pronged approach to research on macroeconomic adjustment issues: an emphasis on developing macroeconomic approaches that address constraints to adjustment programs in SSA economies, and a judicious selection of case-studies aimed at building a shelf of examples at the empirical end of the spectrum and also at influencing the direction of the above analytical work.

Developing Improved Analytical Approaches to Macroeconomic Analysis in SSA: Some First Thoughts

5. The study of macroeconomic issues in developed economies has undergone many transformations. The Keynesian revolution was followed by the neoclassical synthesis, which was itself accompanied and/or followed by monetarist, neo- and post-Keynesian attacks, and most recently by the new classical or rational expectations attack. The critical point to note is that these controversies have centered around two main issues:

1/ See, for example Lewis (1984); Helleiner (1983); and Killick (1982).

- (i) The nature of the markets underlying the Keynesian IS-LM model of aggregate demand (in particular, the saving/investment and monetary/financial markets); and
- (ii) The relevance or otherwise of aggregate supply considerations, and of the markets underlying the aggregate supply function (particularly the labor market).

6. In contrast, the analytical models underlying the design of macroeconomic programs for developing economies have, with few exceptions, centered on one or more of the following: the traditional IS-LM model, the Meade-Mundell external/internal balance model, and the Polak-based IMF model. In particular, little attention has been given to the two issues noted above, particularly the implications of underlying markets for aggregate demand and supply functions in developing economies. 2/ To the extent that SSA economies have special features (see paragraph 2 above) these implications may differ from those encountered say in Latin America. 3/

2/ This is not a reference to the frequent plea for building neo-Walrasian micro-foundations for macroeconomic models (see Weintraub (1979)). Rather, it reflects a concern that macromodels for SSA economies have been adopted without any adaptation to the constraints that characterize SSA factor and product markets. In this sense, current efforts at incorporating a macro-dimension to CGE-models may be a fruitful line of enquiry if allowance can also be made simultaneously for some of the more important market failures in SSA economics. Similarly, the simpler variety of SAMs may provide a way forward if complex factor and product market specifications become possible. But the first step is probably a large measure of conceptual modeling, as described in para. 7.

3/ Some exceptions may be noted here: L. Taylor (1981) is a move in the right direction but is very skimpy on the characteristics of the underlying markets. In any case, Taylor's tropics are more Latin and semi-industrialized than Sub-Saharan, and omit the crucial aggregate supply dimension. Khan and Knight (1981) develop a revised Polak-type model which introduces a far greater degree of variance and uncertainty in the policy results of traditional macroeconomic policy prescriptions, thus calling for a longer adjustment period and greater circumspection in setting performance targets. Dornbusch's (1980) extensions of the Meade-Mundell model are apparently yet to motivate similar work for developing economies.

7. Improved analytical approaches to macroeconomic analysis in SSA should therefore aim at:

- (i) obtaining a better understanding of the operation of key markets that influence the outcomes of macroeconomic policy instruments (such as the capital, labor and key product markets) 4/ ;
- (ii) modeling aggregate demand and supply (and their components) in SSA economies with insights from (i) being built into these approaches.

Some discussion of how such a research agenda might be developed and given focus would be useful.

Some Suggestions for Case Studies^{5/}

8. The analytical work suggested above will need to be supplemented by case-studies that focus on the experience with and the impact of some of the structural, institutional or policy-induced constraints referred to above. The following is a suggested list of such case studies which may be added to or otherwise modified:

- (i) Macroeconomic Adjustment and the Transition Process in Selected Economies.

The objective of this would be to focus on the macroeconomic adjustment and the transition process in selected SSA economies, within a common analytical framework, along the lines of the NBER Bhagwati-Krueger studies of liberalization attempts undertaken in the early 1970s. The choice of countries would include long-neglected economies -- such as Uganda and Ghana (possibly Tanzania) -- in which the adjustment process has typically been characterized by large, non-marginal, shock-type changes in exchange rates, prices, fiscal and monetary policies, and significant reductions in real urban wages. Other candidates to include would be

4/ For an elaboration of this argument in a different context, see Stiglitz (1984).

5/ In presenting this list, I have benefitted from discussions with and perusal of various suggested topics by colleagues in the Western and Eastern Africa Regions, particularly Ravi Gulhati, Paul Isenman, Tariq Husain and Chuck Humphreys.

economies in which the adjustment needs are relatively more marginal in nature -- say, Kenya, Malawi and the Ivory Coast, and economies that have been relatively well-managed -- such as the Cameroons. Issues such as the supply response or elasticity effects of non-marginal and price changes, the negative effects of expectations and of prevalent parallel markets during the transition period, the distributional implications of adjustment programs etc. would need to be discussed. This comparative study should begin with designing a common framework for the studies, with a focus on macroeconomic issues and key underlying markets, as discussed in paras. 5-7 above..

(ii) The Political Economy of Reform (and Non-Reform)

Many attempts have been made to study the political economy of reform in SSA, 6/ but our knowledge of this area remains highly limited. This subject matter is complex enough to warrant a few highly detailed case studies, each to be undertaken by a team of researchers including, ideally, some of the key players within the countries. Questions such as the following would be addressed: Why do most SSAs have overvalued exchange rates? What is the political and economic process that causes devaluations to be quickly eroded and that prevent needed further adjustments? Who have the gainers and losers been in actual cases, and by what processes have these results materialized? What processes have thwarted the process of tax reform attempts, especially those designed to increase the tax burden on non-wage earners? In each case, the broad objective would be to understand the political economy of reform, while a narrower objective would be to attempt to identify those critical constraints and parameters, if any, that may make the difference between success and failure, and to attempt to address these through the design of adjustment programs. Possible candidates for such studies include Ghana (non-reform) and the Cameroons (continuing reform).

6/

See, for example, Libby (1974), Nelson (1984); for Latin America, see Hirschman (1963).

(iii) The Distributional Consequences of Macroeconomic Adjustment Programs

The poverty and income distributional consequences of stabilization and SAL programs are of increasing concern. Most of the current analyses of this question are unsatisfactory because they are anecdotal, unstructured, lack a framework of analysis, and ultimately rely on the belief that in the long run, the poor will benefit from such reforms. ^{7/} A framework of analysis to undertake such studies is needed, and it would be useful to have this applied to countries such as Kenya, Ivory Coast, and Malawi where there have been relatively longer attempts at macroeconomic and sectoral adjustments through SALs.

(iv) Consequences of Public Expenditure Reductions

Many public expenditure reviews have been undertaken in SSA in recent years. Most of them have resulted in substantial reductions in expenditures. Case-studies of the consequences of such reductions would be useful in improving the content of similar exercises in the future. Once again the supply response and distributional effects of such reductions would need to be emphasized.

(v) Currency Zones and Macroeconomic Adjustment

SSA has many currency zones: the CFA-zone comprises 12 countries tied to the Franc, Liberia use the U.S. dollar, many southern African economies are directly or indirectly tied to the rand. These arrangements have tended to impart a measure of economic stability to these countries. However, there have also been many constraints to macroeconomic adjustment programs arising from these arrangements. Studies of mechanisms (either intra-country or regional) for increasing the degree of flexibility within such arrangements would be useful. EEC experience with the "European snake", the experience of countries such as Panama, Jamaica, Guatemala, and Malta may also be useful.

7/

For a useful but limited attempt to address this question, see Johnson and Salop (1980).

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SOME THOUGHTS ON THE BANK'S ECONOMIC WORK AND RESEARCH
ON INDUSTRIAL PERFORMANCE AND POLICIES IN AFRICA

Kemal Dervis
Industrial Strategy and Policy Division

It is not always easy to draw the line between what is "research" and what is "policy analysis" or simply "economic and sector work". Given the very pressing need of Sub-Saharan African countries for effective and timely policy reform, it is probably fair to say that whatever we do, even if it is classified under a "research" heading, will have to generate rapid pay-off in terms of our ability to provide more effective assistance to borrowing countries. Therefore, without trying to draw a tight dividing line between "research" and other economic analysis, this brief note puts forward some thoughts on priorities for work in the area of industrial policy and industrial performance.

Industrial Incentives and Transition Policies: The Need for More Action
Oriented Work

This is an area where a lot of work has and is being done. Numerous studies have tried to measure industrial incentives and efficiency indicators (ERPs, net effective subsidy indicators, DRCs, etc.). The conventional wisdom was that such studies provide the basis on which policy reforms can be built. For example, tariff reform should follow a detailed ERP study or an investment code reform should be based on a review of net effective subsidy indicators.

These studies and reviews have great educational value. They tend to document or at least illustrate the complex interaction of various policy interventions. They often bring to the surface a picture of

pervasive distortions that are very far not only from the neutrality recommended by neo-classical theory but that also do not reflect any discernible policy objectives or differentiated incentive structure that could be derived from explicit infant industry considerations. When a Mercedes assembly plant has been getting over 100 percent effective subsidy for over a decade, this is simply the reflection of a special interest group able to get for itself special protection, and not the result of some overall strategy of differentiated incentives based on infant industry or dynamic comparative advantage theories.

ERP, DRC type studies document these distortions and can be a very valuable tool in convincing the policy makers that there is need for change. I think that the Bank should continue to encourage and support such studies subject, however, to some major qualifications outlined below.

First of all it is very clear that if the political will for reform is there, one does not need detailed incentive measurement studies to launch the reform process. Much can be achieved on the basis of (i) first principles of economics (ii) a good understanding of the macro-economic situation in the country, and, (iii) a good understanding of the basic industrial structure and its history in the country in question. Take for example a country characterized by a fixed and overvalued exchange rate, high and differentiated tariffs, quantity rationing of foreign exchange and price controls on industrial goods. Assume that the government is convinced that there is need for comprehensive reforms in trade and

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incentive policies but does not quite know how best to go about it, with due regard for transition problems and adjustment costs. It would be a sad mistake if the Bank recommended a two-year ERP study, and held serious work on defining a desirable reform package hostage to the results of this study. Work on transition policies can and should start immediately and while it definitely is a considerable advantage to have detailed measurements of productivity and efficiency available, much can be done without such detailed information. We should devote much greater effort, to developing policy packages that can be put into place without detailed micro-level information but that nonetheless "fit" the needs of particular countries at particular stages of the liberalization process. In INDSP we are going to review recent experience with liberalization attempts including experience with foreign exchange auctions, allocations according to "quick and dirty" computation of short-run domestic resource costs, across the board import surcharges to replace quantity rationing, export subsidies to compensate for anti-export bias and other "second or third" best components of possible transition policy packages. Over the next twelve months we will allocate considerably more resources to reviewing past experiences with industrial policy reform including the often neglected institutional details, and to helping design practical approaches to the difficult transition policies that so many African countries must adopt. More emphasis will be given to the political economy of the reform process and to practical lessons that can be learned from the Bank's own operations.

Designing "Optimal" Policies: Infant Industries and the Debate on Selective Promotion

Greater liberalization, more private sector participation, less anti-export bias, a reduction in the usually very large variance of effective protection, greater autonomy and, one thereby hopes, efficiency in public sector enterprises, these are all objectives on which we can easily agree. On a hypothetical scale from 0 to 100, where 100 represents maximum government intervention and 0 none at all, most African countries are likely to fall in the 60-90 range and we would like to bring the index down. In fact, the index can be thought of as a matrix, with different columns representing different types of intervention. The composite intervention index is too high in most countries and there is a consensus that it should be reduced.

There is no consensus, however, on what constitutes an optimal policy vector. In Chile, at some point in the recent past, a uniform across the board 10% tariff was established on all goods, a policy coming very close to the "ideal" put forward by the purist wing of the economics profession.^{1/} On the other hand, many economists inside and outside the Bank still argue that there can be merit in some selective promotion based on infant industry type considerations.

In my view, defining an "optimal policy vector" is not a priority concern in most cases, because people with quite different views on how an

^{1/} This particular experiment did not last long. At present tariffs are higher and differentiated.

optimal policy vector looks can still agree on desirable transition policies. The point is that there is broad agreement on the direction of change and that such agreement is, in practice, sufficient to define the "next steps" for policy reform. There is no need for the Bank to define some "ultimate theology". In fact too vigorous a search for complete consensus is likely to be counterproductive and divisive for the institution and its clients.

Nonetheless, in a longer term perspective and within the framework of a pragmatic approach in the pursuit of policy improvements, there remains a need to address the infant industry debate and bring it from the realm of ideology to the realm of empirical economics. To do that, we need to know more about the behavior of productivity over time and try to isolate better the determinants of total factor productivity growth. The infant industry argument rests on the potential for very rapid productivity growth during the initial phases of an industry's growth in a particular country and on the belief in the existence of market failures, particularly capital market failures, that prevent unaided development of these industries. We should have a better understanding of the quantitative significance of these factors to inform this debate. If and when, at least in some cases, we get out of crisis and transition management, to helping design longer term development strategies, a better evaluation of the empirical significance of the infant industry argument would be very desirable.

Entrepreneurship and Management

Many micro-level studies tend to demonstrate what experienced practitioners already seem to know: good entrepreneurial talent and/or good management can create wonders even in the midst of poor average performance and bad overall policies. We have to advance on many fronts and incentive policy is not the only battlefield. Good policies and a healthy macroeconomic framework do encourage good management and more entrepreneurial activity. But there may be more to it than just incentives and trade policies. Ethnic, regional and political factors may be very important. The role of education, training and the role of direct foreign investment and participation need to be better understood. There may be value in looking for entrepreneurial success stories in Africa, document them, and analyze the determinants of such success. National entrepreneurial and management talent is perhaps the scarcest of all factors in Africa, and we need to understand better the supply curve for this factor. The efforts of economists should be linked to the efforts of researchers from other disciplines to achieve progress in this area. Some intensive, micro-level work focusing on the determinants of the supply curve could have substantial practical returns. Research in this area is very difficult and time consuming, but it may be worth launching a special effort to identify African "industrial success stories". The lessons that one may be able to learn from a careful comparative analysis of, say, a dozen success stories, could be a valuable complement to more conventional types of sector and incentive analysis. It may help reduce the excessive reliance on the "State" as the only possible "entrepreneur", and also strengthen the design of our lending to small and medium scale enterprises.

I think we have to be creative and explore new avenues for the analysis of African industrialization and development. Demonstrating methodological skills, while necessary, is not sufficient. Under tight resource constraints we must zero in on the most essential problems and constraints and try to widen the limits of the possible.

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IV. REPORT OF GROUP C: RESOURCE MOBILIZATION AND PUBLIC ECONOMICS

INTRODUCTION AND GENERAL OBSERVATIONS

1. The agenda for our discussion comprised four topic areas, namely:
(i) public sector expenditures; (ii) taxation; (iii) public enterprises; and
(iv) financial intermediation. In our discussion of each of these topic areas we reached a large measure of consensus regarding both what we thought to be research priorities and what we believed to be researchable.

2. A few observations about common themes and approaches that cut across our discussion of the four topic areas: there seemed to be a greater relative emphasis on issues concerning the efficiency of resource use than on those concerning resource mobilization. Our selection of research topics emphasized fact finding, experience evaluation, and diagnostic analysis as distinguished from developing new methodologies or undertaking rigorous empirical (including econometric) work. Many of our recommendations call for cross-country work, in particular on studies identifying "best practice", success cases and workable approaches (with respect to both policy and institutional arrangements). It was observed that most of our recommended studies call for a "managerial" rather than academic approach to identifying norms and success cases (e.g. with respect to budgeting processes, innovative ways of mobilizing private savings, the use of management contracts, etc), particularly in African countries but also in other (mainly least-developed) countries where similar constraints apply.

3. For the most part, our research proposals fall into what came to be classified as "Category II" research, i.e. the identification of what has

"worked" and how to convince governments that lessons of experience gained elsewhere may be applied in their countries. Our group reached agreement at the outset we would not focus on "Category I" type research, i.e. that geared to convincing ourselves that neoclassical rules apply. In a few cases our proposals fall under "Category III", defined as studies directed at improving our understanding of the nature of Africa-specific constraints and behavioral characteristics.

4. There were a number of issues in the fields of resource mobilization and public finance which the group felt should be researched but which were neither much discussed nor included in our inventory because these topics fell within the domain of other groups. Among these were the following: agricultural taxation; the role of agricultural marketing boards; government wage policy; fiscal implications of trade liberalization and tariff structure rationalization; constraints to macro economic adjustments; problems posed by the existence of currency zones; the incidence of expenditure reduction in countries with stabilization programs; and others. Some of these warrant inclusion in the overall list of research priorities and should not be allowed to "fall between the cracks" simply because one group may have (wrongly) assumed that they were being discussed and proposed by another group.

PUBLIC EXPENDITURE

5. We proposed cross country, comparative, diagnostic studies of how public expenditure decisions are actually made and why. What are the determinants of good and bad decisions? Some African and other poor countries do so much better than others in their public expenditure planning, investment

programming and budgeting under similar sets of constraints. What are the common constraints (political, procedural, institutional, other) and what are some replicable best practices? A related question to be investigated is why some countries have been more successful than others in rendering their decision-making processes relatively immune from egregious and erratic political interventions. Why are the internal incentives seemingly so perverse, and what can be done to get them right (or at least less wrong)?

6. Another related question is how and why some African governments have been more successful than others in their cyclical management, e.g. avoiding spending and borrowing binges following terms of trade gains? In what specific ways should the bad performers emulate the good performers in future? (See Mr. Gulhati's recent paper on this subject).

7. Still another related question is: where and why has technical assistance had some success in helping countries to improve their public expenditure decision-making processes? What are the lessons of experience here?

8. In many African countries, foreign aid finances a large proportion of total investment expenditure, and in some countries a substantial proportion of current budgetary expenditure as well. With various donors having their own objective functions, and in the absence of real aid coordination, there is a lack of fungibility of resources and special constraints stand in the way of centralized, coordinated, budgeting and investment programming. We proposed research that would focus on evaluating, in a cost-benefit framework, the benefits of aid coordination and the costs (disbenefits) of the lack of

coordination. This subject remains to be analyzed a systematic way, both within and across countries. Objectives of research in this area would include "consciousness raising", identification of lessons of experience, and the formulation of actionable recommendations to governments and donors alike.

9. With respect to the efficiency of public expenditures, the group recommended preparation of "an encyclopedia or parameters" i.e. a compilation of comparative data on a variety of units costs, cost ratios, and other "efficiency indicators". Such an encyclopedia would itself facilitate the identification of both success cases (that might be replicated) and horror cases (that would call for urgent attention and rectification). Among the expenditure "norms" to be identified on a cross country basis would be the so-called "r" norms, i.e. the ratios between investment and recurrent expenditures. The outlying cases would warrant special investigation to ascertain why they were so outlying, for better or worse.

10. Stabilization funds (e.g. coffee and cocoa funds) are pervasive in Africa. Some have been reasonably well managed and have more or less pursued their intended objectives but many have not. What are the lessons of experience?

TAXATION

11. It would be helpful to have some research on the question of how the level or composition of taxation has affected private sector incentives and savings efforts? A similar question can be posed with respect to the effects of various kinds of taxes on parastatals. What appear to be the effects on

production, incentives, etc. of increased taxes at the margin, -- begging the question of the optimal level of total taxation (which requires one to deal with the parallel question of the optimal level of expenditure).

12. The group also endorsed the proposal (set forth in Mr. Squire's memo of September 27) to do econometric work (using pooled, cross sectional time series data) to illuminate the effects in Africa of tax structures on GDP growth, the composition of GDP, aggregate and private savings, and other variables. It was recognized, however, that for many African countries the quality of data on private savings (and for some the national accounts data) was probably too poor to permit a meaningful analysis. Nevertheless, it was recognized that African countries generally rely too much on the taxation of international trade. We therefore proposed a cross-section study that would illuminate how African countries may most effectively and efficiently broaden their tax bases, given the kinds of institutional, structural and administrative constraints that are faced in Africa.

13. The incidence of taxation and subsidization on income and interest groups is a subject about which we know too little but which is relevant to the political economy of reform and to our concerns about equity. Related questions to be investigated at the micro level concern the determinants of the volume and composition of evasion and smuggling. A cross-section study of techniques of minimizing evasion in African countries would be useful.

14. Where and why and how has foreign aid served to substitute for or even depress domestic savings, and where and why and how has it stimulated domestic savings? What are the lessons of experience? This is not really a

taxation issue but we discussed it under that topic heading since foreign aid may weaken the public sector's efforts to mobilize resources through taxation.

15. One finds in Africa (as elsewhere) a variety of taxes and subsidies (both explicit and implicit, i.e. as affected through controlled prices or multiple exchange rates, some of which are overvalued) which fall on the same producer and investor groups. For example, agricultural outputs are taxed (as through low producer prices) at the same time as inputs (e.g. fertilizers) are subsidized. Yet there has been little research (a la Tolley/Thomas, for example) to illuminate the efficiency costs which arise in such situations and to design second best solutions which maximize efficiency subject to the kinds of structural and administrative constraints prevalent in Africa. We recommended more such research.

PUBLIC ENTERPRISES

16. We recommended research on the following topics:

- (i) Comparative studies to ascertain (both within African countries and where appropriate in other developing countries) what has "worked" and why in terms of forging effective "interfaces" between public and private sectors in the production of goods and provision of services (including public goods). What kinds of effective practices (e.g. where there is competition between public and private sectors, or where the private sector provides public goods) are capable and worthy of replication in African countries?
- (ii) Comparative studies of various modalities of centralized vs. decentralized supervision and monitoring by the state of public enterprises, (including experience withholding companies, contrat-plan, etc.) and decision-making on enterprise investments;

- (iii) A study of experience with management contracts;
- (iv) The experience in African countries with administered prices, with particular respect to ascertaining where, how and why some administered prices regimes are more effective, efficient and flexible than others;
- (v) A comparative study of experience with divestiture of enterprises from the public sector;
- (vi) Development of model(s) of prototype public enterprise behavior, i.e. the formulation of an analytic framework that would reveal how this behavior is conditioned by incentive structures, vested interest groups, and various social and political as well as economic parameters. A positive theory of behavior of African parastatals; and
- (vii) A normative theory of behavior, v.z. "In Search of Excellence" in African parastatals.

FINANCIAL INTERMEDIATION

17. One heading under this category would be the mobilization of financial savings. The group believed that it would be useful to look at the various ways and means by which African countries have mobilized, through a variety of instruments, financial savings. Among the questions to be answered by such research are: What range of specific financial instruments has been used? What has determined the success or failure of these instruments in African settings? Somewhat broader but related questions are: How to get financial deepening? What are the specific impediments? Here again, what is called for is a set of micro studies oriented to identifying relative success cases and assessing their potential for replication.

18. There was general agreement in the group that insofar as African governments are very interventionist in the allocation of credit, (i.e. in formal markets), it would be useful to have more research on the nature of the imperfections of African credit markets, and descriptive/diagnostic analyses of how those markets really function. Among the questions to be researched are: Which kinds of credit allocations, programs, policies, and modalities have been relatively successful and effective vis-a-vis unsuccessful and ineffective? Why and why not? What determines which groups get access to credit and which do not, and how have output and other variables been affected by credit access? How in fact do farmers finance their production, and what is the record as between those who receive credit and those who do not?

19. One of the weaker areas in Africa is the soundness of banking operations. African banking operations and credit programs are beset with high arrears, low repayment rates, and non-performing loans. Among the questions to be researched are: What are the common denominators of those banking operations and credit programs that are relatively successful? What is the plight of foreign-owned commercial banks in Africa? What most needs to be done (that is really feasible in Africa) to improve bank supervision?

20. We also proposed a study on the costs of financial intermediation. Why is it that intermediation costs in Africa are so high, and what are the lessons of experience from relatively lower-cost operations that would help frame programs and policies to bring down these costs?

V. REPORT OF GROUP D: EMPLOYMENT AND HUMAN RESOURCES

What we did not discuss

Three categories of subjects we did not discuss, having purposefully eliminated them:

1. How research should be managed in the Bank
2. Whether or not it is sensible to have a research "program" on SSA (rather than letting a thousand flowers bloom)
3. Issues of interest on which we saw no researchable topics with policy implications (e.g., migration), and issues of importance to our sector where the policy-oriented researchable topic would have to come from another group (e.g., problems in the labor market due to overvalued exchange rates, an issue for the the macro group).

What we did recommend -- some general themes

- Research outside of Africa to understand Africa
- Particular methods of research, e.g., experiments
- More attention to the generation of the sorts of data, or quantitative information needed for policy making purposes on a continuing basis, and needed to improve the incentives for researchers to do policy relevant research on Africa.

Rapporteur's observations on the discussion as a whole, in terms of Churchill's categories

Churchill's three categories of research are:

1. research to convince ourselves economic rules apply in Africa
2. research to convince governments to enact reforms, of two types:
 - (a) to show costs of "bad" policies
 - (b) to analyze resistance to policy change so as to know levers to push and pull to encourage
3. research to improve our understanding, on issues where we don't know what to tell governments.

- We eliminated discussion of category 1 (migration example again)
- We talked about the need for 2b, e.g., "pressure group" research, but had few concrete ideas on how to proceed (hire political scientists?)
- Many of our researchable topics are in category 3. In public services such as health, family planning and education, there is much to be done to improve efficiency, given existing government objectives. Even where there was an element of category 2, (#2) category 3 (#3) would also enter in, as the sector-by-sector descriptions below demonstrate.

Health

1. Resource allocation issues (#3). How can services be delivered in a more cost-effective way? We have good questions, reasonable methods for addressing those questions. Carefully-designed research experiments (including in the context of projects) are one way to proceed.

2. Resource mobilization issues.

- (a) Pricing policy and cost recovery: research to show there is rationing (#2); to have better quantified estimates of price elasticities for different types of health services (#3); to investigate the basis for and analyze failures of risk-sharing schemes (#3).
- (b) The public-private sector mix: research to show willingness-to-pay (#2); to explore how to better utilize private suppliers, e.g., is there a cost-effective way to train traditional midwives to provide antenatal and postnatal care? (#3).

Education^{1/}

1. Resource allocation issues (#3). Research on ways to change the input mix to get more bang for the buck e.g., are more textbooks a substitute for less teacher training? Research on the determinants of student achievement, on literacy retention.

2. Resource mobilization, especially pricing policy and cost recovery. Analogous to health, e.g., research on willingness to pay (#2); on role of private sector (#2 and #3); on student loan schemes (#3). Research experiments are one way to study loan schemes.

3. Cross-sectoral issues. Effects of education on agricultural productivity in Africa (#2 to convince, #3 to clarify how and why and under what conditions education of varying types and amounts makes). Effects of changing pricing policy in education on the wage structure.

^{1/} Many researchable topics are outlined in the background note by Psacharopoulos. His note is more organized and clear than was the discussion.

4. Other issues raised: How much of public budget should go to education? Are literacy data any good? Do we overstate the returns to primary compared with tertiary education?

5. A special note on training. There was a long discussion on whether we should (and how we would) estimate a rate of return to the training component in every Bank project. Consensus was there should be a better way to evaluate training components -- but no researchable topic emerged.

Infrastructure 2/

Our chairman raised the question, why is there so little support for urban projects with high rates of return, projects such as telephone systems and traffic management? Working group members seemed to feel the answer was not a rural bias in the Bank, but the fact that returns to certain types of projects (roads included here) have been high ex ante but low ex post. The discussion raised several topics for research:

- Research to quantify the costs of poor infrastructure (#2), e.g., what are the efficiency losses to the economy when each large firm has its own electricity generator, when skilled people sit in traffic in Lagos?
- Research to uncover why some telephone and rail systems are better than others, by doing comparisons. (Strong element of #2 -- comparisons would be likely to show benefits of contracting with private sector to provide services.)
- Comparative study of how road maintenance is financed (#3).
- Research on the underground economy. Would improved transportation and communication systems in Africa allow the free market underground economy (border trade) to blossom? Would that loosen government's tendency to overregulate? (#2)
- Research to understand underlying pressure -- political and economic -- which undermines projects that look good ex ante.

Wage Policy

Group agreed the source of labor market problems is usually distortions in other markets -- credit and land. Thus discussion was confined to researchable topics addressing policy issues in the public sector of obvious relevance in Africa, where public sector is a large portion of wage sector.

2/ This discussion suffered, even more than the others, for lack of a critical minimum number of people (say 2) with some research experience on the topic.

Descriptive work (#3). Research needed on forms of compensation (fringe benefits etc.); public sector; trends in recurrent (mostly wage bill) vs. capital spending of governments.

Analytic work (#3). Effects of public sector pay policy on private market; study queues for specific jobs; consequences for public wages and employment and private wages declining government revenues.

Why distortions in public pay? Work on historical roots of policies, pressure groups.

There was also brief discussion of a potential problem for Africa -- poor credit market discourages general skill acquisition, and high turnover discourages firm-specific training. 3/ Basic research needed.

Population

Consequences. Work on consequences of rapid population growth of the doomsday sort is not needed. But certain other types of work are.

1. Technology choice and labor absorption 4/
2. Put spatial dimension on a 15 year projection of population -- implications for transport development, environmental management, urban management, agricultural research. (There was not a consensus -- some in the group questioned the policy implications of predictions, even if the predictions were accurate).
3. Implications of rapid population growth for income distribution, e.g. landlessness in Africa. (This might have implications for land market policies -- #2.)

Determinants

1. Future work on the determinants of fertility should emphasize the effects of program inputs on household decisions; this boils down to certain kinds of operations research, which could in some instances be done in the context of projects. See operations research below.
2. How to make education more likely for girls? (Not clear this is under population category.)
3. Is family structure different in Africa? (#3) (Hard to see policy implications.)

3/ See Collier note for careful setting out of the problem.

4/ See recent paper by Jeffrey James of Boston University for Rockefeller Foundation Conference on Population Growth and Labor Absorption in the Developing World.

Operations research in family planning

1. Resource allocation issues (#3) -- what "package" of program inputs is most cost-effective? How integrate with health?

2. Resource mobilization issues

(a) social marketing (#3)

(b) to mobilize political resources, need to demonstrate demand for family planning services among certain groups: demand for spacing methods; adolescent needs.

PRIORITIES FOR BANK RESEARCH ON POPULATION,
HEALTH AND NUTRITION IN SUB SAHARAN--AFRICA

Research priorities in these sectors should reflect several key themes in current lending program priorities. One is strong emphasis on population, and on finding and fostering ways of helping to slow rates of population growth.^{1/} Another is recognition of the importance of linkages between population and developments in health and nutrition, and of the need to invest in improving health and nutrition as a component of a sound population lending policy.^{2/} Recent reaffirmations of these points commit the Bank to doubling its population and related health and nutrition lending in the next few years.^{3/} A third key theme stresses searching for more cost-effective approaches in the design and delivery of services, given the pervasive misallocation, poor management, and weak institutions of these sectors in SSA at present. A fourth focuses on resolving persistent problems in the financing of services, through greater self-financing where possible--especially in health, the largest resource user of the three sectors and potentially the most able to achieve greater cost recovery.

Following sections discuss the implications of these themes (and of conventional other considerations--such as constraints on the researchability of some issues) for each sector.

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- ^{1/} Summaries of lending program priorities are available in two Strategy Papers, for East Africa and West Africa (Population, Health and Nutrition Department, May 1984, mimeos.)
 - ^{2/} See discussions of this issue in World Development Report, 1984 and 1980; Accelerated Development in Sub-Saharan Africa: An Agenda for Action, 1981; and Toward Sustained Development in Sub-Saharan Africa: A Joint Program of Action, 1984.
 - ^{3/} Addresses by A.W. Clausen in Nairobi, July 11, 1984, and Mexico City, August 7, 1984.

1. POPULATION

The Bank has been involved in research on population issues for more than a decade now. Much has been learned in that period,^{1/} but major gaps remain in areas of particular significance for supporting development and expansion of effective policy and program initiatives. If efforts to substantially increase Bank lending for population are to have lasting impact, then research closely related to these operational concerns should take precedence for the moment over efforts on general conceptual questions. For SSA in particular, three areas need to be emphasized: consequences of population growth and demographic change, social and economic determinants of fertility, and "what works" in family planning.

1.1 Consequences of Population Growth and Demographic Change

Further work on elucidating the consequences for development of population trends is needed to help build broader interest among SSA countries in addressing population issues. Family planning remains sensitive in much of Africa, but governments are increasingly concerned about what the developmental consequences of population growth may be. More rigorous analysis of consequences, particularly in four areas, would help considerably:

- a. impact on maternal and child health of high fertility (early onset of pregnancy and multiple, closely-spaced pregnancies)--which can be estimated more reliably now through World Fertility Survey and other recent data;
- b. impact on employment and implications for broader economic policy, considering roughly "how much" labor could be productively employed even under efficiency-oriented economic policies;
- c. impact on agriculture, especially land use and implications for product mix, increased inputs, and technology;
- d. social consequences arising from rural-urban migration, broader migration, and urbanization reflecting, inter alia, population trends.

The complexity of these issues, variation among countries, and difficulty of generating adequate data suggest that research on them should often focus at the country level and that it should be pursued cautiously.

^{1/} See review by S. Cochrane, "World Bank Research on Population Problems," Research News, Fall 1981, Vol. 2, No. 3

1.2 Social and Economic Determinants of Fertility

As family planning programs have begun in Africa, it has become painfully clear that public demand for family planning is weak--desired family-size is generally high. The broad social and economic influences on desired family size (poverty, education and other opportunities for women, expected child mortality) are known generally. But specific information on Africa and its disparate countries is very limited. More work is needed particularly on:

- how precisely to improve women's income-earning ability and education and what the fertility impact (and other results) may be;
- how economic incentives for family planning acceptors or their communities may work, though this may be very sensitive.

Another issue hard to research, but emerging as a prime concern to policy-makers, is: what constitutes appropriate public-policy influence as distinct from coercion?

1.3 "What Works" in Family Planning

To expand population and related health lending sharply over the next few years, much better information is required on "what works"--and on how to phase and scale-up programs. This should be the main focus of current research.

In Africa, as a practical matter, governments will be the main source of modern family planning (and health care) for some time, until income levels improve enough to sustain a broader private market. At present, family planning is usually linked with maternal and child health care. That is what these governments and their constituents want. It also makes programmatic sense, since maternal and child health and family planning are naturally tied. Where child mortality is high, particularly in Africa, parents are seldom interested in family planning until they see evidence that their children will survive. Lowering mortality has proven possible with simple and inexpensive health programs that deal with common respiratory and diarrheal infections, malaria, and measles. On the other hand, delaying pregnancy until the mother is out of her teens, and spacing births at least two years apart, can strengthen mothers and infants enough to reduce child mortality substantially. Finally, family planning often requires some backup from the health system.

There are thus practical reasons for providing family planning in conjunction with other basic maternal and child health care.

But how are such packages to be chosen and actually delivered in African conditions, with very limited management capacity, medical personnel, transport, and communication? Research has demonstrated that:

- providing a variety of family planning methods promotes acceptance;
- outreach workers backed by a few clinics can deliver pills, other contraceptives, simple medical advice, and basic medicines (e.g., oral rehydration salts or chloroquine) safely, effectively, and at low cost even in rural areas.

More extensive research is needed on:

- how much territory and how many people outreach workers can reasonably expect to cover;
- the pros and cons of different health and family planning service packages;
- what management systems work best at local, clinic, or more central levels;
- what training most assists outreach workers, clinical staff, or managers.
- the cost structure over time and the capacity for self-financing of such service programs.

Such research can be carried out in the project context, by including "operations research" component, or independently to pave the way for projects. A first key step is reviewing experience in Africa--that is now being done.

2. HEALTH

Bank research on health for SSA should serve several purposes. It should support efforts on population (e.g., by adding greater depth on issues concerning integrated family planning and maternal and child health services). It should support health projects and sector work, and related policy dialogue. And it should assist, when needed, in addressing health-related questions arising in other sectors (e.g., the impact of irrigation projects on the incidence of schistosomiasis, the benefits of water supply and sanitation improvements for health, or the relationship between health and productivity).^{1/}

To do this, initiatives are required on a wide range of topics, most of which fall within three broad headings: resource allocation, resource mobilization, and health science issues.

2.1 Resource Allocation

Certain precepts are widely held at present about how resources should be allocated within the health sector, both in SSA and elsewhere. They include: (i) that primary health care, somehow defined, should be emphasized over hospital-oriented secondary and tertiary level care, (ii) that low cost, low technology preventive services should be stressed relative to curative care, and (iii) that countries should press forward in several key areas simultaneously (e.g., in immunization, oral rehydration therapy, other maternal and child health care, and malaria control--to mention just a few). However, when one gets down to details, opinions differ sharply on where countries should be putting their resources currently, and the evidence available on all sides is universally weak.

Crucial questions remain unresolved about allocation (i) among different components of a given service (e.g., in maternal and child health care, how much for immunization versus oral rehydration therapy and other activities?), (ii) among services dealing with different health problems (how much for maternal and child health care generally versus malaria control?), (iii) among different elements of the delivery system, holding constant the "package" of services to be provided (how much for village outreach versus services at health facilities?), and (iv) among different technologies (how much for chemotherapy versus preventive measures in schistosomiasis control?). On all these dimensions, estimates of even the simplest forms of cost-effectiveness indicators (cost per death averted, or per case averted, or per healthy day of life gained) are either non-existent or extremely uncertain. Data on costs are poor; and figures--where they exist--on the health benefits (reductions in mortality

^{1/} Bank involvement in the health sector is of more recent origin than its population work. The first loan for health per se was approved in 1981. Research on health, other than as an adjunct to other sectors, began in 1983.

and morbidity) vary immensely, severely limiting possibilities for talking sensibly about other benefits (increased production, income, and consumer welfare).

Research cannot eliminate this problem entirely, but it can help. Methodologies have been developed and tested for generating improved estimates of costs and effectiveness within a systematic framework applicable for all diseases, services, and delivery systems. Experiments using these approaches in Ghana and Malawi, as well as countries in other regions, have demonstrated that they can be applied in the SSA context.

Moreover, such research would not be without potentially significant policy impact. Despite institutional and political constraints, the scope for change in resource allocation within the health sector is larger than it first appears. The implications for efficiency and improvements in health status are at this point only vaguely discernible, but might well be considerable.

Consequently, one priority for health research should be a major effort to obtain more and better quantitative information needed for putting allocation choices within the sector on a sounder basis, through analysis of a broad selection of the principal diseases, service options, and delivery system alternatives.

2.2 Resource Mobilization

The issue of how health services should be paid for, and what should be done about chronic gaps between ambitious public goals and constrained public expenditure for health, are now very much in the forefront among SSA country health officials. Less well appreciated is the further fact that insofar as health care consumes scarce public and private resources including foreign exchange for pharmaceuticals, persistent misallocation and ill-conceived financing policies in the health sector can limit opportunities for progress in other sectors. Also, although uncontrolled escalation in health care costs is not yet as much a problem in SSA as in the developed countries, few countries have faced the fact that it could become so in future if not anticipated early.

Recent Bank reviews of health financing questions have suggested that new policies aimed at dealing with these issues should include, among other things, greater self-financing of the sector through expanded cost recovery from users by means of user charges and, where possible, risk-sharing devices (which can range from small, community-based groups to more formal arrangements--e.g., through agricultural estates or other employers). However, much remains still to be worked out about the efficiency, equity, administrative and other aspects of such policies--both in general and for the SSA context specifically--before adequate, practical guidance can be provided. As part of this work, more needs to be learned about the roles of price (including time and travel costs) and

other factors (especially, the quality of services offered) in influencing demand for health care in SSA. In addition, questions about the organizational composition of the sector (e.g., should alternatives to public provision of services be encouraged?) deserve careful examination.

Research on these topics is far from easy, but recently completed analyses in Mali and outside the region have shown it can be done. Household survey data collection in this field has been carried out productively even in very primitive conditions.

Thus, a second priority should be thorough exploration of resource mobilization questions, focusing on cost recovery, user charges, risk sharing, and organizational composition.

2.3 Health Science Issues

The Bank currently contributes about \$2 million annually to support research on the complex of biological, chemical, medical, pharmacological and related disciplines involved in the identification and development of new health technologies. The vast majority of that sum goes to the Tropical Diseases Program at the World Health Organization.

Given this already substantial commitment, and the much lower levels of current funding for resource allocation and mobilization studies, no new initiatives on health sciences issues are recommended at present. Other institutions active in health have greater comparative advantage to those issues, whereas the Bank is one of the few places where economic and policy work on health care in developing countries is being done.

3. NUTRITION

Much has been written about research on nutrition--what has been done and what should be done. A recently completed review of the Bank's experience in the sector, both in lending and in research, provides a comprehensive update.^{1/} In addition, the Bank has for several years been a leading participant in a consultative group on nutrition that, under the auspices of the UN, has involved a large number of international institutions and donors in setting research priorities and supporting new studies.^{2/} Among the areas identified by this group, the Bank has sponsored analyses on (i) linkages between nutrition and mortality, (ii) approaches to nutrition education, and (iii) the nutritional consequences of agricultural development projects.

Looking to the future, and leaving aside issues already stressed by other sectors (e.g., food security and production questions by the agriculture sector, and health and nutrition linkages by the health sector), research for SSA should focus on two principal areas.

First, further work is needed on the nutritional consequences of shifts from subsistence production to surplus production, whether the shift is to commercial food crops or to non-food crops. Analysis should be done of the effects on local food prices and availability, on household consumption/expenditure patterns, and on intra-household distribution of nutritional requirements and consumption of the shift to surplus production. This work also might look at whether these effects differ depending on whether the shift occurs spontaneously or as a result of external initiative (say as part of direct government intervention).

Second, more needs to be learned for the SSA context about how changes can be achieved in traditional child rearing practices that contribute to malnutrition among the under five cohort. Substantial reductions in second and third degree malnourishment, even given the presently high incidence of extreme poverty and low levels of food production in SSA, are possible if improvements in feeding, weaning, hygiene, and disease care habits and attitudes can be brought about. Yet conventional nutrition education programs have had little impact. Research in this area should concentrate on identifying cost-effective new methods of encouraging improved practices (e.g., through protocols at health centers or support by community leaders).

There does not at this time appear to be a case for work on supplemental feeding programs, given the severe constraints on resources that would be needed to support such efforts. However, some attention conceivably might be devoted to another area--concerning famines. When famines occur for whatever reason (drought, war, etc.), those children who survive are at risk of long term subnormal physical or mental development. More needs to be known about what can be done, during the famine or later, to minimize these risks.

^{1/} "Nutrition Review," Population, Health and Nutrition Department, April 1984 (mimeo).

^{2/} See also A. Berg, Malnourished People: A Policy View, June 1981.

EDUCATIONAL RESEARCH PRIORITIES IN AFRICA

It has now become fashionable for the following sentence, or a variation of it, to appear towards the end of documents setting out development strategies in non-industrial countries: "...Also, increased attention should be given to human resources". Whether this recommendation is actually translated into a human capital investment program or simply paid lip service, will have major implications for the long term development prospects of the countries in question.

In the case of Africa there exists evidence that the low level of human resources relative to other inputs is responsible for much of the region's economic misery and, more importantly, it provides a bleak prospect for the success of other projects towards long term growth. Only a myopic development analyst would disagree that the increase in the stock of human capital in Africa should be accelerated. The issues that are still open to analysis are: first, what kinds of human capital should be provided; second, what policies should govern the human capital expansion; and third, how such investment would be financed?

We already have a body of knowledge on such issues, although most of the findings come from case studies in non-African countries. What follows is a brief statement on where we stand in each of the three main research areas and a series of recommended Africa-specific studies.

It is argued we know relatively more on the individual, what-kind-of-project side, than on policies and finance. Hence the research agenda should mainly focus on the latter.

A. On Individual Projects

1. State of the Art. We confidently know that investment in the lower levels of education is socially more profitable than investment in higher levels. We also know that general curricula are cheaper to provide relative to vocational/technical specialties and that the graduates from the two types of school perform equally well in the labor market. And that the provision of textbooks significantly contributes to learning achievement.

2. Africa Priority Studies

(a) Low-cost primary school provision. Given the low level of literacy and the rapid rate of population growth, this will be the number one challenge for educational investment in Africa. Can the school calendar be altered? Could the existing facilities be used more intensively? Are existing educational standards too high? Is there a minimum (threshold) level of schooling that assures literacy retention? We advocate small scale replication of the Egyptian Literacy Study (RPO 671-55) in four sub-Saharan countries.

(b) The determinants of student achievement. There has hardly been any rigorous study of learning achievement in Africa. We would like to know, for example, what room there is to move towards more cost-

effective educational input combinations without loss of learning. We recommend two sets of studies in this respect. First, two quantitative, production function analyses of the determinants of student achievement along with the costing of the marginal effect of various factors (including better management and new technologies). Second, several descriptive case studies of what constitutes an "effective school".

(c) The norms and loci of specialized training. What is the economically most effective way of providing, say, "middle level technicians"? To what degree should vocational training take place in the main education stream, in specialized schools or on-the-job? We are not aware of a single study that has fully addressed this issue in sub-Saharan Africa. Hence we recommend that two case studies be conducted in this respect.

(d) The role of education in rural and informal sector employment. The share of informal sector employment in Africa will necessarily increase in Africa in the years to come. Yet we know little on how graduates engaged in self-employment activities (including farming) perform in that "market". The existing evidence in this respect is restricted to Asian and Latin American countries. Hence we recommend replication on a smaller scale of the farmers' education and informal sector studies (RPO 671-49 and RPO 673-26) in a number of selected African countries.

B. On Educational Policies

1. State of the Art

Our "knowledge" here is restricted to the suspicion (if not common sense) that the policy environment in which individual projects take place can determine the eventual success or failure of such projects. To the extent that Bank operations will in the future be more policy-oriented, we wish to know more on Government policies on education and the way such policies score on a variety of socio-economic indicators.

2. Africa Priority Studies

(a) Educational Policies and Outcomes: A Comparative Study. We have little information on what educational policies actually are in African countries, let alone their outcomes. This study would have a double focus. First, to compile the set of "educational plans" in all countries of Sub-Saharan Africa and document the extent to which stipulated policies have been actually implemented. Second, to attempt to trace in a comparative sense any differential effects of alternative policies on a set of indicators, like the rate of human capital formation and the equitable distribution of educational opportunities. The study would follow the recent World Bank "Comparative Studies" methodology (e.g., RPO 673-31) i.e., it would be more historical/qualitative than quantitative, and executed in close cooperation with scholars in the countries involved.

(b) Social-Private Distortions Affecting Education. This is an area we already have information for a number of African countries, showing that the public sector may transmit the wrong signals for efficient human capital formation (e.g., the level of per capita education subsidies, school fees structure, teacher salaries and government pay scales for university graduates). We need to document more extensively the possible

adverse socioeconomic effects of private-social discrepancies by increasing the number of country case studies and specific areas where the distortions are manifested (e.g., to what extent salary differentials represent rents unrelated to productivity?)

(c) Institutional Development. We all know there are limits the Bank and other agencies can be directly involved in the way individual countries develop their policies and implement them. But the Bank should act as a catalyst, along with other donors, in assisting individual countries to develop their capacity to analyze policy issues themselves. This is easier said than implemented. African countries today lack even elementary educational statistics, in some cases including the level of enrollment in public and private institutions. School "management" and the ability to "plan" educational systems are even more elusive concepts. Professionals qualified to analyze the outcomes of alternative educational policies are not in abundance, and if they exist they may be employed in the wrong sector, or even located outside of the country, which could again be another result of government policy. Our recommended "study" in this area is a mission forked to the two African regions (Anglophone and Francophone) attempting to identify institutions and individuals (including other donors) who could eventually form the nucleus of in depth analytical groups in the sub-continent. Two cross-country African Working Groups could be established, each country and each sub-region learning from the other's experience. It is hoped that the Bank's involvement in this respect would enhance the indigenous country capacity to conduct policy analysis in education.

C. On Financing of Education

1. State of the Art

We confidently know that if present trends continue, a socially sub-optimal level of educational investment will take place. The trends refer to the level of education unit costs, the share of state budget allocated to education and levels of student subsidization (see Annex). For example, simulations have shown that if such trends continue, universal primary education in Africa may not be reached by the first quarter of the next century.

2. Africa Priority Studies

(a) Private Resources for Education. It is often said that the private sector in African education is "important" and that household contributions, in cash and in kind, towards education are "substantial". Because such activities are outside the realm of central Government, actual statistics on private involvement in education are rudimentary. Hence, we propose to document the extent of private educational provision in as many African countries as possible, and also record the amount of resources flowing into the private system.

(b) The Demand for Education and School Quality. The case documented under (a), above, represents the "reduced form" or outcome of a number of factors. For example, private coverage could be more than the one observed if private schools were not in some cases prohibited by law. We do have some evidence from Mali and Malawi that households are willing to pay for improved educational services, e.g., having a school nearer to the village. We would like to extend our knowledge on the willingness to

pay in other countries as well, and also document the level of excess demand for public educational services and the costs of rationing of places generated by an unrealistically low fee structure.

(c) Alternative Financing Mechanisms. The socially sub-optimal level of human capital formation in Africa requires the exploration of ways for mobilizing additional resources for the sector. Hence we suggest further studies on the extent to which reduction of student subsidies or even the imposition of selective fees combined with student loans, would lead to a higher level of efficiency and equity.

COMPARATIVE PARAMETERS ON AFRICAN EDUCATION */

1. Enrollment Ratios and Literacy Rate by Level of Education

(Percent)				
Region/Country Group	Primary	Secondary	Higher	Adult Literacy
<u>Sub-Saharan Africa</u>				
- Francophone	46	14	2.4	18
- Anglophone	77	17	1.2	40
<u>Asia</u>				
- South East Asia & Pacific	87	43	9.1	71
- South Asia	71	19	4.4	25
<u>Latin America</u>	90	44	12.0	83
<u>All developing countries</u>	75	23	6.9	53
<u>Advanced Countries</u>	107	80	2.1	99

2. Education Expenditure as a Share of the State Budget and GNP

(Percent)		
Region/Country Group	Share of Education in State Budget	Share in GNP
<u>Sub-Saharan Africa</u>		
- "Francophone"	22.6	4.9
- "Anglophone"	17.0	5.2
<u>Asia</u>		
- South East Asia & Pacific	15.0	4.2
- South Asia	8.8	2.1
<u>Latin America</u>	16.9	4.5
<u>Developing Countries</u>	16.1	4.5
<u>Advanced Countries</u>	9.0	4.9

3. Unit Costs of Public Education at the Various Levels
as Percentage of Per Capita GNP

(Percent)			
Region/Country Group	Primary	Secondary	Higher
<u>Sub-Saharan Africa</u>			
- Francophone	29	143	804
- Anglophone	18	50	920
<u>Asia</u>			
- South East Asia & Pacific	11	20	118
- South Asia	8	18	119
<u>Latin America</u>	9	26	88
<u>All Developing Countries</u>	14	41	370
<u>Advanced countries</u>	22	24	49

4. Share of Scholarships and Social Expenditures
in Secondary and Higher Education Budgets

(Percent)		
Region	Secondary Education	Higher Education
<u>Africa</u>		
- "Francophone" Africa	23.0	43.0
- "Anglophone" Africa	14.0	14.0
<u>Asia</u>	4.0	4.0

5. Primary School Teachers' Salaries in Per Capita Income Terms
by Region, 1978

Region/Country Group	Relative Teacher Salary
<u>Africa</u>	6.7
- West	10.8
- East	5.5
"Francophone" Africa	11.5
<u>Asia</u>	2.5
<u>Latin America</u>	2.4

6. Average Salaries of Central Government Civil Servants
in Per Capita GNP Terms, by Region

Region	Salaries in Units of Per Capita GNP
<u>Africa</u>	
- "Francophone" Africa	9.6
- "Anglophone" Africa	4.6
<u>Asia</u>	2.9
<u>Latin America</u>	3.1

*/ Annex based on A. Mingat and G. Psacharopoulos, "Education Costs and Financing in Africa: Some Facts and Possible Lines of Action," Education Department, The World Bank, 1984.

OFFICE MEMORANDUM

file Bellegio SSA

DATE: November 8, 1984

TO: Distribution Below

FROM: Nancy Birdsall, *NB* Chief, PHNPR

EXTENSION: 61581

SUBJECT: Attached Rapporteur's Notes

I prepared the attached at Marcelo's request. Please pass on to him any thoughts on points I misrepresented or omitted.

Distribution:

Messrs. Selowsky
Churchill
Psacharopoulos
Ridker
Leiserson
Noman
de Ferranti
Boserup
Collier

NBirdsall:veo

NBirdsall:pp
November 7, 1984

Rapporteur's Report
Human Resources and "everything else" working group
Meeting on Research Agenda for Sub-Saharan Africa
October 10-12, 1984

What we did not discuss

Three categories of subjects we did not discuss, having purposefully eliminated them:

1. How research should be managed in the Bank
2. Whether or not it is sensible to have a research "program" on SSA (rather than letting a thousand flowers bloom)
3. Issues of interest on which we saw no researchable topics with policy implications (e.g., migration), and issues of importance to our sector where the policy-oriented researchable topic would have to come from another group (e.g., problems in the labor market due to overvalued exchange rates, an issue for the the macro group).

What we did recommend -- some general themes

- Research outside of Africa to understand Africa
- Particular methods of research, e.g., experiments
- More attention to the generation of the sorts of data, or quantitative information needed for policy making purposes on a continuing basis, and needed to improve the incentives for researchers to do policy relevant research on Africa.

Rapporteur's observations on the discussion as a whole, in terms of Churchill's categories

Churchill's three categories of research are:

1. research to convince ourselves economic rules apply in Africa
2. research to convince governments to enact reforms, of two types:
 - (a) to show costs of "bad" policies
 - (b) to analyze resistance to policy change so as to know levers to push and pull to encourage
3. research to improve our understanding, on issues where we don't know what to tell governments.

- We eliminated discussion of category 1 (migration example again)
- We talked about the need for 2b, e.g., "pressure group" research, but had few concrete ideas on how to proceed (hire political scientists?)
- Many of our researchable topics are in category 3. In public services such as health, family planning and education, there is much to be done to improve efficiency, given existing government objectives. Even where there was an element of category 2, (#2) category 3 (#3) would also enter in, as the sector-by-sector descriptions below demonstrate.

Health

1. Resource allocation issues (#3). How can services be delivered in a more cost-effective way? We have good questions, reasonable methods for addressing those questions. Carefully-designed research experiments (including in the context of projects) are one way to proceed.

2. Resource mobilization issues.

- (a) Pricing policy and cost recovery: research to show there is rationing (#2); to have better quantified estimates of price elasticities for different types of health services (#3); to investigate the basis for and analyze failures of risk-sharing schemes (#3).
- (b) The public-private sector mix: research to show willingness-to-pay (#2); to explore how to better utilize private suppliers, e.g., is there a cost-effective way to train traditional midwives to provide antenatal and postnatal care? (#3).

Education^{1/}

1. Resource allocation issues (#3). Research on ways to change the input mix to get more bang for the buck e.g., are more textbooks a substitute for less teacher training? Research on the determinants of student achievement, on literacy retention.

2. Resource mobilization, especially pricing policy and cost recovery. Analogous to health, e.g., research on willingness to pay (#2); on role of private sector (#2 and #3); on student loan schemes (#3). Research experiments are one way to study loan schemes.

3. Cross-sectoral issues. Effects of education on agricultural productivity in Africa (#2 to convince, #3 to clarify how and why and under what conditions education of varying types and amounts makes). Effects of changing pricing policy in education on the wage structure.

^{1/} Many researchable topics are outlined in the background note by Psacharopoulos. His note is more organized and clear than was the discussion.

4. Other issues raised: How much of public budget should go to education? Are literacy data any good? Do we overstate the returns to primary compared with tertiary education?

5. A special note on training. There was a long discussion on whether we should (and how we would) estimate a rate of return to the training component in every Bank project. Consensus was there should be a better way to evaluate training components -- but no researchable topic emerged.

Infrastructure 2/

Our chairman raised the question, why is there so little support for urban projects with high rates of return, projects such as telephone systems and traffic management? Working group members seemed to feel the answer was not a rural bias in the Bank, but the fact that returns to certain types of projects (roads included here) have been high ex ante but low ex post. The discussion raised several topics for research:

- Research to quantify the costs of poor infrastructure (#2), e.g., what are the efficiency losses to the economy when each large firm has its own electricity generator, when skilled people sit in traffic in Lagos?
- Research to uncover why some telephone and rail systems are better than others, by doing comparisons. (Strong element of #2 -- comparisons would be likely to show benefits of contracting with private sector to provide services.)
- Comparative study of how road maintenance is financed (#3).
- Research on the underground economy. Would improved transportation and communication systems in Africa allow the free market underground economy (border trade) to blossom? Would that loosen government's tendency to overregulate? (#2)
- Research to understand underlying pressure -- political and economic -- which undermines projects that look good ex ante.

Wage Policy

Group agreed the source of labor market problems is usually distortions in other markets -- credit and land. Thus discussion was confined to researchable topics addressing policy issues in the public sector of obvious relevance in Africa, where public sector is a large portion of wage sector.

2/ This discussion suffered, even more than the others, for lack of a critical minimum number of people (say 2) with some research experience on the topic.

Descriptive work (#3). Research needed on forms of compensation (fringe benefits etc.); public sector; trends in recurrent (mostly wage bill) vs. capital spending of governments.

Analytic work (#3). Effects of public sector pay policy on private market; study queues for specific jobs; consequences for public wages and employment and private wages declining government revenues.

Why distortions in public pay? Work on historical roots of policies, pressure groups.

There was also brief discussion of a potential problem for Africa -- poor credit market discourages general skill acquisition, and high turnover discourages firm-specific training. 3/ Basic research needed.

Population

Consequences. Work on consequences of rapid population growth of the doomsday sort is not needed. But certain other types of work are.

1. Technology choice and labor absorption 4/
2. Put spatial dimension on a 15 year projection of population -- implications for transport development, environmental management, urban management, agricultural research. (There was not a consensus -- some in the group questioned the policy implications of predictions, even if the predictions were accurate).
3. Implications of rapid population growth for income distribution, e.g. landlessness in Africa. (This might have implications for land market policies -- #2.)

Determinants

1. Future work on the determinants of fertility should emphasize the effects of program inputs on household decisions; this boils down to certain kinds of operations research, which could in some instances be done in the context of projects. See operations research below.
2. How to make education more likely for girls? (Not clear this is under population category.)
3. Is family structure different in Africa? (#3) (Hard to see policy implications.)

3/ See Collier note for careful setting out of the problem.

4/ See recent paper by Jeffrey James of Boston University for Rockefeller Foundation Conference on Population Growth and Labor Absorption in the Developing World.

Operations research in family planning

1. Resource allocation issues (#3) -- what "package" of program inputs is most cost-effective? How integrate with health?
2. Resource mobilization issues
 - (a) social marketing (#3)
 - (b) to mobilize political resources, need to demonstrate demand for family planning services among certain groups: demand for spacing methods; adolescent needs.

OFFICE MEMORANDUM

DATE February 21, 1985

TO Nancy Birdsall, Chief, PHNPR

FROM John D. North, Director, PHN

EXTENSION 6-1571

SUBJECT Terms of Reference: Bellagio Conference on Research Priorities, SSA
London: Meetings with ODA Staff, etc.

On February 25-27 you will go to Bellagio to attend the above conference.


On February 28 you will proceed to London to meet with staff at the Overseas Development Administration and at the London School of Hygiene and Tropical Medicine.

Upon your return you will write a back-to-office report.

NBirdsall:am

January 29, 1985

To : Barbara Herz

From : Nancy Birdsall 

Barbara,

I leave for Bank Conference on Research SSA in Bellagio on February 22. Purpose of conference is to set research priorities, including in population, for Bank and larger community, over next decade or so.

It would be useful if I could take whatever you or Ron or Susan or Althea have got by then, so Bank's statements out of conference on future research priorities in the area of population reflect our emerging views.

cc: Messrs. North, Schebeck
Ms. Husain

OFFICE MEMORANDUM

DATE April 29, 1985

TO Distribution below

FROM Martin Karcher, ⁴Chief, EDIUW

EXTENSION 75417

SUBJECT Final Preparations for Berlin Seminars on Population and Development: Meeting at 2:30 p.m. on May 2nd in Room G-1033

4/30
 Martin Karcher
 Program looks excellent,
 my only comment (p.2, #3):
 pop. policy and program priorities should
 more explicitly cover education,
 infant mortality and other "demographic"
 factors so critical in
 influencing fertility
 in Africa.

Thanks for agreeing to attend the meeting in my office next Thursday afternoon at 2:30 p.m., in order to finalize the preparations for the two forthcoming Senior Policy Seminars on Population and Development to be held in Berlin. The opening of the first seminar will be just one month away. With Dr. Ranaganathan's return from his mission to Botswana, this will be a good opportunity to review the status of preparation and deal with the outstanding issues.

I propose the following agenda for the meeting:

- 1) Status of participants' and observers' responses to our invitation
- 2) Seminar program: please see the description of the seminar content in the attached notice, as well as the seminar calendars in Annexes B and C
- 3) Designation of speakers to introduce the various topics
- 4) Preparation of outlines for each session to be distributed to the participants and observers
- 5) Status of SSA Population Policy Paper, arrangements for translation and circulation to participants and observers
- 6) Selection and briefing of participants/moderators
- 7) Methods for ensuring adequate level of communication between anglophone and francophone participants
- 8) Selection of seminar rapporteur(s)
- 9) Logistical arrangements (everybody will be staying at Villa Borsig in Berlin)
- 10) Any other items

Distribution: Mesdames Herz, Husain, Maraviglia (PHN), Khoury, Maddux, (EDI)
 Messrs. Ranganathan (EDI), Ridker (EAL) and Sai (PHN)

cc. Messrs. North, Schebeck o/r, and Ms. Birdsall (PHN),
 Messrs. Willoughby, de Lusignan o/r, and Sirken (EDI).

Something on family structure might also be discussed here -- e.g. that fathers do not always bear the costs of children

Nancy Birdall
 cc: B. Herz

**Conference on Research Priorities
for Sub-Saharan Africa
Villa Serbelloni, Bellagio
February 25 - March 1, 1985**

PROGRAM

1. Sunday, February 24

Arrival in Milan. Overnight stay at Hotel Dei Cavalieri.

2. Monday, February 25

9:30 a.m. Departure for Bellagio.

12:30 p.m. Lunch at Villa Serbelloni.

2:30 p.m. Afternoon: Session I. The Context.

Anne Krueger (Chairperson): "Introductory Remarks"

Harris Mule: "The View from Africa"

Paper: A.J. Hopkins "The Historical and
Institutional Context."

Discussants:

Charles Konan-Banny

Ravi Gulhati

Stephen F. O'Brien

3. Tuesday, February 26

9:00 a.m. Morning Session: "Human Resources"

J.L.S. Abbey (Chairperson)

Papers: Ester Boserup
Paul Collier

Discussants: Sayed A.A. Zaki
Kinsley Y. Amoako
George Psacharopoulos

General Discussion

Rapporteur: Nancy Birdsall

2:30 p.m. Afternoon Session: "Agricultural Development"

Harris Mule (Chairperson)

Paper: Carl Eicher

Discussants: Achi Atsain
Dunstan Spencer

General Discussion

Rapporteur: Hans Binswanger

4. Wednesday, February 27

9:00 a.m. Morning Session: "Issues in Pricing Policy"

Stephen F O'Brien (Chairperson)

Paper: Achi Atsain

Discussants: Charles Konan-Banny
Pius Okigbo

General Discussion

Rapporteur: Uma Lele

2:30 p.m. Afternoon Session: "Resource Mobilization and Public Finance Issues"

Ravi Gulhati (Chairperson)

Paper: Robert P. Armstrong

Discussants: V. Diejomoah
J.W.S. De Graft-Johnson

General Discussion

Rapporteur: Paul Isenman

5. Thursday, February 28

9:00 a.m. Morning Session: "Macro Economic Adjustment and Trade Policy"

D. Lal (Chairperson)

Paper: Tony Killick

Discussants: Harris Mule
J.L.S. Abbey

General Discussion

Rapporteur: Armeane Choksi

2:30 p.m. Afternoon Session: "The Economics of Transition and Political Economy of Policy Reform"

Anne Krueger (Chairperson)

Paper: Robert Bates

Discussants: Achi Atsain
D.G. Rwegasira

General Discussion

Rapporteur: Stephen F. O'Brien

6. Friday, March 1: Summary and Conclusions

9:00 a.m. Morning Session:

Mr. V. Diejomoah (Chairperson)

Presentation: Deepak Lal
Marcelo Selowsky

General Discussion

Afternoon

Departure from Villa Serbelloni

OFFICE MEMORANDUM

file: Bellagio/SSA

Collier

DATE January 31, 1985
TO All Participants
FROM *M. S.* Marcelo Selowsky, OPSVP
EXTENSION 76153
SUBJECT Conference on Research Priorities for Sub-Saharan Africa -
Bellagio, Italy, February 25 - March 1, 1985

Enclosed please find a copy of the paper by Dr. Paul Collier, to be discussed on Tuesday, February 26, at the morning session of our Conference in Bellagio.

Participants:

Messrs. Abbey
Amoako
Armstrong
Atsain
Bates
Binswanger
Choksi
De Graft-Johnson
Diejomoah
Eicher
Gulhati
Hopkins
Isenman
Konan-Banny
Killick
Lal
Mule
O'Brien
Okigbo
Psacharopoulos
Rwegasira
Spencer
Zaki

Ms. Birdsall ✓
Dr. Boserup
Mrs. Krueger
Mrs. Lele

Human Resources and Labour Markets in Africa

Paul Collier

Institute of Economics and Statistics, Oxford

January 1985

a paper to be delivered at the Conference on Research Priorities for Sub-Saharan Africa, Bellagio, Italy, February 25- March 1, 1985.

Human Resources and Labour Markets

1. Introduction
2. Labour Allocation
3. The Formation of Human Capital
 - (a) Pre-Employment Skill Formation
 - (b) Post-Employment Skill Formation
4. Employee Performance as a Variable
5. Wage Employment as a Surrogate for Missing Markets
6. Conclusion

1. Introduction

The argument of this paper is that the research effort on African labour markets has been lopsided in emphasis and that much of it has been positively misleading. In particular, segmentation, rural-to-urban migration, unemployment and pre-employment vocational training, which are the issues which have attracted most attention, reflect popular mis-conceptions and are inappropriate approaches to central problems. Since the research agenda proposed in this paper is not a marginalist increment to traditional work it is appropriate to start at the foundations.

The labour market in Africa simultaneously accommodates four distinct areas of economic activity. First, and most obviously, it allocates labour, ideally in such a way as to equalise the marginal product of identical labour between activities. Second, the labour market generates the human capital which it subsequently employs, through training and experience. Third, through the form of contract (implicit and explicit) and expenditure on supervision, the market determines the quantity and quality of labour effort. Fourth, in the absence of adequate financial and insurance markets in peasant agriculture, wage employment by a household member serves as a risk-spreading and cash-raising device.

This ranking, first to fourth, is how the literature has assessed the relative importance of these roles. Indeed, the first, the allocation of labour, has commonly been the sole focus of attention. Nevertheless, this ordering is manifestly wrong. The costs of the malfunctioning of the labour allocation process, though not trivial, are likely to be small relative to a failure

in any of the other three areas. Further, because all four activities are jointly determined by the one market, the appropriate allocation of labour is to a considerable extent dependent upon its implications for the three remaining functions of the labour market. Thus, government interventions as a regulator, an employer and an investor in human capital will be investigated with reference to each of the four functions.

2. Labour Allocation

Until recently, the dominant notion in African labour allocation has been market segmentation. This contained two strands of which the first was mis-allocation between peasant agriculture and the urban formal wage sector. Wage levels in the formal sector were perceived as being both much above the supply price of labour and rigid downwards. This rigidity was ascribed either to minimum wage laws¹ or to turnover-minimising firm behaviour.² As a result, job seekers would migrate from rural areas to queue in urban unemployment. In response, firms would ration jobs by giving preference to those with more years of education, inducing job seekers to acquire more education.³ This "bumping" process implied that the social returns to education were substantially below private returns, and so the provision of education was liable to become excessive.

The second strand of the segmentation paradigm was that labour was mis-allocated within the formal sector. The major discontinuities were variously identified as being between foreign-owned and domestic firms, or between the public and private sectors.⁴

While some of the above hypotheses have applied in parts of

Africa at particular times, as generalisations they are seriously misleading.

Real wage levels in many African countries have shown considerable downwards flexibility since around 1970 (Kenya, Tanzania, Malawi, Sudan, Uganda). In Kenya, for example, the peasant-unskilled wage earner income gap can be seen as a trajectory with its origin in the early 1950s, its peak in the mid-1960s, and its termination in the late 1970s.

Table 1: Long-Run Real Wage Adjustments in Kenya⁵

African real wage in estates agriculture in 1949 = 100

Real Earnings by Sector					
Year	Small-holders	Estates	Nairobi Minimum Wage	Public Sector	Private Non-Agriculture Sector
1949	100	100	88	106	109
1967	143-170	167	240	420	359
1978	178-236	230	168	298	280

While some countries may be less well advanced on this trajectory than Kenya, and while this may be worth studying, the income gap cannot be seen as a primary focus of policy concern.

Even where there is a wide income gap, the migration-unemployment-educational expansion scenario is not generally applicable. Consider, for example, what happened in Kenya in the period 1968-74 when the stock of adults with secondary schooling was growing by a staggering 30% p.a. and the market switched from excess demand to excess supply. Clearly, in the short-run this could not be accommodated by wage adjustment.

In fact what happened was that the market for secondary school leavers became more selective: firms (private and public) intensified selection criterion. Among these criteria, the number of years of education (Fields' hypothesis) was not prominent. Rather, firms chose quality of education and non-educational personal qualities. For example, they began to take into account the subjects studied at school and the grades attained, thus raising the quality and thereby lowering the cost of labour at a given wage per person. The effect of this intensification of a range of selection criteria was to make potential applicants highly heterogeneous. Further, the changing critical selection criteria which secured employment became known to school leavers quite rapidly and those below the minimum did not attempt job search. Thus, whereas in 1968 those leavers who had failed the form IV examination had the highest rate of unemployment, by 1974 they had the lowest: not because firms were employing them but because they knew not to look.

Table 2: Unemployment Prospects by Examination Performance 1968-74⁶

		Relative unemployment prospect (percentage in unemployment/percentage in labourforce)		
Score	Grade	1968	1970	1974
1-19	1	0	0.08	0.22
20-29	2	0	0.54	0.90
30-39	3	0.49	1.78	1.95
40-49	4	1.13	1.78	1.13
50-54	Fail	2.16	0.62	0.19
All		1.0	1.0	1.0

Nor did secondary school leavers "bump" primary school leavers out of the manual wage labour market: firms continued to recruit able primary school leavers in preference to weak secondary school leavers.⁷

As a result of the introduction of these additional selection criteria and the reduction in the wage gap, urban unemployment declined during the 1970s despite massive educational expansion, and net rural-to-urban migration was reduced to the modest rate of 2%. Gross migration was about double this, not because of the return of disappointed speculative migrants, but because of the voluntary quitting of many wage earners during their 30s to return to peasant agriculture, and of older workers to retire on their holdings. Most rural-to-urban migrants already had a job offer prior to migration.⁸

The above is not true everywhere in Africa. For example, in Tanzania manpower-planning-motivated limits on the supply of secondary school places in effect guarantee almost all secondary school leavers non-manual wage jobs. As a result, the non-manual labour market has never developed a wide range of selection criteria. Examination grades, highly significant in earnings functions for Kenya are insignificant for Tanzania.⁹ Further, despite manpower planning, Tanzania did not succeed in stemming unemployment and migration. Through the 1970s to 1978 (the latest data) Dar es Salaam grew at around 10% p.a., this being considerably faster than wage employment.

There are, therefore, considerable benefits to the "over-supply" of educated labour neglected by the manpower planning approach. First, in the longer-term earnings differentials narrow. Second, in the short term the average quality of labour recruited

to given jobs rises. Third, the matching of job seekers to appropriate vacancies improves as the range of selection criteria increases. Fourth, as a result of (2) and (3) even in the short term unit labour costs are reduced. Fifth, the greater economic heterogeneity of school leavers reduces the size of the group for whom employment prospects are genuinely probabilistic and hence reduces unemployment. Sixth, the increased economic return to educational performance increases the incentive to school students to acquire good examination grades and hence improves the performance of the education system.

Thus, the fear of stimulating excessive migration and unemployment, which currently contrains educational expansion in some countries is simply misplaced. It may be of some use to demonstrate that this is how the labour market can work by replicating the studies of the Kenyan labour market elsewhere in Africa, though the returns to such research would be by way of the diffusion rather than the discovery of information.

Segmentation within the formal sector, and in particular the public/private sector wage differential has been thoroughly explored both by World Bank¹⁰ and outside researchers,¹¹ and the hypothesis can be rejected. In general there is no tendency for the public sector to pay higher wages once the characteristics of recruits are taken into account. Indeed, in some African countries public sector pay appears to be rather lower than the private sector for more highly qualified staff. High pay, even allowing for benefits in kind, is the wrong focus of attention as far as the public sector is concerned.

The above all suggests that labour allocation both between

peasant agriculture and the modern sector, and within the modern sector is not a major problem and has received far too much attention. Labour allocation within peasant agriculture is, however, oppositely characterised. In Eastern and Southern Africa the peasant labour market is negligible despite pronounced differences in land-person ratios across farms. For example, in Malawi only around 5% of labour input on the holding is hired (Kenya 6%-10%) despite the absence of a land market. As a result, households with small holdings both cultivate the same crops in a far more labour intensive manner than those with larger holdings, and take more leisure time. Using Cobb-Douglas production function estimates, the former effect alone (i.e. taking leisure to be identical across holding sizes) is currently producing an output loss in Malawi of around 6% compared with efficiently operating factor allocation. The output loss of surplus-labour-induced leisure has not been estimated. However, it might well be considerably larger than 6%. For example, comparing two Kenyan provinces, were leisure per person in Nyanza to be reduced to that found in Central, labour input on holdings in Nyanza could increase by 66% (on 1982 survey data). Yet the predominate reason for lower labour input in Nyanza appears not to be cultural differences between the Luo and the Kikuyu but rather than in Nyanza there are many fewer opportunities for land-scarce households either to sell labour or to convert holdings to labour-using activities. This is manifested by the fact that the bulk of the difference in average leisure between the two provinces is accounted for by the high leisure of the poorest and most land-scarce 40% of Nyanza households. In Central Province leisure is not closely

related to income or land scarcity, whereas in Nyanza it is powerfully related to both. Land-abundant households in Nyanza work about as hard as similarly endowed households in Central Province, but whereas in Central land-scarce households sell their labour (or farm labour-intensive crops) in Nyanza they take leisure.

The combination of these two effects of the failure of the rural labour market - excess leisure and different factor proportions - is probably a large loss in agricultural output. Further, this loss is likely to grow as population pressure appears to induce land concentration whereas the latter does not appear to induce the development of a hired labour market. The trend towards land concentration is not in Eastern and Southern Africa predominantly due to land purchases, but rather to the transition to a steady-state distribution generated by private inheritance from a previous distribution generated by land abundance and allocation by chiefs. There appears to be no trend over time towards the growth of the peasant hired labour market in either Eastern or Southern Africa and this is supported by the absence of any cross-section relationship between labour hiring and the dispersion in factor endowments across households. For example, taking 35 small homogeneous ecological areas in Malawi, labour hiring per acre is unrelated to the dispersion of land-person ratios. All this is in marked contrast to West Africa, where hired labour often forms 40% to 60% of total labour input on holdings and where this is powerfully supplemented by an active market in tenancy.

This difference in labour hiring between Western Africa and Southern and Eastern Africa is due not to different intensities

of population pressure but to different abilities to finance labour hiring, in turn rooted in more commercialised commodity production, more developed informal credit markets, and in particular more rural non-agricultural employment opportunities.

The study of labour allocation in peasant agriculture looks to be of some importance in that potentially government policy may have a substantial impact upon agricultural output and rural income distribution through its effect upon factor allocation. However, little is known about the process of factor allocation in African agriculture and it has only recently come to be studied.¹² In his 1982 Survey of Research on African agriculture, Eicher discussed primarily only the land allocation side of the issue. Noting the "token priority given to research on land tenure over the past 20 years" he recommended that "research on land use and land tenure receive greatly increased attention in the 1980s".¹³ However, since the production issue is the allocation of land to labour (not the allocation of property rights to households) the study of land allocation can hardly be divorced from that of labour allocation, the study of which has been even more token. This appears to be the major neglected research topic within the field of labour allocation.

3. The Formation of Human Capital

The processes whereby human capital is generated can usefully be divided into those which occur prior to employment and those which occur during employment.

(a) Pre-Employment Skill Formation

Consider, first, the appropriate proportions of the population who should receive primary and secondary education.

There is overwhelming evidence that the social rate of return to primary education for those in wage employment is high.¹⁴ However, incremental primary school leavers are largely employed in peasant agriculture. The survey by Lockheed et al.¹⁵ and more recent work¹⁶ suggest that primary education can significantly raise productivity in peasant agriculture, though the lags involved have not been thoroughly explored for the effect of the education of household members other than the head has not been investigated. The circumstances in which productivity is enhanced appear to conform with Schultz' thesis that education speeds the adaptation to new circumstances so that it is least effective in static environments. This suggests that in Africa, where land-person ratios are changing rapidly, education would be highly productive, and further that education interacts with other government interventions such as extension.

Further research seems unnecessary to sustain the conclusion that African governments should expand primary education to universal coverage, the major constraint being the trade-off between the rate of expansion and teacher quality.

The returns to secondary education in part depend upon the extent of primary education, since expansion raises the average standard of a given size of secondary school intake by permitting greater selectivity. The return appears to be lower than that on primary education in wage employment and probably considerably lower in agriculture. Nevertheless, the measured returns are generally high. There is a considerable debate as to whether the measured return overstates the social rate of return. However, recent research on Africa has established a robust case for the view that social rates of return are genuinely high.¹⁷

The constraints upon the rapid expansion of secondary education therefore concern quality and budgetary cost rather than net social benefit.

Research on the quality of education has focused on the content of the curriculum and upon the efficiency of information transmission. On the former the Bank has mounted a major study of the benefits and costs of curriculum diversification into more directly vocationally relevant subjects.¹⁸ The study finds that such diversification increases unit costs quite significantly without increasing earnings, and suggests that diversification is least appropriate when only a small proportion of children attend secondary school, a circumstance which applies in most of Africa. The case against pre-employment vocational training is, in fact, even stronger than the above result, and we return to it in sections 3(b) and 4.

The quality of delivery of a given curriculum is both low and variable. Heyneman¹⁹ notes that in Malawi the average 16 year old (8th grade) has achieved only half the level of reading skills attained by the average 10 year old in America, Europe and Japan. Knight and Sabot²⁰ find that at common grades Kenyan students have acquired significantly more skills than their counterparts in Tanzania. Three important influences on quality are non-labour inputs, teacher motivation, and student selection. There is some evidence that in education, as in other public service activities, an excessive proportion of expenditure is devoted to wages relative to non-labour inputs such as textbooks. This may reflect the tendency of inadequately controlled bureaucracies to expand employment, or an (inefficient) attempt by governments to achieve an employment objective. The scope

for improving the motivation of public employees is considered in section 4. The influence of student selection procedures in Africa has been researched²¹ and found to be very powerful. Examinations both select for further study and determine the principal criteria by which teachers are monitored. In particular, if the primary school leaving examination is a poor predictor of secondary school performance (as it appears to be) then the secondary school intake is of low quality, firms are being given inappropriate signals, and teachers are encouraged to produce inappropriate characteristics. Such defects are avoidable by the application of fairly standard research methods. The World Bank could usefully work with Ministries of Education to establish the baseline techniques which Ministries themselves can maintain.

Probably the main perceived constraint upon educational expansion is budgetary, yet research already conducted has established that a budgetary constraint can be overcome by cost recovery. In many parts of Africa private and public secondary school systems co-exist with radically different degrees of subsidy. The study by Armitage and Sabot²² found an overwhelming case for levying high charges to students in government secondary schools. Indeed, their evidence suggested that the public secondary school system could be a large net revenue earner for the government. This was because the private rate of return on public education was very much higher than that for private education. Access to public education was therefore rationed and high charges could be levied without diverting demand.

Indeed, assuming that demand would not be diverted until

the private rate of return in the public sector was reduced by changes to that prevailing in the private sector, the revenue from government secondary school charges could finance all public secondary education and 35% of primary education. A possible objection might be that such charges would hurt the children of poor parents, changing the composition of entry even were demand in aggregate not diverted. However, Armitage and Sabot find (as had previous investigators) that the distribution of public subsidies for secondary education is highly regressive, accruing overwhelmingly to richer households. The children of the poor thus form a small minority of those receiving subsidies, and might more appropriately be accommodated by targeted bursaries.

The private secondary schools showed a high private and social rate of return on investment and neither the distributional nor the efficiency argument advanced for curtailing their expansion are well grounded while public places are limited. The distributional argument is that private schools are socially so selective that on grounds of the inter-generational transmission of inequalities it is better to restrict them. However, there is evidence that private schools are less socially biased than government schools, so if the distributional argument is accepted it implies the closure of public not private secondary schools. Further, the expansion of secondary school output is powerfully equalising as it reduces earnings disparities. The efficiency argument is that social rates of return are over-stated because wage premia reflect either credentialism or the reward of characteristics coincident with, but not generated by, education. We have already suggested

that the evidence against this view of the African labour market is now considerable.

However, while there is no case for curtailing private secondary education, neither is there one for privatising secondary education either by design (selling off public schools) or default (failing to expand the public school system). Rather, there are grounds for expanding the public sector to the point at which it supplants the private sector. The reason for this is that public sector schools appear to use resources more efficiently. Armitage and Sabot found that resources used in the public schools had a higher social rate of return than in private schools. This must reflect either better management, economies of scale, or increasing returns over the relevant range of educational expenditure (private schools tend to spend less per pupil). Each of these is quite possible, there being in particular some support for the latter.

The unfortunate and rectifiable situation of many African countries is thus that public secondary education is both good and heavily subsidised. The result has been that it faces enormous excess demand and is rationed generally by quasi-meritocratic procedures which in practice accord disproportionate access to higher income groups. The rest of the society is either left to purchase high-cost, low-quality education which still has a high rate of return, or, because the purchase of education is considered unfair, is denied this opportunity. The pressure on government budgets is such that the expansion of public secondary education at existing levels of subsidy is unlikely to proceed much faster than the growth of the school age population. Yet this is entirely avoidable. Charges for

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secondary schooling could generate enough tax revenue not only to make it self-financing (and thus unconstrained by budgetary considerations) but a major net revenue earner. Thus financed, the rate of expansion of public secondary education should be determined by considerations of the trade-off between the rate of expansion and educational quality. The social rate of return is clearly high enough to warrant very considerable expansion.

The case for cost-recovery in primary education is weaker. On both social and economic grounds the case for universal primary education seems overwhelming. Charges would not therefore have the progressive distributional features associated with charges for secondary (and a fortiori higher) education. Further, both because the benefits (though real) accrue through heavily lagged improvements in farmer decision taking rather than through readily appreciated improved access to non-manual wage employment, they may be underestimated by some households. Finally, cash-constrained households may be denied access by charges, and bursaries would be administratively more costly in the context of low unit cost - high volume primary education than in the secondary schools.

Cost-recovery in secondary (and a fortiori in tertiary) education seems to need implementation rather than further research. However, if, as seems likely, primary education should be expanded enormously but much of its costs should not be recovered, the research challenge is to achieve cost-reducing technical progress in the provision of primary education. The Education Department of the World Bank has indeed identified this as its first priority. A second priority area is to compare the very different educational policies pursued in Africa (different primary and secondary enrollment

rates and differences in their ratios) and link these policy differences to different distributional and efficiency outcomes. This is not only a good method of discovering the effects of policies, it is a convincing method which is equally important.

(b) Post-Employment Skill Formation

Although it has recieved far less attention than education, the skill formation that takes place in firms is probably more important. This is suggested by earnings function analysis in which the returns to in-firm training seniority and experience both dominate and interact with the returns to education. That is, even much of the returns to education appear to accrue not directly for what is acquired through education, but because education increases the efficiency of subsequent skill acquisition. This enabling role of education appears to be true not only in formal sector wage employment but also in peasant agriculture: receptivity to extension services is increased by education.

The importance of post-employment skill formation is also suggested by the failure of "vocationally relevent" formal education. Four factors support an expectation that vocational skills are often inappropriate for acquisition prior to employment. First, the public sector is best (has its comparative advantage) at delivering standardised, simple services to a mass market, whereas vocationally relevent skills are invariably differentiated. Second, pre-employment vocational training gives people skills too early in their career and lacks the capacity to respond to changes in skill requirements during the working life. Third, if the firm trains it is able at the same time to

monitor performance, whereas if the public sector trains the firm faces an information problem which can only be partially resolved by tests and certification. Indeed, such tests are liable to reduce flexibility - modifying the content of training, and commonly involve non-market related inflation of skills (for example, carpenters being taught techniques of joint making for which there is no demand). Fourth, pre-employment vocational training also encounters the classic and insuperable information problems of manpower planning: assignment of trained job seekers to jobs, and the lack of information to determine whether the quantity of workers trained is appropriate.

In order to consider the performance of African post-employment skill formation it is necessary first to summarise the analytic literature. A common distinction in the theory of skill acquisition is between general and firm-specific skills, the former being marketable and the latter being only of value in a particular firm. If all skills were general, firms would not make investments in skills. To retain a worker once he has acquired skills, a firm must pay a wage equal to that which he could command in other firms in which the skill is equally valuable. Hence, the acquisition of general skills must be financed by workers. But in Africa the market in personal finance is so under-developed that the discount rate of young workers is likely to be high (and far above the social discount rate) and so there will be under-investment in general skills.

If all skills were firm-specific, firms and workers would share the investment. If firms were to finance all the investment they would make losses when workers quit while

workers would lose nothing. Firms thus adopt wage structures which lock workers into the firm. This is done by linking wages to seniority. Initially, the worker earns less than in a job with no skill acquisition, these forgone earnings constituting his investment. Subsequently, if he stays with the firm, his wage rises above the wage in a no-skill job which represents the return on his investment. The worker will not, however, finance all firm-specific skill acquisition. First, because the worker would then have invested in an unmarketable asset which could become worthless were the firm to dismiss him (the firm having no financial stake in his retention). Second, because firms have access to cheaper sources of finance than workers and so it is efficient for them to finance investment. To summarise, the process of investment in firm-specific skill operates through a wage contract such that the wage at recruitment is lower than in jobs without skill accumulation in return for a seniority premium which locks the worker into the firm.²³

Most jobs incorporate both general and firm-specific skills. To the extent that workers are locked into firms by their past investments in firm-specific skills, firms can finance the acquisition of general skills. That is, they may train the worker in a general skill without subsequently paying him more, because were the worker to move to another firm which would reward him for this general skill he would forfeit the return on his investment in the firm-specific skill. The important implication of this result is that the problem of inadequate worker investment in general skills can be overcome by creating an incentive structure in which firms can make investments in

general skills.

The boundary between firm-specific and general skills is of importance because the more prominent are firm-specific skills relative to general skills the larger the proportion of general skills that can be financed by firms. The central distinction between the two types of skill is marketability. Whether a skill is marketable is only to some extent intrinsic to particular skills. Clearly, some skills, such as the ability to work with a particular group of people are intrinsically firm-specific, but few skills are intrinsically marketable. This is because marketability depends upon an informational infrastructure. For example, a market in a skill may be sustained by government or worker organised certification procedures which assist recruiting firms in observing skills accurately. With such a market, workers possessing the skill correctly perceive their interests to be best served by inter-firm collusion within the skill group to create barriers to further workers acquiring the skill. Such barriers can be in the form of restricting certification or increasing the cost to firms and workers of skill acquisition (for example, by long apprenticeships). Once skill-based unions form their interest is therefore both in increasing the marketability of the skill and in restricting entry to the skill. When many skill groups achieve this, advancement is by means of inter-firm mobility rather than by intra-firm skill accumulation. Greater inter-firm mobility itself makes a skill more marketable by reducing the adverse selection problem facing recruiting firms. That is, when few workers voluntarily quit, many skilled job seekers will be involuntary quitters and these are liable to be inferior workers.

The resulting adverse selection problem may make the skill unmarketable.²⁴ Thus, the same skill may be marketable (and therefore general) in one economy and non-marketable (and therefore firm-specific) in another. In the former economy unions will be skill-based, restricting entry and lobbying for public skill certification. In the latter, unions will tend to be firm-based and lobby for accelerated skill mobility.

Among developed economies the former model is well-characterised by Britain and the latter model by Japan. There can be little doubt that the Japanese model is the more efficient vehicle for rapid skill accumulation: firms have a greater incentive to invest in human capital and workers have less cause to obstruct the process. It has recently been established²⁵ that not only do Japanese firms have much lower labour turnover than British firms, but that this can be explained in terms of radically different wage structures: Japanese firms offer much greater rewards for seniority.

Africa appears currently to have adopted wage structures more akin to British than to Japanese practice. There are two reasons for this. First, many African countries inherited a British colonial labour market in which union structure and skill certification copied practices in the metropole. Second, and more important, the effect of minimum wage laws and of government employment behaviour has been to underpin the wage paid to new recruits to the labour force. In many cases the wage paid is above the supply price of such labour. However, even where it is equal to the supply price in firms which offer little reward for seniority, it prevents firms from depressing the recruitment wage below this level in return for subsequent

seniority payments. There is now solid evidence that firms in Africa responded to the introduction of minimum wages by reducing seniority premia: firms recouped excessive starting wages by restraining latter earnings.²⁶ Thus, the effect of minimum wages is not predominantly upon labour allocation: average earnings do not rise proportionately with minimum wages and unemployment is moderated by the introduction of additional selection criteria as previously discussed. Rather, minimum wages distort wage structures and thus discourage skill accumulation. They do this even when they appear to be having little effect: almost all workers can be earning more than the minimum wage and yet the recruitment wage for young, unskilled workers can be constrained by the minimum.

The government can encourage post-recruitment skill formation in three ways. First, it can undo the damage done by minimum wage legislation. Politically, it is clearly impossible to lower the nominal minimum wage, and lowering the real wage by not offsetting inflation takes time, especially since the recruitment wage for young unskilled workers might well need to be reduced very substantially. Presumably the main obstacle to lowering the minimum wage is that existing wage earners would resist, and this obstacle can be entirely avoided by a gradual increase in the age at which the minimum wage applies. To take the example of Kenya, the age from which the minimum wage applies was in the 1970s lowered from 21 to 18 years. Yet firms responded to the over-pricing of new recruits by progressively raising the age at which workers were recruited. By the late 1970s according to National Social Security Fund data, very few workers were being recruited below

the age of 23. Thus, virtually nobody would lose from an immediate increase in the age at which the minimum wage applied from 18 to 23, followed by a gradual further increase to about 28 spread over the course of a decade. This would have the dual benefit of increasing the amount of wage employment for young people and, more importantly, of substantially increasing the incentive for firms to invest in skills.

Second, governments as employers can adopt more pronounced seniority wage structures. This means lowering the wages of low seniority workers and raising those of high seniority workers. Since the latter generally have more lobbying power, the political problems encountered by self-financing wage restructuring should not be insuperable.

Third, governments as regulators of unions and as certifiers of skill levels can attempt to reduce the marketability of skills, and reduce union-created barriers to skill mobility. Skills are characteristics which markets under-provide, especially when markets in personal credit are undeveloped or repressed, and it is better to rely upon the alternative processes provided by internal labour markets.

Finally, the greater use of seniority premia and internal labour markets should reduce urban-rural inequalities through two effects. First, the resulting increase in the supply of skills will lower the wage premium for them. Second, where firms are denied the possibility of reducing voluntary quitting by seniority premia they may resort to bidding up wage levels above the supply price of labour.²⁷ This is another reason why an apparently slack minimum wage may yet be raising the entire wage structure.

The whole subject of post-recruitment skill accumulation is under-researched yet important for Africa. Both budgetary constraints and intrinsic disadvantages make formal pre-employment education a poor vehicle for vocational skill acquisition: such skills are acquired in firms or not at all. We do not know how processes of post-recruitment skill accumulation differ between African countries. Such comparative knowledge, combined with historical studies of changes within countries, is probably the best means of quantifying the scope for accelerating skill accumulation through changing wage structures. This need not involve the gathering of original survey data. Existing employment and earnings surveys, conducted in most of Anglophone Africa, could be harnessed with modest modifications, and a better and virtually untapped source is often available in computerised national pension funds which store data on wages, age, seniority and labour turnover. As a first step, a comparative study on labour turnover could be undertaken. An efficient labour market should be characterised by relatively high turnover at very low levels of seniority (less than one year) and very low turnover among workers with around 3-15 years seniority. High turnover at low levels of seniority indicates that recruits are not being paid above their supply price and also indicates that the necessary sorting and matching process is operating. Low turnover at higher levels of seniority indicates that firms do not face behaviour incompatible with profitable investment in skill formation. In Kenya 1950-70 the labour market rapidly lost these characteristics through the effects of minimum wages: turnover at low levels of seniority fell drastically, while increasing at higher levels. The monitoring of voluntary

turnover is probably the best single indicator that African governments can have as to the efficiency of their labour markets both in respect of allocation and skill formation. The data needed for such information is already gathered, yet it is never converted into turnover rates. The World Bank could usefully demonstrate how this data could be harnessed for policy purposes.

4. Employee Performance as a Variable

The explicit and implicit contract between a worker and his employer is not just about wages and benefits, but includes a relationship between earnings and effort, prospects of promotion, the extent of supervision and authority, and the circumstances under which penalties will be incurred. This package reflects the fact that worker performance is to a considerable extent a decision variable of the worker. Government policies have impinged upon private contracts in three areas: the curtailment of authoritarian modes of supervision, the circumscribing of the power to exact penalties, especially dismissal, and the weakening of inter-skill promotion prospects by the provision of formal pre-employment skill-specific qualifications. However, the primary involvement of government is as an employer directly or via parastatals of about half of the wage labourforce. As will be seen, there are grounds for believing that productivity in some public services is extremely low. This can hardly reflect inefficient attempts by governments to obtain employment objectives since more output from the same workforce would clearly be regarded as an improvement even were the same total output from a smaller

workforce to be politically a mixed blessing. Manifestly, productivity enhancement in public services is in the interest of the government.

Abstracting from the problem of observing productivity, it is well established that where productivity can be accurately observed, productivity-related payments will raise productivity. A classic instance is the switch by some African plantations from day to piece rates during the 1930s which more than doubled productivity. The problem is generally to measure output in a cheap but comprehensive manner, since worker effort will be diverted from unmeasured to measured characteristics of performance. The solution to this has often been to change the nature of the product to something which satisfies this requirement. For example, private tea estates in Kenya have found it economic to adopt lower quality standards than those enforced on peasants by the public sector Kenya Tea Development Authority, because it is cheaper to monitor the volume of tea picked by a worker than the size of the leaf. Generally, the public sector has been slow to modify its output into analogously monitorable units. An excellent example is the agricultural extension service. Visits to individual farmers are impossible to supervise at reasonable cost and tend to be monitored predominantly by complaints from farmers. Since the farmers most likely to make complaints are the socially confident richer farmers this gives an incentive to extension staff to divert their efforts towards this group. The quality of advice given on a visit is even less monitorable than the existence of a visit. Leonard, in an important and pioneering study,²⁸ found that the productivity of the Kenyan extension service as measured

by the number of visits made was less than 40% of the level which could reasonably be attained. He suggests that one way of improving productivity was to change the nature of the product from individual visits to group demonstrations, which because they would be fewer and at pre-announced times and locations would be far easier to supervise both as to quantity and quality.

Research on employee motivation has found that in general and particularly in non-manual activities, the principal influence upon productivity is the prospect of promotion. Promotion is so powerful because it combines monetary reward with non-monetary status and recognition. It has also been demonstrated that performance is sensitive to the quantitative chance of promotion. This seemingly banal finding of management science in fact has very powerful implications for the returns to education and for the role of the state in manpower planning. To return to Leonard's study as an example, the relationship between education and productivity was found to be quite different for two apparently similar jobs, junior veterinary staff and agricultural extension agents. Among the former more education systematically and substantially raised performance, whereas among the latter secondary education had a uniformly detrimental effect. Despite several obvious ways in which education might be expected to improve the ability of extension agents to do their jobs, beyond primary education it was associated with such a powerful reduction in worker motivation that productivity was significantly lowered. This difference between highly positive and negative social rates of return to education was explained by different perceived prospects of promotion to higher grades. The junior veterinary staff had been

told at their training college (and believed) that those who did well had good prospects of eventual promotion to veterinary officer. In fact this belief was currently false because veterinary officers were only recruited directly from a higher grade agricultural college. The same structure of job grade determined by pre-employment training not only operated among extension agents, but its implications in terms of zero promotion prospects were well understood. The group most disheartened by this absence of prospects were those otherwise most likely to have been candidates for promotion, namely the most educated. Potentially, this type of study of productivity - education inter-relationships as a function of the career structure is replicable in many public service activities: for example, the health and education services are likely to prove more readily amenable to productivity quantification than is the extension service. As with the turnover-wage structure relationships, international comparisons within Africa may provide a guide to the scope for policy changes. However, if Leonard's findings are confirmed then the manpower planning approach to public sector skills, namely the provision of pre-service vocational training specific to each skill, stands powerfully condemned. The standard critique of such manpower planning discussed in section 3(b), that is has grossly misforecast requirements and ignores quality differences among the output of a training institution remain valid. But in addition, the negative effects on the motivation of educated workers from preventing inter-skill mobility may be so powerful that even were forecasts correct and trained labour homogenous, the social rate of return on pre-service vocational training

would be negative. The incentive effect of promotion prospects clearly reinforces, while being distinct from, our previous argument for encouraging intra-firm-inter-skill rather than inter-firm-intra-skill labour mobility.

The incentive effect of promotion prospects interacts powerfully with the previously discussed importance of performance monitorability. The more promotion is dependent upon objectively monitored performance and the less upon either subjective preferences of superiors or previously determined characteristics such as educational credentials, the stronger is the effect upon productivity.

A myth entertained by some World Bank staff is that discipline and authority in the African public sector is generally slack. While there is much variation between countries and institutions, in general hierarchies are more authoritarian in Africa than in developed economies. A major exception is Tanzania where "vigorous steps have been taken to stamp out supervisory authoritarianism.... The result has been a drastic drop in worker productivity."²⁹ Leonard demonstrates that, given the current inability to measure productivity, the authoritarian supervisory style while it prevents a total productivity collapse is itself highly inefficient because it stimulates employee tacit collusion in productivity-restricting practices. The alternative adopted in developed economies is for workers to refrain from such practices in exchange for benefits (such as promotions) delivered by the supervisor. This exchange-cooperation model of supervision is more efficient than the authority-punishment model, but its success is in turn dependent upon the linking of benefits

to objectively measured performance so that advancement can be seen to be depersonalised and fair. The Tanzanian abandonment of authoritarianism was not, therefore, per se liable to reduce productivity, but rather the failure to replace authoritarianism with functioning incentive structures.

The inter-dependence of the exchange-cooperation model of supervision, the reward of measurable performance, and opportunities for inter-skill mobility is emphasised by Uphoff with reference to Ghana³⁰ and Leonard with reference to Kenya. Both are convinced that formal training alone is not the answer to poor administration and in particular that the typical African bureaucracy "overemphasizes the importance of initial training and underestimates that of rebriefing".³¹

Finally, consider the restriction on penalties for poor performance and particularly dismissal. It is understandable that governments should wish to protect workers in the private sector from dismissal and that dismissal should be rare in the public sector. In many African countries unions are relatively weak and so the state takes on the role of worker protection. The effect of such restrictions is a priori ambiguous. The firm is clearly constrained in its freedom to adopt performance-related incentives but has resort to so many better instruments (such as earnings) that the restriction is unlikely to be costly. The firm is also unable to cope with cyclical adjustments by changing its labourforce. However, in economies where dismissal of regular employees is difficult (such as Japan) alternatives to layoffs have been developed such as wage flexibility and the use of a marginal casual workforce. Offsetting the above costs, there is a benefit from increased

worker security, namely the greater willingness to invest in firm-specific skills. Hence, the net damage done by restrictions on dismissal is unlikely to be worth the high political costs associated with removing them.

To conclude, there are indeed grounds for believing that labour in the public sector is typically far less productive than it might be, and that government policies have also lowered productivity in the private sector. The explanation for this lies not in laxity and indulgence on the part of those in authority, but rather in a failure to develop incentive-compatible payment systems and career paths. Leonard's research has demonstrated that such systems are feasible even in those public services where it is difficult to measure output. His study could usefully be replicated in other countries and other public services.

5. Wage Employment as a Surrogate for Missing Markets

The performance of peasant agriculture is fundamental to the African economy for at least the next half-century. Were output valued at world prices agriculture would generally be the sector contributing most to GDP, and it will continue to employ most of the labourforce in virtually all countries (and most of the incremental labourforce in most countries). Throughout Africa peasant agriculture is characterised by the limited extent, or complete absence, of markets in credit, financial assets with non-negative real returns, and insurance. Further, in much of Africa (other than West Africa) labour hiring by peasants is negligible as previously discussed. These markets are missing for reasons which are beginning to be

understood³² but which are beyond the scope of this paper. However, because they are missing, formal sector wage employment has powerful externalities. The effect of missing financial and insurance markets is that peasant investment, resource allocation and labour hiring decisions become dominated by risk-bearing and cash-raising constraints. Those peasant households who have members working in the formal wage sector are better placed to bear risk, having both a relatively secure income source and a more diversified income structure. They are also better able to surmount the cash-constraint since wage employment provides an even and frequently received cash flow. Recent attempts to quantify the contribution of non-farm wage income to enhanced output in peasant agriculture have suggested very high returns.³³ Two aspects of this relationship are of particular importance for government labour-market policy. First, the diffusion of agricultural innovation and investment is thus strongly influenced by which peasant households are able to gain access to formal wage employment. If wage levels are high (for example, because of minimum wages) then, as we have argued, firms will respond by introducing selection criteria which confine access to those with certain educational, skill and age characteristics. Even were these characteristics randomly allocated over peasant households with respect to their land-labour endowments, if wages are high all those eligible will take jobs including households with favourable land endowments. Commonly, educational characteristics are positively correlated with land endowments and income so that land scarce and poor households, precisely the groups most in need of wage employment, are denied access. Wage levels at recruitment need to be low enough so that the labour market

is not unnecessarily rationed by selection criteria and needy households can gain access. Further, once access to wage employment is not restricted, the risk-bearing characteristics of peasant households are transformed, even for those households without members in wage employment, for they then have wage employment as a safety net should a risky strategy go wrong.

Second, the contribution of each wage job is maximised if those migrants who gain urban wage employment continue to perceive themselves as members of peasant households, retaining economic ties and intending to return to a career as a peasant farmer. Urban workers with such an intention make larger remittances to peasant households³⁴ and accumulate agricultural investments. The scale of this financial transfer into agriculture should not be under-estimated: in some African economies it exceeds 20% of the urban wage bill.³⁵ However, the magnitude of these transfers varies substantially between economies. The retention of economic ties by urban workers with peasant relatives, though sensitive to policy, is not a matter of government exhortation but rather of the financial attractiveness of agricultural investments. If the returns to risk-taking, innovation and investment are sufficiently high that prosperous peasants are better off than many urban wage earners, the latter will aspire to such a career and at some stage quit wage employment for peasant agriculture. This is not fanciful: in some African economies (for example the Ivory Coast and Kenya) urban-to-rural migration takes place on a massive scale. The primary policy significance of this is, of course, for agricultural incentives. However, it suggests that an indicator of whether incentives are adequate is the

rate of quitting from the urban formal wage sector (not the rate of inter-firm quitting previously discussed). Again the under-used national pension fund databanks can provide at negligible cost an up-to-date indicator of such quits, as opposed to the dated snapshots from censi.

Further migration-focused research is unlikely to yield much of policy relevance. The two areas in which research might make a contribution are the monitoring of job quitting described above, and the contribution of wage employment to agricultural output via its effects on risk-bearing and cash raising. Clearly, the latter should be no more than a component of a research programme on peasant behaviour under cash and risk constraints.

6. Conclusion

Consciousness of the rapid growth of the African labourforce induces a tendency to frame labour market questions in terms of absorption - "can x million new jobs be created by the year y?" If the lesson drawn is that resource allocation must be more flexible than in economies with stationary populations, the question is worth posing. Flexibility translates into such matters as rapid agricultural innovation and industrial skill accumulation. Too often, however, the question is a prelude to a focus on job creation as though this were distinct from static and dynamic production efficiency. The emphasis by the World Bank on shadow pricing has perhaps tended to encourage this view that factor and product market distortions should be treated as given, the policy choice being about a trade-off between employment, current output and growth. In fact, the

policies which will enable the economy to accommodate labourforce growth are not (except in agriculture) qualitatively different from those which prevail in a successful economy with slow labourforce growth such as Japan.

The enterprise sector in Africa (whether public or private) currently encounters limits to its growth because it is often parasitic on the rest of the economy, having production costs which are uncompetitive. The labour market can play a part in restoring competitiveness by providing cheap unskilled labour and an efficient process of skill formation. Unlike in many economies, in Africa cheap unskilled labour need not imply poverty for the households which supply it, for many young potential urban wage earners (currently excluded from the market by minimum wage laws) could remain dependents of peasant households. This was, in fact, the pattern in much of Africa prior to wage regulations. Cheap unskilled labour and circular (rural-urban-rural) migration patterns are not only compatible with but assist rapid skill accumulation. (The slow pace of African skill accumulation in colonial Africa was due to racial segmentation of occupations and education rather than low unskilled wages.) In the absence of restrictions on youth wage rates firms are able to retain workers in which they invest by means of seniority wage structures. Further, by enabling poor and land scarce peasant households to access wage employment when desired, the urban unskilled labour market assists the peasant economy to overcome the obstacles generated by missing markets.

An efficient formal sector labour market would be characterised, and could be monitored, by three features of

labour turnover. First, inter-firm turnover at very low levels of seniority would be high. Second, inter-firm turnover of senior workers would be negligible. Third, quitting from the entire wage labour market prior to old age would be considerable. These features are already emerging in some African labour markets. Because African countries are probably at very different stages in this evolution, and because so many features of rather complex labour market processes are captured by the simple measures of labour turnover specified above, the comparative study of turnover (about which nothing is currently known) should be prominent on the African human resource research agenda.

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OFFICE MEMORANDUM

DATE March 13, 1985

TO Mr. John D. North, Director, PHN

FROM Nancy Birdsall, Chief, PHNPR

EXTENSION 61581

SUBJECT Back-to-Office Report: Conference on Research Priorities for Sub-Saharan Africa, Bellagio, February 24-28; and Visits in London, February 28, 1985

1. The Conference was sponsored by OPSVP and ERSVP, and included about nine Africans (policymakers and social scientists), as well as outside consultants and Bank staff. Annex 1 is a list of participants.
2. The discussion of research priorities was oriented to policy concerns, and sometimes critical of Bank policy, especially in the macroeconomic area.
3. The discussion of research topics in the human resource area combined population, employment and education in one session. Reaction to Ester Boserup's presentation on population was favorable. She suggested research in two main areas: (1) planning for improved population distribution and (2) understanding the demand for family planning so as to improve program design. There was no formal discussion of health and nutrition, except for my own interventions. Annex 2 is a summary I prepared of the human resources session. (I was the rapporteur.)
4. In London I had a useful meeting at the ODA with the population group. (See Annex 3.) They expressed keen interest in the meeting of donors doing population work in Africa; I said they would hear from us soon, but I was not clear in my own mind on the timing envisioned. They supported strongly the four areas of work in population in the PHNPR work program (family planning operations research; role of private sector in family planning; incentives; and some as yet ill-defined work on population, agriculture, and environment in Africa), and in particular expressed support for the Bank's taking a leading role in policy work on incentives.
5. I also met with Dr. Murray Baker, the ODA health man in Africa, and colleagues of his, to inform them of our tentative project plans in The Gambia (where ODA has been very active).
6. I met with Heather Joshi and Godfrey Walker of the London School of Hygiene and Tropical Medicine to discuss their research activities and possible areas of collaboration.

Attachment

cc: Messrs. A. Berg, D. Hodgkinson, Drs. A. Measham, F. Sai, PHN
Mr. E. Schebeck, PHND1; Ms. I. Husain, PHND2; Mr. S. Denning, PHND3
Ms. M. McDonald, IRDDR; PHNPR Staff

NBirdsall:mv

THE ROCKEFELLER FOUNDATION
Bellagio Study and Conference Center
at the VILLA SERBELLONI

578th Conference

RESEARCH PRIORITIES FOR SUB-SAHARAN AFRICA

February 25 - March 1, 1985

PARTICIPANTS

ABBEY, Dr. J. L. S.
Ghana High Commissioner
Sandringham
85 Range Road, Suite 810
Ottawa, Ontario
Canada KIN 856

AMOAKO, Mr. Kingsley Y.
Resident Representative
The World Bank
P.O. Box 35410
Lusaka, Zambia

ARMSTRONG, Mr. Robert
Senior Economist East Africa Office
The World Bank
1818 H Street, N. W.
Washington, D.C. 20433
U.S.A.

ATSAIN, Prof. Achi
Centre Ivoirien de Recherches
Economiques et Sociales CIRES
08 BP 1295 Abidjan 08
Ivory Coast

BATES, Dr. Robert
Division of Human Resources
and Social Science
California Institute of Technology
1201 East California Blvd.
Pasadena, CA 91125
U.S.A.

BINSWANGER, Mr. Hans P.
Chief, Agricultural Research Unit
The World Bank
1818 H Street, N. W.
Washington, D.C. 20433
U.S.A.

BIRDSALL, Ms Nancy
Chief, Policy and Research
Health, Population and Nutrition Dept.
The World Bank
1818 H Street N. W.
Washington, D.C. 20433
U.S.A.

BOSERUP, Dr. Ester
Nevedone
6614 Brissago
Switzerland

CHOKSI, Mr. Armeane M.
Chief, Trade and Adjustment
Policy Division
The World Bank
1818 H Street, N.W.
Washington, D.C. 20433
U.S.A.

COLLIER, Dr. Paul
Institute of Economics and
Statistics
Oxford University
St. Cross Building
Manor Road
Oxford OX1 3UL
United Kingdom

De GRAFT-JOHNSON, Mr. J. W. S.
Compleat Engineering and
Technical Consulting Services
P.O. Box 1
Trade Fair Site
Accra, Ghana

DIEJOMOAH, Mr. Victor P.
Director General
Nigerian Institute of Social
and Economic Research NISER
Private Mail Bag, 5
University of Ibadan Post Office
Ibadan, Nigeria

KRUEGER, Ms Anne O.
Vice President
Economics and Research Studies
The World Bank
1818 H Street, N. W.
Washington, D.C. 20433
U.S.A.

EICHER, Dr. Carl
Michigan State University
East Lansing, Michigan 48823
U.S.A.

LAL, Mr. Deepak
Research Administrator
Economics and Research Staff
The World Bank
1818 H Street, N. W.
Washington, D.C. 20433
U.S.A.

GULHATI, Mr. Ravi
Chief Economist
East Africa Office
The World Bank
1818 H Street, N. W.
Washington, D.C. 20433
U.S.A.

LELE, Ms Uma J.
Chief
Development Strategy Division
The World Bank
1818 H Street, N. W.
Washington, D.C. 20433
U.S.A.

HOPKINS, Dr. A. J.
Center of West African Studies
University of Birmingham
P. O. Box 363
Birmingham B15 2TT
United Kingdom

MULE, Mr. Harris
Permanent Secretary
Ministry of Finance and Planning
P.O. Box 30007
Nairobi, Kenya

ISENMAN, Mr. Paul
Senior Economist
Western Africa Office
The World Bank
1818 H Street, N. W.
Washington, D.C. 20433
U.S.A.

O'BRIEN, Mr. Stephen F.
Chief Economist
Western Africa Office
The World Bank
1818 H Street, N. W.
Washington, D.C. 20433
U.S.A.

KILLICK, Mr. Tony
Overseas Development Institute
10-11 Percy Street
London W1P 0J8
United Kingdom

OKIGBO, Mr. Pius
SKOP Consultants
c/o Mr. Ishrat Husain
Resident Representative
The World Bank
P.O. Box 127
Lagos, Nigeria

KONAN-BANNY, Mr. Charles
Directeur des Etudes
Banque Centrale des Etats
de l'Afrique de l'Ouest (siege)
Avenue du Barachois
B.P. 3108
Dakar, Senegal

PSACHAROPOULOS, Mr. George
Chief, Research Program
Education Department
The World Bank
1818 H Street, N.W.
Washington, D.C. 20433
U.S.A.

RWEGASIRA, Mr. D. G.
Director of Research
African Development Bank
01 B. P. 1387
Abidjan, Ivory Coast

SELOWSKY, Mr. Marcelo
Economic Adviser
Operations Policy Staff
The World Bank
1818 H Street, N. W.
Washington, D.C. 20433
U.S.A.

✓ SPENCER, Mr. Dunstan
I.C.R.I.S.A.T.
B. P. 12404
Niamey, Niger

ZAKI, Mr. Sayed A. A.
Under Secretary of Finance
and Economic Planning
Khartoum, Sudan

Notes on Discussion of Human Resources Issues, Bellagio
Conference on Research Priorities, Sub-Saharan Africa
February 1985

Human resources

This brief summary lists research topics proposed and indicates reactions of participants to particular topics. Thirteen topics are listed under three categories: population (see background paper by Boserup); employment and education (see background paper by Collier); and other human resource areas.

Population. Boserup suggested two major areas for research on population: (1) and (2) below. Participants added a third: (3) below.

(1) What investments in infrastructure might governments undertake to exploit the economic potential of areas now sparsely populated (in part sparsely populated because of lack of prior investments in infrastructure)? Background: Population distribution is now poor in relation to natural resources; rapid population growth means planning for these long-term investments must begin now; there may have been underinvestment in past from social point of view, or misallocated investment (e.g. in colonial period).

This is long-term (5 years) research. Reaction generally favorable, with some skepticism on ability to plan given unanticipated market factors.

(2) Will fertility fall given economic change, and among what groups? Background: Answering this question would allow better targetting of family planning programs and better design of programs. Specific topics: (a) quick review of existing information, from anthropological studies; (b) study of women's motivations for childbearing, including effect of family legislation on women's need to use children to secure their own future; (c) study of extent of abortion and other forms of nonmodern contraception in Africa; (d) study of costs (e.g. labor market withdrawal) as well as benefits of breastfeeding; and (e) study of male attitudes. The problem of adolescent fertility was added to agenda during discussion.

There was some dissent on Boserup's assumption that women have secondary status and limited control over family size, role of women, but not on the general approach she suggested in terms of research.

(3) What are cost-effective ways to deliver family planning services in Africa (raised during discussion)? Efficiency or cost-effectiveness depends in part on understanding demand side (i.e. Boserup's

#2 above) plus supply costs. In this context, the question of the role of the private sector in family planning was raised, an area where little information is now available for Africa.

Employment and education. Collier suggested 5 research topics in employment and education: numbers (4), (5), (8), (9), (10). Participants added three related ones: numbers (6), (7), (11).

(4) Comparative study of labor allocation within peasant agriculture, East vs. West Africa. Background: Why does so little labor (5-10%) go through market in form of hired labor in East Africa? Evidence is this is leading to large output losses as marginal returns to labor are by no means equated. Use of hired labor in West Africa is greater. In discussion, the point was made that anthropological and in-depth studies of families' labor use might indicate how labor is allocated within families.

Some participants disagreed with Collier's premise that the problem of urban unemployment had been overstudied compared with allocation of labor within rural areas; they did not disagree on the relevance of the suggested research.

(5) How can primary education be delivered at low cost, efficiently? Background: Good case for expansion of primary education, financed by secondary education fees, on grounds of equity and efficiency. In discussion, related topics came up: What is efficient length of primary education? (more literacy retention studies). Should inputs be changed, e.g. lower teacher salaries, more books?

(6) Studies on willingness-to-pay, on loan schemes (under general area of financing education).

(7) Studies on returns to education within agricultural sector.

(8) Comparative study of labor turnover (different countries) using existing data (e.g. of pension schemes), to understand how human capital is accumulated on-the-job, how turnover is related to wage structure, how wage structure is related to skill formation and labor productivity. Background: The "English" system of low premia to seniority but higher starting salaries discourages firms from training workers; the poor capital market discourages individuals from financing their own training. The Japanese system of low turnover after a few years service should be encouraged.

Some participants questioned whether the Japanese model of wage structure would work in Africa, but there was no real questioning of the value of the proposed research.

(9) Study of productivity in public sector, following Leonard approach, i.e., direct measurement of labor productivity. Hypothesis:

inter-skill, intra-firm promotion structure provides incentives to individuals that raise productivity.

Despite some confusion in the discussion over Collier's specific examples, there was virtual unanimity on the need for such research.

(10) Study of effects of wage employment on output in peasant agriculture, as a component of a study of risk-bearing in rural areas. Background: risk and capital markets very weak in rural areas. Government should be strengthening savings institutions and creating savings instruments, rather than subsidizing credit.

(11) In discussion of number 10, participants disagreed on various premises, but agreed that the general research issue raised by number 10 could be broadened to cover more general exploration of the causes of absence of well-functioning markets in rural areas of Africa for risk-sharing and for savings and credit.

Other human resources areas

Two additional topics arose:

(12) Risk-sharing or insurance markets in health, and more generally willingness-to-pay for health (more on this came in discussion of public finance 2 days later).

(13) Interactions among social programs. What are the benefits of one type of social service for outcomes in another social area, e.g. benefits of social investments in health for educational outcomes, of social investments in family planning for health, educational outcomes?

Nancy Birdsall
March 6, 1985

London, February 28, 1985

Persons Met

Overseas Development Administration

Population Group:

Nick Ward (M.D.)
Sheila Macrae (Senior Population Advisor)
Cliff Lenten
Barbara Kelley
Chris Allison

Health, Africa:

Dr. Murraray Baker
Mr. Whorlow

OFFICE MEMORANDUM

DATE December 10, 1984

TO Distribution List

FROM Marcelo Selowsky, OPSVP *M.S.*

EXTENSION 76153

SUBJECT Bellagio Conference on Research Priorities for Sub-Saharan Africa
(February 25 - March 1, 1985)

~~Ms. Birdsall~~

1. file: Bellagio SSA

2. Copy to J. North

John -

I just heard
about this from
Marcelo
today.

Nancy
Birdsall

We have finally completed the program for the Conference and I am very happy you will be able to attend. Please allow sufficient time for the preparation of your travel plans and schedule your arrival in Milan for Sunday, February 24, 1985. A reservation for that day, for all the participants, has been made at the Hotel Dei Cavalieri in Milan. Your department should cover the travel expenses of the trip.

Enclosed please find a program and a list of participants.

Distribution:

Messrs: Armstrong
Gulhati
O'Brien
Isenman
Lal
Psacharopoulos
Binswanger
Choksi

Mrs. Krueger
Ms. Lele
Ms. Birdsall

Conference on Research Priorities
for Sub-Saharan Africa
Villa Serbelloni, Bellagio
February 25 - March 1, 1985

PARTICIPANTS

Dr. J.L.S. ABBEY
Ghana High Commissioner
Sandringham
85 Range Road
Suite 810
Ottawa, Ontario
CANADA KIN856

Mr. Hans P. BINSWANGER
Chief, Agricultural Research Unit
The World Bank
1818 H St., N.W.
Washington, D.C. 20433
USA

Mr. Kingsley Y. AMOAKO
Resident Representative
The World Bank
P.O. Box 35410
Lusaka
ZAMBIA

Ms. Nancy BIRDSALL
Chief, Policy and Research
Health, Population and Nutrition Dept.
The World Bank
1818 H St., N.W.
Washington, D.C. 20433
USA

Mr. Robert ARMSTRONG
Senior Economist
East Africa Office
The World Bank
1818 H St., N.W.
Washington, D.C. 20433
USA

Dr. Ester BOSERUP
Nevedone
6614 Brissago
SWITZERLAND

Professeur Achi ATSAIN
Centre Ivoirien de Recherches
Economiques et Sociales
(CIRES)
08 BP 1295 Abidjan 08
IVORY COAST

Mr. Armeane M. CHOKSI
Chief, Trade and Adjustment Policy Division
The World Bank
1818 H St., N.W.
Washington, D.C. 20433
USA

Dr. Robert BATES
Division of Human Resources
and Social Science
California Institute of Technology
1201 East California Boulevard
Pasadena, California 91125
USA

Dr. Paul COLLIER
Institute of Economics and Statistics
Oxford University
St. Cross Building
Manor Road
Oxford OX1 3UL
ENGLAND

PARTICIPANTS

Mr. J.W.S. De GRAFT-JOHNSON
Compleat Engineering and
Technical Consulting Services
P.O. Box 1
Trade Fair Site
Accra, GHANA

Mr. V. DIEJOMOA
Director General
Nigerian Institute of Social
and Economic Research
(NISER)
Private Mail Bag 5
University of Ibadan Post Office
Ibadan, NIGERIA

Dr. Carl EICHER
Michigan State University
East Lansing, Michigan 48823
USA

Mr. Ravi GULHATI
Chief Economist
East Africa Office
The World Bank
1818 H St., N.W.
Washington, D.C. 20433
USA

Dr. A.J. HOPKINS
Center of West African Studies
University of Birmingham
P.O. Box 363
Birmingham B15 2TT
ENGLAND

Mr. Paul ISENMAN
Senior Economist
Western Africa Office
The World Bank
1818 H St., N.W.
Washington, D.C. 20433
USA

Mr. Charles KONAN-BANNY
Directeur des Etudes
Banque Centrale des Etats de
l'Afrique de l'Ouest (siege)
Avenue du Barachois
B.P. 3108
Dakar
SENEGAL

Mr. Tony KILLICK
Overseas Development Institute
10-11 Percy Street
London W1P 0JB
ENGLAND

Ms. Anne O. KRUEGER
Vice President, Economics and Research Staff
The World Bank
1818 H St., N.W.
Washington, D.C. 20433
USA

Mr. Deepak LAL
Research Administrator, Economics
and Research Staff
The World Bank
1818 H St., N.W.
Washington, D.C. 20433
USA

PARTICIPANTS

Ms. Uma J. LELE
Chief, Development Strategy Division
The World Bank
1818 H St., N.W.
Washington, D.C. 20433
USA

Mr. Harris MULE
Permanent Secretary
Ministry of Finance and Planning
P.O. Box 30007
Nairobi, KENYA

Mr. Stephen F. O'BRIEN
Chief Economist
Western Africa Office
The World Bank
1818 H Street, N.W.
Washington, D.C. 20433
USA

Mr. Pius OKIGBO
SKOP Consultants
c/o Mr. Ishrat Husain
Resident Representative
The World Bank
P.O. Box 127
Lagos, NIGERIA

Mr. George PSACHAROPOULOS
Chief, Research Program
Education Department
The World Bank
1818 H St., N.W.
Washington, D.C. 20433
USA

Mr. D.G. RWEGASIRA
Director of Research
African Development Bank
01 B.P. 1387
Abidjan, IVORY COAST

Mr. Marcelo SELOWSKY
Economic Adviser
Operations Policy Staff
The World Bank
1818 H St., N.W.
Washington, D.C. 20433
USA

Mr. Dunstan SPENCER
ICRISAT
B.P. 12404
Niamey, NIGER

Mr. Sayed A.A. ZAKI
Under Secretary of Finance
and Economic Planning
Khartoum, SUDAN

**Conference on Research Priorities
for Sub-Saharan Africa
Villa Serbelloni, Bellagio
February 25 - March 1, 1985**

PROGRAM

1. Sunday, February 24

Arrival in Milan. Overnight stay at Hotel Dei Cavalieri.

2. Monday, February 25

9:30 a.m. Departure for Bellagio.

12:30 p.m. Lunch at Villa Serbelloni.

2:30 p.m. Afternoon: Session I. The Context.

Anne Krueger (Chairperson): "Introductory Remarks"

Harris Mule: "The View from Africa"

Paper: A.J. Hopkins "The Historical and
Institutional Context."

Discussants:

Charles Konan-Banny

Ravi Gulhati

Stephen F. O'Brien

3. Tuesday, February 26

9:00 a.m. Morning Session: "Human Resources"

J.L.S. Abbey (Chairperson)

Papers: Ester Boserup
Paul Collier

Discussants: Sayed A.A. Zaki
Kinsley Y. Amoako
George Psacharopoulos

General Discussion

Rapporteur: Nancy Birdsall

2:30 p.m. Afternoon Session: "Agricultural Development"

Harris Mule (Chairperson)

Paper: Carl Eicher

Discussants: Achi Atsain
Dunstan Spencer

General Discussion

Rapporteur: Hans Binswanger

4. Wednesday, February 27

9:00 a.m. Morning Session: "Issues in Pricing Policy"

Stephen F O'Brien (Chairperson)

Paper: Achi Atsain

Discussants: Charles Konan-Banny
Pius Okigbo

General Discussion

Rapporteur: Uma Lele

2:30 p.m. Afternoon Session: "Resource Mobilization and Public Finance Issues"

Ravi Gulhati (Chairperson)

Paper: Robert P. Armstrong

Discussants: V. Diejomoah
J.W.S. De Graft-Johnson

General Discussion

Rapporteur: Paul Isenman

5. Thursday, February 28

9:00 a.m. Morning Session: "Macro Economic Adjustment and Trade Policy"

D. Lal (Chairperson)

Paper: Tony Killick

Discussants: Harris Mule
J.L.S. Abbey

General Discussion

Rapporteur: Armeane Choksi

2:30 p.m. Afternoon Session: "The Economics of Transition and Political Economy of Policy Reform"

Anne Krueger (Chairperson)

Paper: Robert Bates

Discussants: Achi Atsain
D.G. Rwegasira

General Discussion

Rapporteur: Stephen F. O'Brien

6. Friday, March 1: Summary and Conclusions

9:00 a.m. Morning Session:

Mr. V. Diejomoah (Chairperson)

Presentation: Deepak Lal
Marcelo Selowsky

General Discussion

Afternoon

Departure from Villa Serbelloni