Overcoming Rural Poverty in Africa

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The workshop sponsors: The Centre for Applied Studies in International Negotiations, established in 1979 at Geneva, Switzerland, is a private nonprofit foundation dedicated to helping resolve problems in a wide range of areas, including trade, the environment, agriculture, health, and human rights. The Sasakawa Africa Association and the Global 2000 program of The Carter Center are joint sponsors of the Sasakawa-Global 2000 agricultural projects in sub-Saharan Africa, whose primary aim is to promote more effective transfer of improved technology to small-scale farmers. Both organizations were set up in 1986, the former by the Nippon Foundation, Tokyo, and the latter by The Carter Center, Atlanta, Georgia, USA.

Abstract: This publication is the ninth in a series of workshops that explore measures for improving sub-Saharan Africa's food security and other issues relevant to economic progress in the region. The chapters cover the causes of poverty in Africa, establishing political conditions for rural development and poverty reduction, rural development strategies for poverty reduction and environmental protection, rural household dynamics, and priorities for rural development and poverty reduction.

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Foreword

In 1984, pictures of tragedies stemming from famine in many African countries prompted the international community to mobilize massive food assistance. Against this backdrop, 30 specialists and representatives of public life gathered in Geneva in July 1985, to examine how sub-Saharan Africa could achieve greater food security. This first meeting resulted in the launching, a year later, of pilot projects in three countries, Ghana, the Sudan, and Zambia, which aimed at transferring appropriate agricultural technology to farmers. Now, under the umbrella of SG 2000, a joint undertaking of the Sasakawa Africa Association and the Global 2000 program of the Carter Center in Atlanta, projects are operational in 12 African countries. All have the same objective of contributing to rural development and poverty eradication.

During the last 10 years, in parallel with the implementation of country projects, workshops have been held almost annually. They are intended to provide decision-makers in countries where SG 2000 is operating, as well as senior staff of multilateral and bilateral agencies and specialists in rural development, with opportunities to debate issues of central importance for ensuring agricultural growth and the development of rural communities. Over the years, the workshops have dealt with such issues as ensuring the relevance of research, improving extension, securing inputs, and strengthening institutions and cooperation. All workshops have ended with concrete recommendations.

Workshop 1996 took place when SG 2000 was celebrating the tenth anniversary of the establishment of its first project. Its aim was to review the set of foremost policy decisions needed to accelerate the process of rural development and reduced rural poverty. It brought together ministers of finance and agriculture from African countries where SG 2000 is active and senior leadership from development agencies. The purpose of the workshop was to reach conclusions on practical measures to be taken and the needed political conditions to reinforce the commitment of governments and society to rural development and poverty reduction. It examined the appropriate macro-policy decisions to be taken to create conditions for sustainable rural development and poverty reduction. Its objective was finally to ponder key government interventions in health and nutrition, family planning, access to education and training, and farm and nonfarm employment options.

The success of any workshop is the result of the effort and dedication of numerous people working behind the stage. I would like to express my gratitude to Chris Dowswell and Jack van Holst Pellekaan, who were instrumental in setting up and finalizing the program, to Gertrude Monnet, who was in charge of the logistics, and to France Wine, Sandra Vetter, and Caroline Cartier, who, among others, saw to the smooth running of Workshop 1996 . Also I want to acknowledge the important work of Steven Breth, the editor of this volume.

Jean F. Freymond
Director, CASIN

Glossary

CASIN	Centre for Applied Studies in International Negotiations
₵	cedi
CFA	Franc de la Cooperation Financière en Afrique
ECOWAS	Economic Community of West African States
GDP	Gross domestic product
GNP	Gross national product
ICRISAT	International Crops Research Institute for the Semi-Arid Tropics
IFAD	International Fund for Agricultural Development
IFC	International Finance Corporation
IMF	International Monetary Fund
MIGA	Multilateral Investment Guarantee Agency
OECD	Organization for Economic Cooperation and Development
PTA	Preferential Trade Area
SADCC	Southern African Development Coordination Conference
SG 2000	Sasakawa-Global 2000
t	tonne (1,000 kg)
UNDP	United Nations Development Programme

Meeting Summary

Opening Session

Former U.S. President Jimmy Carter opened the workshop by describing the SG 2000 mode of operation. He said that there is a tangibility of results that is inspirational. He reflected on meeting African farmers who have vastly increased their harvests, built new houses, bought oxen, and even had their sons return from the city to join their father in farming. An essential aspect of the SG 2000 approach is that government officials all at levels from extension workers to ministers of agriculture are involved. The program, he said, is not a Japanese program or a American program, it is a program of the nation in which it takes place. SG 2000 generally has at most one foreign specialist assigned to each country in which it works. All other staff are indigenous. Consequently when SG 2000 withdraws from a country, the capacity to carry on successful activities is in place.

Ayako Sono, the new president of the Nippon Foundation greeted the workshop participants by recalling the dedication of the late Ryoichi Sasakawa to progress in Africa. She related some of her experiences in Ethiopia during the famine years of the mid-1980s and during subsequent trips to Africa. One of her strongest impressions, she said, was the strength and warmth of human relations among village people, something that is not found to the same degree in Japanese or American society.

Pierre Pettigrew, Canada's minister for international cooperation, expressed some concern about the Africa's readiness as the era of globalization begins. He commented that because of globalization the power of the nation-state is passing to markets. While few regret cutting red tape and dismantling bureaucracies, there are some dangers in the anonymous processes of globalization. Markets, he observed, may be efficient but they are incapable of taking a long-run view and can think only in material terms. In addition, states can be eventually changed by the people if they are sufficiently dissatisfied, but market laws cannot be repealed. He worried that in an age of globalization, Africa is not well-situated to compete on an equal footing with other regions.

Of the various priority steps African countries need to take to overcome poverty, Pettigrew said the central one is the role of women. They make up, he pointed out, most of the poor and most of the illiterate. In Africa, where agriculture is so important, women do 70 to 80 percent of the agricultural work along with gathering wood and water, processing food, and preparing meals. Yet agricultural support programs largely bypass women.

He called for sharp changes in women's place in society. Agricultural programs should be specifically directed toward women; the organization of women's groups should be encouraged; tenure laws that disenfranchise women should be changed. If such steps were taken, Pettigrew said that the result would be a surge in GDP with wide-ranging implications for the entire country.

In his view, women, because of their present low productivity, represent the best hope for rapid productivity increases as a result of directing scarce resources to their needs. And doing so would readily spin off benefits in family health, nutrition, the vitality of village society.

Keynote Address

Edward V. K. Jaycox, former vice president of the World Bank, gave the keynote address on poverty in Africa. He noted the central importance of agriculture for countries in terms of GDP, in foreign exchange earnings, in diminishing the need for food imports, and in stabilizing the environment. But he said the next 20 years are crucial for African agriculture. Impoverished people are on the verge of overwhelming Africa's agricultural resources.

One alarming trend is that population is growing about 3 percent a year while agricultural output is expanding only 2 percent a year. Imports and food aid are rising rapidly. The proportion of malnourished people is increasing.

A weak agriculture has led to a poor macroeconomic situation for most African countries: the lack of tax collection, lack of exports, rising imports, crumbling infrastructure, and deteriorating environment. And the remedies are not clear-cut. Jaycox observed that World Bank considers half of its agricultural projects in sub-Saharan Africa to have been failures. And that rate, he said likely applies to bilateral donors, NGOs, and others as well.

Nonetheless Jaycox said the basis exists for turning the situation around. Economic reforms instituted by African governments during the past decade are beginning to bear fruit. Half the 30 countries in structural adjustment now have positive per capita growth rates. And in those countries, agricultural growth is beginning to outpace population growth. For the first time in many years, it is possible to talk about investment in production without the threat of being undermined by poor policies, Jaycox stated.

In addition to the development of a climate for economic advance, government and donors have learned some important lessons from the mistakes of the past: (i) Sustainable poverty reduction will not occur in the absence of growth; (ii) growth won't occur in the absence of reasonable economic policies; (iii) Africa is not adequately using its trained people, and it has lost capacity in recent decades; (iv) Africans have to become fully committed to rural development and take the reins from the donors; (v) donors decapacitate nations by mounting innumerable small, ineffective projects.

While there are promising opportunities, there are considerable uncertainties. Jaycox deplored the neglect of irrigation and the development of water resources, which leaves nations' food supplies wholly at the mercy of uncertain rainfall. Credit systems are rudimentary, or subsidized in an unaffordable manner. People still rely too heavily on governments to supply infrastructure. Some types of infrastructure such as well-digging should pass to private hands. Finally, the lack of land reform remains a major barrier to higher productivity in the agricultural sector.

Assessing Poverty in Africa

Jack van Holst Pellekaan, poverty advisor in the World Bank's Africa technical department presented a paper, co-authored by Teresa Hartnett, research assistant in the World Bank, which examined the causes of poverty in sub-Saharan Africa, how poverty in the region compares with poverty in other regions of the world, and the detailed characteristics of poverty based on household surveys. The authors said that the causes of poverty are inadequate access to assets of various kinds: employment opportunities, physical assets such as land and capital, government support for development, and markets. In addition, the poor suffer from inadequate delivery of education, health, sanitation, and domestic water services; they bear the brunt of destruction of natural resources; they receive the least assistance after catastrophes such as drought, floods, and war; and they have no say in the design of development programs.

Worsening Poverty in Africa. Poverty in sub-Saharan Africa is worse than in any other region except South Asia according to van Holst Pellekaan and Hartnett. But since 1980 sub-Saharan Africa has been declining economically, while South Asia and other regions have been growing. The poor performance of the agricultural sector is in important reason for the decline in sub-Saharan Africa.

Based on a poverty line defined as US$1 a day per person, the degree of poverty in sub-Saharan Africa is deeper than in any other region. Because population growth rates have begun to decline, economic growth will not have to be spread so thinly at some point in the future. But actual population will still double by 2025, and, van Holst Pellekaan and Hartnett contended, there is little that Africa can do in the next decade or two that will have a direct effect on population growth. As a result, countries will have difficulty increasing GDP per capita and that in turn will limit employment opportunities.

Other than on income, sub-Saharan Africa ranks behind other regions in social indicators such as infant mortality rate, life expectancy, and primary school enrollment. In fact after dramatic gains for several decades, primary school enrollment rates have slipped in the 1990s.

Neglect of Women and Rural Areas. An extensive series of household surveys conducted in African countries have allowed comparisons of different income classes as well as relative poverty among countries. Based on these surveys, the author show that poor have less land, capital, and education, and lower health and entitlements than those in higher income groups. In particular, women suffer from having less access to resources than men. The authors cited a Kenya study that indicates that if women farmers' resources equaled men's, women's output would increase 22 percent. Since women produce 75 percent of the food, such an increase would dramatically raise food supplies.

Household surveys clearly show that as incomes rise, family size declines. Primary school enrollment increases with rising incomes, and this pattern is consistent for both boys and girls and for rural and urban areas. But the rates are considerably lower in Sahelian countries than in non-Sahelian countries, and within the Sahelian countries, the rates are much lower in rural areas than urban areas.

The pattern of gains from the 1960s to the 1980s and slow progress thereafter also holds for health measures such as life expectancy. Urban/rural gaps are great in access to primary health care and access to safe water. Similarly nutritional status has not improved in the last decade and has worsened in some instances.

Environmental conditions have suffered as migration has intensified population densities in urban areas and as farmers have pressed into new areas in search of land to cultivate.

The authors concluded that without economic growth, the economic pie can only be divided into smaller and smaller pieces. They state that African countries must attain much higher growth rates that have been achieved in the past or than are currently targeted—6 to 7 percent a year, which would produce per capita growth rates of 3 to 4 percent a year. But economic growth alone is not enough reduce poverty. To ensure that the poor benefit, particularly in rural areas, social services such as education, health, water supply, and roads must be improved. Finally, government commitment must be demonstrated through sound macroeconomic policies and targeting of public expenditures on rural areas.

Four Dimensions of Poverty. In commenting on the paper by van Holst Pellekaan and Hartnett, Ellen Johnson Sirleaf, assistant administrator, UNDP, laid out four dimensions of poverty. First, macroeconomic conditions and weak development policies have worked against poverty reduction. Sub-Saharan countries established consumption patterns when export prices were favorable, but failed to rein them in when export terms of trade turned against them and external investment capital dried up. As a result government spending contracted in such areas as education and health in the 1980s and 1990s. The second dimension is population growth that outstripped economic growth and that was greatest among the poorest countries. A third dimension is bias that limits access of the poor to the benefits of development. This bias manifests itself in the tendency to concentrate infrastructure in urban areas and high potential regions and in small farmers' lack of access to credit and extension. The fourth dimension is poor resource management, which disproportionately affects the poor. Lacking capital, the poor are unable to follow even traditional methods of soil and water conservation. Water provided free to a few farmers has led to overuse, waterlogging, and the deterioration of irrigation systems rather than an economically efficient distribution of this scarce resource.

Sirleaf called for macroeconomic policies that lower the unemployment in rural areas and reduce the income disparities between rural and urban households. She says the ability to accumulate capital is a vital issue for people trying to escape poverty. The poor must have access to credit, a means for savings, and the possibility of owning land. Small enterprises, the informal sector, offers employment opportunities for the poor, but needs less regulation and more infrastructural services in order to flourish. Rural infrastructural services would also improve the marketing opportunities and incentives for poor farmers, of whom a large proportion are women.

Overall, governments should increase the proportion of spending on social services, especially ones that particularly benefit the poor: basic and nonformal education, nutrition programs, and primary health care. Government should operate in a transparent and accountable way. This can be achieved by fostering the formation of representative groups that would give the poor a say in policy formulation and by greater decentralization of authority to the local level.

Sirleaf Johnson also urged governments to adopt UNDP's human development index as an indicator of progress achieved by policies and programs aimed at alleviating poverty.

Finding a Way to Change Directions. Starting the floor discussion, President Carter challenged the participants to find the next step. He expressed the hope that 10 years hence, the data on sub-Saharan Africa would not be the same, and he said that dramatic changes are starting to occur. He cited the potential for breakthrough in the relationships of government, donors, and NGOs in Ethiopia. He also said that with the right policies, countries had an opportunity to benefit from the capital and technical know-how of multinational firms. Finally he sought guidance from the participants on how he could be helpful by bringing together heads of governments, development agencies, and private companies to find ways to change directions in Africa.

In the floor discussion, a number of participants said they felt that the picture of present-day Africa was too grim. They pointed to the several dozen countries that are in various stages of structure adjustment. As a result there are signs of macroeconomic stability and even domestic resource mobilization. Another widely held view was that growth rates were overemphasized. One participant observed that growth rates are dependent upon success in getting aid, among other things. Measures of progress in nutrition, immunization, literacy, and access to water are better indicators of gains in human welfare. Several participants called for African nations to take charge of identifying their development problems and directing their development programs instead of ceding control to donors.

Political Conditions for Rural Development and Poverty Reduction

In her address on the political conditions for rural development and poverty reduction, Specioza Wandira Kazibwe, vice president of Uganda, began with an admonition that the target should really be poverty elimination. She went on to say that politics is the management of society and that the first step for politicians is to have an accurate picture of society.

Two Tribes. Although Africa is often characterized as being tribalistic, Kazibwe said the only tribes that count are the tribe of men and the tribe of women. Beyond that, it is necessary for politicians to understand the age structure of their communities and the family structure. It is important to determine who is the de facto head of household, she said, because it is often the wife even though the family is typically patrilineal. She warned that income is a poor gauge of the condition of the African family. Instead she urged looking at such indicators as literacy and numeracy, nutritional status, access to clean water, schools, and health units.

People, she said, must be empowered to identify their problems, prioritize them, and plan to overcome them. Kazibwe described how Uganda's political landscape has been transformed in recent years to put more power in the hands of the people. Elected officials are now required to have a residence in their constituency. Candidates pictures appear on the ballots so that voters recognize the people they elect. Community organizations, such as women's groups or youth councils, are being formed to give people vehicles for addressing problems. And the decentralization of government programs has been written into the constitution.

In Uganda basic education is considered fundamental for development. The emphasis is on vocational training and, particularly for women, functional literacy. Another important goal is predictable rule of law.

Balance in Development. Looking ahead, Kazibwe expressed concern about balanced development. Success in raising crop yields will depress grain prices unless the animal sector is being developed as well. Also, agricultural industries or other industries will be needed to support farmers and provide employment in towns, and marketing infrastructure will have to be developed.

Finally Kazibwe called for reorganizing government agencies to reduce duplication and shrinking them to a manageable size.

Pettigrew responded to Kazibwe's address by emphasizing two major steps that politicians should take to support development. First, he said, ensure that the right legal conditions for development exist. In particular that means giving women legal access to land and allowing women to inherit land. Second, educate the public about the decisions that have to be made, and start political mobilization at the grass roots to bring about needed change.

In the floor discussions, Kazibwe replied to a question about the effects of food aid by saying that it undermines the principles of food security. She recommended that if food aid was genuinely needed, the commodities should be purchased within Africa so that the money generates economic activity within the region.

There was support for Kazibwe's emphasis on education, but it was pointed out that there are substantial difficulties in attempting to target public resources to improve the education and health of children in poor families. Adult education for women is important because the education and nutrition of children is related to the resources generated by the mother. Similarly, since women are the main agricultural producers, targeting credit to them is another way of benefiting children.

Another participant stressed that African governments budgets are constrained by external debt. After paying salaries and debt service, nothing is left for operations. There was a proposal that donors should agree to allow governments to reinvest half their annual debt service to develop their agricultural sectors.

Another participant called for regional action in agriculture to allow marketing of commodities across borders to minimize duplication of agricultural processing and service industries. At the same time, farmers should be encouraged to organize on a national and regional basis to gain a voice in policy making.

Establishing Political Conditions for Poverty Reduction

The participants, divided into four working groups, were asked to devise the elements of an action plan for reducing poverty. Group 1 stressed substantially increased investment in the rural economy particularly through rural road building to reduce the exorbitant cost of transport. Second, they said, countries should take control of their development priorities by refusing to accept donor funds that do not fit those priorities. Third, they called for governments to pass legislation to overcome structural barriers that hamper women's access to economic resources and assets. Finally they said governments should support local capacity building by being less dependent on outside experts.

The second working group proposed bringing together every ministry to develop a government-wide consensus on the importance of the rural sector and the elements of a strategy to deal with its mobilization and development. The expected outcome would be that every ministry would contribute to rural development.

The strategy would be validated by public participation of stakeholders, the implementers, and particularly farmers, who have not traditionally had a voice in decisions that are made.

To ensure that the strategy developed is backed by government budgets, the working group recommended a meeting convened by President Carter at which heads of state would present comprehensive plans that had resulted from public participation. The aim would be to create an atmosphere of commitment and success among African leaders.

At the same time donors could bolster these efforts by insisting that their contributions to rural development and poverty reduction will be based on evidence of performance by the government.

To bring about greater political commitment to rural development and poverty reduction, the third working group advocated democracy and accountability through elected officials accountable to their constituencies; more transparency, i.e., more readily available information about government budgets; more citizen involvement in assessing problems and setting priorities; and more committed leaders. This working group listed four high priority policy areas: infrastructure particularly roads, water, education, and research and extension; off-farm employment; family planning and health; and loosening market constraints.

The fourth working group called for steps to encourage confidence and trust between various groups in society and between nations. It also recommended development of a regional macroeconomic framework to attract investment and ensure stability. Other important areas are adult education, credit sources for rural investment, better management of soil and water resources, and development of alternative energy sources for rural areas.

In the discussion, participants suggested that working groups had overlooked the importance of the development of new technology as the true engine of economic growth and that at the root of the lack of international private investment in Africa is the absence of laws that make private investment secure. But it was noteworthy, one participant said, that there was a broad consensus that African governments must take charge of their development priorities. Such a consensus did not exist just a few years ago.

Rural Development Strategies

Kevin Cleaver, director of the World Bank's Africa Technical Department, stated in his paper on rural development strategies that to obtain a 2 percent a year reduction in the number of poor, an economy has to grow by 6 to 7 percent a year. And to achieve that growth rate, agriculture must grow by 4 to 5 percent a year not only because agriculture is such a large contributor to GDP in Africa, but also because so much of the industrial sector is agriculturally related.

Unfortunately, the economic performance of agriculture in Africa has been weak in the past 30 years. Food production per capita has fallen and food imports have risen. A further consequence is that rural poverty has worsened and the environment has suffered.

Development Fashions. Cleaver commented that half of all World Bank agriculture projects are considered to have been failures. He went on to review the various development strategies that have been in vogue in the last 3 decades: integrated rural development, single-crop development, agricultural credit, free-standing agricultural research or livestock services, and in arid areas, irrigation projects.

Overall, Cleaver observed, these approaches had several common shortcomings. Farmer incentives were suppressed by confiscatory official agricultural prices, and government marketing enterprises were inefficient. In addition, government input supply rarely worked and was often corrupt, and private or cooperative alternative sources of inputs were suppressed.

The macroeconomic climate worked against agriculture. The exchange rate was overvalued, making export crops expensive and food imports inexpensive. Urban bias in government meant that little was spent on rural infrastructure, clinics, and schools. Industrial nations skewed world commodity markets by subsidizing their own agricultural production and dumping some commodities in Africa.

The operations of development projects were seriously flawed. Government capacity was not developed because projects operated apart from government agencies and were largely staffed by expatriates. There was no lasting benefit once donor funding ended and the expatriates departed. The lack of coordination between donors, NGOs, and the government meant that the aggregate overhead costs of the projects were very high.

There were of course exceptions, and Cleaver noted the success of several commodity schemes that involved substantial private participation.

The Current Era. In the late 1980's, the World Bank and other donors revamped their approach. The major change was emphasis on economic reform, which liberalized exchange rates, reduced price controls, dismantled parastatal marketing agencies, and encouraged the private sector. In agriculture, donors supported the development of a single national research system and a single national extension system to stimulate technology adoption by farmers. Donors began to realize the importance of farmers' groups as a mechanism for handling marketing, input supply, and soil conservation. In mounting projects, donors also stressed the use of government line agencies, rather than project management units, and African personnel, rather than expatriates.

Cleaver assessed the consequences of these changes by comparing recent national agricultural growth rates with indicators of policy changes. He has found that countries that have generally better economic policies and policies on fertilizer, extension, and infrastructure have had greater agricultural growth than countries have not reformed their policies. The results, however, are not totally clear-cut because of the powerful short-run effect of weather on agriculture regardless of policies. It is evident that the target of 4 percent growth in agriculture is not easy to achieve even in countries with good policies. In addition the heterogeneity of results underscores the need for each country to have its own strategy for agricultural development.

Flaws Revealed. According to Cleaver several weaknesses of the new strategy have become apparent. The enabling environment for private investment has not developed as rapidly as expected. Donors have difficulty channeling funds through government intermediaries to the private sector because of bureaucratic inefficiency. Private banks on the other hand have not shown interest in small farmers and small businesses. Cooperative banks and microcredit schemes are more effective, but they serve only small numbers of people.

Another shortcoming is the tendency of NGOs to mirror the flawed approaches of donors: expatriate management, multiple small projects with high overheads, and lack of coordination with government priorities.

Also the poorest people in rural areas remain out of reach. These include particularly women heads of households, farmers in remote areas, and the disabled and old.

Despite rhetoric, concrete efforts to draw on and enhance African capacity are rare. There are few examples of civil service reform, and donors still rely too heavily on expatriate management.

Most governments have not yet demonstrated commitment to agricultural development. Government have shortchanged operating and maintenance funding for agricultural research, extension, rural infrastructure, irrigation, environment, water supply, and public marketing and input supply. Donors have not helped by continuing to underwrite such investments despite government indifference. Moreover they continue to substitute for government action by financing their own projects.

Remedial Action. Cleaver recommended eight areas for improving the strategy based on policy reform combined with investment in and efficient management of agricultural extension, research, rural infrastructure, and natural resource programs. First, regional cooperation among governments will be needed to mount a campaign to achieve continent-wide commitment to agricultural development. Second, as part of the commitment to agriculture, each government needs to develop a comprehensive agricultural strategy. Donors can support this effort by developing a joint agricultural strategy for Africa and pledging to focus their support on governments that demonstrate commitment. Third, donors need to develop more effective mechanisms for supporting the private sector. Governments can facilitate this activity by accelerating policy reforms that liberalize price, exchange rate, marketing, and credit systems and provide need legal protection. Fourth, governments should establish a framework of public expenditure programs in agriculture that NGOs, donors, and private investors can be invited to support and participate in. Such a step would avoid large numbers of independent agricultural projects and would allow African management capacity to efficiently utilized. Fifth, donors and governments need to reverse the declining interest in rural infrastructure, health, and education. Sixth the scale of natural resource management programs should be expanded. Too much is still in the pilot project stage. Seventh, African capacity should be employed and improved. Better training, more use of nonpublic institutions in agriculture projects, privatization, and civil service reform are major instruments for capacity building. Community organizations should be more frequently brought into delivery of services at the local level. Finally, the poorest citizens must be targeted for better infrastructure, health, education, and agricultural services. For these people, social objectives will have to take precedence over economic objectives.

Key to Poverty Reduction. The discussant, Steve Obimpeh, Ghana's minister for agriculture, agreed with Cleaver's review of the history of development strategies. He said Ghana has gone through all of the stages identified. In Obimpeh's view, the common flaw in the past was a failure to recognized that agriculture is the key to poverty reduction, environmental protection, and rural business. Disregard for the agricultural sector led to high direct and indirect taxation and underpricing of agricultural commodities for the benefit of urban populations, a concentration of infrastructure and social service in cities, imposition of top-down government programs, and government control of marketing, storage, input supply, and credit.

Obimpeh said that since 1983, Ghana has

gone though several stage of economic reform. Agricultural growth of 4 to 6 percent annually is expected in the next two decades in order to achieve an overall annual economic growth of 8 percent. The government is emphasizing an enabling economic environment to increase productivity in the acquisition and distribution of appropriate inputs for farm production, agro-processing, and marketing.

In the floor discussion, participants expressed dismay about past strategies advocated by donors. When strategies proved ineffectual, it was the African nations that were left with debts to pay. As one participant said, there is no burden sharing of development failure. Participants contended that this fact was a compelling reason for debt rescheduling. Some participants were disturbed that a universal recipe apparently was being applied to Africa despite the obvious physical, social, and economic diversity of the continent's countries. Others thought that it was ironic to have a World Bank development strategy that goes on to urge African governments to develop their own development strategy rather than letting the donors do it.

Rural Household Dynamics

G. Edward Schuh, dean, Hubert Humphrey Institute of Public Affairs, University of Minnesota, advocated thinking of the household as the centerpiece of efforts to promote equitable economic development. Households, he argued, should be given as much attention as firms in a market economy. He said that the introduction of new technology is the way households can break out of the low-level equilibrium trap that characterizes poor societies. Higher productivity means that prices for staple goods decline, in effect raising everyone's income. The importance of the agricultural sector is not its share of GDP, but the fact that everyone consumes food. Thus the modernization of agriculture is a powerful source of economic growth. Over time, with economic growth, agriculture releases labor and capital for the expansion of the nonfarm sector. Consequently the households that release labor bear the brunt of the adjustment that takes place as the economy develops.

Value of Time. The effect of productivity change on the household is to make time more valuable. And that it in turn leads to a demand for higher quality children—better educated and healthier—and less desire for numerous children. At the same time, higher productivity in economically remunerative activities creates additional demand for labor—to tend crops more intensively, for example, and to reap larger harvests. But if the technology of the household does not also improve, poor households, especially, may not be able to supply or hire the additional labor needed to take advantage of new agricultural technology.

Schuh offered several specific recommendations for enhancing human capital. Because poor families depend on children for a portion of their income, Schuh suggested using food aid to offset some of the income lost when they send their children to school. Educating adults might be more successful if sessions are scheduled at night, on weekends, or in slack periods on the agricultural calendar.

Poor health is a significant cause of low productivity in agriculture. Schuh said added stress on health care, particularly preventative medicine, in rural areas would help alleviate the labor constraint.

Better household technology for such activities as cooking, fuel acquisition, and water supply would release labor for remunerative activities and free family members for training and education.

Women's Income. In commenting on Schuh's paper, T. Paul Schultz, professor of economics, Yale University, noted that the phenomenon of declining child mortality and fertility is not only related to growing household income, it is closely related to the women's income. The value of women's time in the labor market, which is lifted by education, good health, and access to credit, is correlated with declining child mortality and population growth rates. And the strongest single indicator of fertility decline, better even than income growth, is the education of women.

Schultz singled out migration, an area frequently overlooked by economists, as a vehicle for increasing productivity. The tendency of policy makers and their advisors is try to find ways to slow the movement of people. But, Schultz observed, recent microeconomic studies have shown that the returns to migration are large. Although little data is available from Africa, studies in Côte d'Ivoire and Ghana support the thesis. In these countries, holding constant for tribal group, language, age, etc., moving out of one's birthplace region is associated with about a 50 percent higher wage for men or for women.

Although most people are aware of the squalid housing conditions of migrants living in urban areas, studies in Latin America indicate that such communities are fluid. Many inhabitants are recent immigrants who have replaced earlier immigrants who have moved on to better housing.

Schultz argued that economists should consider how to help migration occur with fewer social costs so that the productivity effects can be maximized.

In the discussion, several participants questioned whether the household model fits the African reality. They pointed to complicated relationships and responsibilities in the extended family, which provides a buffer for the less-able members. Also the complimentary responsibilities of men and women within the family were cited as an important part of family survival strategy. One participant warned that innovations have to be introduced carefully to avoid destroying family structure. Another suggested that programs introducing new activities could overload women. On migration, there was concern that slums are growing around cities not so much because of opportunity in urban areas, but lack of opportunity in rural areas.

Priorities for Action

Working group 1 reported a clear consensus that Africans at every level should take ownership of the development process, that developing marketing institutions and infrastructure are essential, that women are central to development and face impediments to their access to productive resources and assets. In rural areas, agriculture, education, particularly of girls, and heath care should have highest priority. To finance these efforts, the working group recommended increasing budget allocations to agriculture to reflect its importance in the GDP, and more contributions, in cash or kind, from benefiting communities.

Working group 2 recommended that priorities be placed on involving citizens in development planning, more vigorous use of extension to disseminate existing technology; improvement in delivery of information about markets, prices, and development options; more equitable division of government funds between rural and urban areas; and stepped up family planning programs to reduce the rate of population growth.

Working group 3 stressed research and extension to improve agricultural and household productivity, basic education, rural infrastructure such as clinics, schools, and roads, reduction of government regulations that keep the cost of transport high, and improved rural health.

Working group 4 called for the formation of community groups as a vehicle for education and training, increased development cooperation among countries, as well as among companies, NGOs, professional organizations, and government within a country; a campaign to reverse declining soil fertility; improved access to credit and markets; and an international agreement to reconvert debt to support rural development and protect the environment.

The Action Plan

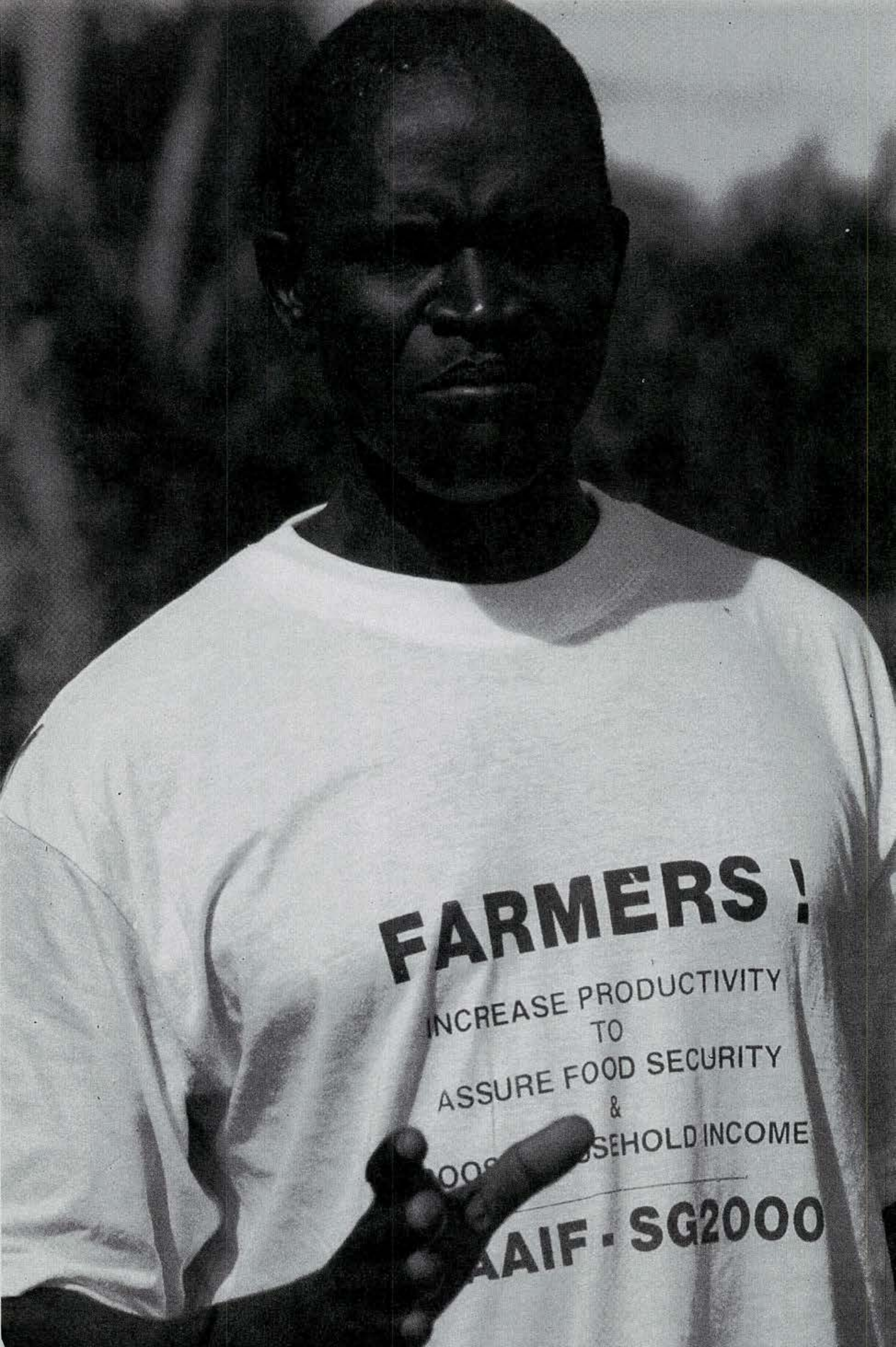
Jaycox summed up the common threads that emerged from the meeting. There was broad agreement that greater production and the income growth that it engenders is essential for making improvements—for poverty reduction, for stronger institutions, for empowering women. Production in rural areas is largely from agriculture. Extension is needed to give farmers options for raising their productivity, and research is necessary to sustain farmers' advances. Women farmers should be a focal point because their productivity is now so low. Government budgets should be reordered to eliminate urban bias. The rural economy requires greater government investment in health, education, infrastructure, and marketing. In particular education of girls and women should be a high priority because of its strong correlation with slower population growth. Finally, African should take control of their development directions.

Closing Comments

Two closing addresses were given. Yohei Sasakawa, president of the Nippon Foundation, outlined five key outcomes of the meeting. First, there was agreement that a broad effort to overcome rural poverty is needed. Agricultural improvement will be an essential part of the effort. Second, the willingness of small farmers in Africa to adopt high yielding technology has been widely recognized. Third, the debt load that many countries bear impedes change. Lenders should find ways to alleviate the burden to reverse the present economic stagnation and environmental decline. Fourth, to reduce poverty, African leaders need to make a strong commitment to agriculture and rural development strategies. Fifth, there are heartening signs of international cooperation in the campaign to overcome poverty in Africa.

The president of the Sasakawa Africa Association, Norman Borlaug, recounted the origins of Sasakawa-Global 2000 and how the program came to focus on helping to improve agricultural extension. He emphasized the importance of having people who can take different aspects of technology and fit them together in a way that make sense for the farmer. That technology package then has to be demonstrated in a wide variety of conditions so the farmer can decide whether it will help him. An important step is to demonstrate in plots large enough that the yields can measured in sacks rather than grams.

There's no doubt, Borlaug said, that the food production potential in Africa is tremendous. But to realize the potential government will have to support researchers who can create a steady stream of new technology. Fortunately there are strong international connections to support agricultural research. Borlaug ended by saying technology alone is not the answer. For production to increase, the economic climate has to be right to ensure that markets function and that inputs and credit are available, and that is the job of the policy maker.


FARMERS !
INCREASE PRODUCTIVITY
TO
ASSURE FOOD SECURITY
&
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Opening Statement

Jimmy Carter

I've been involved in many meetings and many projects, but this one—for those of you who are new to it—is different. I tried to think of a story to illustrate the difference, and the only one I can think of has some religious overtones—I hope you'll forgive me for that. A man went to heaven and St. Peter met him at the Golden Gate. The man said, "I think I deserve to come in." St. Peter replied, "Well, what have you done to warrant your entry?" The man said, "I've been to many meetings about poverty and how to help other people." And St. Peter said, "Yes, but what have you done?" And he said, "I also attended church services, almost every Sunday, all of my life." And St. Peter said, "Yes, but what have you actually done to help other people?" And he said, "Well, I remember back in the Depression years there were some poor people who came by my house, and I had my wife fix up some sandwiches. And in those days, even with depreciation, St. Peter" he said, "the sandwiches were worth at least 50 cents." So St. Peter sent an angel down to earth and found out that this man had given the correct assessment. St. Peter said, "Is there anything else you've done?" The man said, "Yes, just 5 or 6 years ago, the house of a neighbor burned down, and we gave him a table that we weren't using to help him refurbish his house. And that table," he said, "was also worth at least half a dollar." So St. Peter sent the angel to find out whether he did this act. The angel came back and said to St. Peter, "This is a true story, what shall we do with him?" And, St. Peter said, "give him his dollar back and tell him to go to hell."

Jimmy Carter *is the former president of the United States and chairman of The Carter Center.*

I think that story illustrates a dramatic difference about the SG 2000 program. There is a tangibility here, an actual result from this effort that is really exciting and inspirational. We are celebrating our 10th anniversary. I happen to be a farmer. My father was a farmer. My grandfather and his father were farmers. And, one of the greatest thrills that I have is to go to Africa to visit some of the countries in which we have been involved and see the change that takes place in individual lives and in the lives of villages. In Tanzania, at the base of Mt. Kilimanjaro, a man sitting on a stack of sacks of maize told me, with tears in his eyes, that all of the bags of maize came off one field. I said, "How many are there?" "Twenty-five." "What's the most you ever made before?" "Five." I said, "That's wonderful." He had tears running down his face. He said, "My two sons moved to Dar es Salaam because they couldn't support themselves on the farm. Now, with SG 2000, my sons and my grandchildren are moving back here to help me work on the farm."

Villages in Benin and Togo all come together. They are now buying oxen, building homes, and working together with common storage, totally transforming not only their own lives but their anticipation of the future—not with fear, but with confidence, having achieved something of a tangible nature.

The basic premise of SG 2000 is also, if I could use the word, unique. In most countries where it works, SG 2000 has just one foreign staff member. All of the workers, who ride bicycles from one farm to another, are your neighbors who in the past maybe have had some instruction in agriculture or some aspects of agriculture, and now they have become experts under the SG 2000 scientist who goes in there directed by Norman Borlaug. As you know, each agricultural extension worker deals with perhaps 15 farmers. We go into a nation like Tanzania, we stay there 5 years, and 50,000 farm families learn how to have the experience that the farmer had at the base of Mt. Kilimanjaro, and several hundred extension workers are trained. And when SG 2000 moves out, and they won't see the Sasakawa people there any more, the remnants of what we have done remains.

I have learned a lot about agriculture. I have learned a lot about Africa. I have learned a lot about your presidents and your prime ministers, because we do not go into a country and just work with the minister of agriculture. We could not be successful if the president were not involved. And, usually when I go to one of your countries, the president goes into the fields with me. The fact that he can say, "this is our program," not just a program that is Japanese or American, is a wonderful aspect of the success that we have enjoyed. And it is not just the president, it is the prime minister and the finance minister and the transportation minister and the education minister and the health minister and the agriculture minister, at least, who work together because agriculture has such a great impact on the total life of a society. We do not always connect maize production or sorghum production or millet production or wheat production with health care. But what is a basic foundation on which people have better health? It is nutrition. And, if they do not have adequate food, nothing we do about malaria or guinea worm or river blindness will improve the level of health in a country.

So, agriculture ties in with the political structure, with people's confidence, with better environment, with the protection of the ecology, with health care, and ultimately, I think, with peace within a society, just because people know that they can succeed and rapidly increase their production of basic food grains.

Another great thing we have learned in Africa, which is applicable to many other parts of the world is that there is a real ability of SG 2000 to tie experts in the research centers together with the extension workers who are out in the field with muddy shoes, working side-by-side with farmers. SG 2000 breaks down that barrier between the research scientist and the farmer who happens to be in the field. This is another great accomplishment of SG 2000.

I've seen miracles happen. There's one that's going on right now. You only have to see what has happened in Ethiopia in the last 3 years to believe in miracles. There is a type of soil in Ethiopia that in the past hardly produced anything except goats because it is totally clay. Vertisol they call it. Now SG 2000 has taken this nonproductive land and is making tremendous yields.

We have about 3,500 farmers in our SG 2000 program in Ethiopia. But President Meles Zenawi has seen the advantage of the SG 2000 approach and, in addition to our 3,500, he has 400,000 farm families who are following the principles laid down by SG 2000. Soon Ethiopia, which used to be the starvation center of the world, will be exporting maize to Kenya and other countries. I predict that after another year or two, they will also be producing a surplus of wheat—a remarkable achievement.

You can see that I'm excited and pleased to have been a small part of the achievements of SG 2000 in Africa. I know that they will continue to expand, not because of anything I do, not because of anything that Yohei Sasakawa does or Mrs. Sono does but because of the hard work that is done by the farmers and the extension workers, who are your own countrymen and countrywomen, your neighbors. To you, for your cooperation and your success, we are truly grateful.

Welcoming Address

Ayako Sono

I am grateful for this opportunity to offer a message of greeting at the opening of this workshop of the Sasakawa Africa Association, Global 2000, and CASIN. The impetus for this workshop lies in the deep humanitarian concerns of its founders and participants. People everywhere who work hard and exert themselves should enjoy the promise of a modest, fulfilled life. This workshop is a quiet effort to resist the frustration of that promise in Africa.

I wish to express my deep respects to President Carter and Dr. Borlaug, who have offered this movement such strong leadership. And I extend the same esteem to all of those people on the ground who are making dedicated efforts to advance SG 2000 projects in their countries and communities. In offering recognition, we should not forget another person who, consumed with youthful passion, strove to free Africa from the clutches of hunger—the late Ryoichi Sasakawa. I believe that if Ryoichi could be with us today and witnessed the progress being achieved through this project, he would embrace every one of you in great joy.

Before becoming the chairperson of the Nippon Foundation, I was an author. Even now, I continue to write novels. Over the past 25 years, I was also an active member of an NGO that is infinitely smaller in both assets and scale than the Nippon Foundation.

Africa is a mighty land, and it has taught me a great deal about life. I was in Ethiopia when the famine struck in 1985. A Japanese television station had collected contributions from around the country for the relief effort in Ethiopia. This money was used to set up a tent clinic for people afflicted with hunger and disease in Sirinka in the northern part of Ethiopia.

In one of the tents for the sick, I found a young lad lying weak from illness. He appeared to be about 15 or 16 years old. No parents or other relatives were there to visit or attend him. As regular medical staff had not yet been posted at the clinic, the boy's illness was not diagnosed. But it was apparent from his heavy coughing and high fever that he probably had tuberculosis.

Very early one morning, I noticed the boy leave his tent and slowly walk off. Possessing a writer's curiosity, I found myself following him. When he reached a slope facing to the east, he stopped and just stood there with a blank expression as if waiting for the sun to rise.

Ayako Sono *is chairperson, The Nippon Foundation, Tokyo.*

In his sermon on the mount, Jesus said, "Blessed are the poor in spirit: for theirs is the kingdom of heaven" (Matthew 5, v 3). As a Christian I am interested in this verse of scripture, and have read several theological commentaries regarding it. One of them traces the term πτωχσζ (ptochos), "a person poor in spirit," to the Hebrew concept of "anaw" (know), or a person who in this life is without health, wealth, special talents, or influential friends. Under this concept, a person who possesses even one of these things is apt to yield to it and be given to illusions of grandeur. If, however, a person possesses none of them, he will be able to see God with unclouded vision. Going against conventional wisdom for judging a person's worth in this life, this concept incorporates a truism, which is at once both wonderful and paradoxical. Indeed, in that young lad at Sirinka, I feel that perhaps I witnessed one of God's most beloved children.

This is certainly not, however, to imply that the boy will be forsaken in this life. I have been told by numerous people that there are no orphans in Africa. Around the world, we can find orphaned children living on the streets. In advanced countries like Japan and America, there are more than a few forsaken children living as wards of the state. In Africa, however, when a child is parentless, normally a relative or kind member of the village will step forward and assume his care. Looking back to the lad at the camp in Sirinka, I suspect that when he recovered from his illness, he returned to his village, where, if his parents were no longer alive, neighbors most likely took him under their wing and allowed him a happy life.

Again and again, I have learned much from such warm human relationships, which cannot readily be found in the context of Japanese or American society.

I have recently been told of the successes that are being accomplished in agricultural production in Ethiopia, which is very different from the days I was there in 1985. The Nippon Foundation has played a significant role in this endeavor since SG 2000 project was initiated there in 1993. And all of our efforts have been rewarded manyfold in the successes currently being achieved.

Since 1986, the Nippon Foundation has supported the application of high-yield technologies in 12 African countries: Ethiopia, Ghana, Benin, Tanzania, Togo, Nigeria, Mozambique, Guinea, Mali, Burkina Faso, Eritrea, and Uganda. I had been personally been familiar with six of these countries before I became the chairperson of the Nippon Foundation. A close friend of mine was laboring as a Catholic sister in Burkina Faso. She was a nurse in the pediatrics ward of the national hospital in Bobo Dioulasso. The organization with which I was affiliated had built an outpatient pediatric clinic there and was continuing to supply medicines and milk to it. Next to a coconut-leaf thatched meeting hall that we had provided for the outpatients, there was an oven, which the sister used to teach the mothers how to cook a Bobo-style stew for their malnourished children.

The market in Bobo had an abundance of fresh vegetables. At it, I met a conscientious young farm boy who impressed me with his inquisitive spirit. Despite the fact that he lived in a village without electric lighting, he questioned me about the world-renowned Japanese conductor, Seiji Ozawa. Knowing that Seiji Ozawa conducted the Boston Philharmonic Orchestra, the lad asked me whether he usually lived in Japan or if he made his home in the USA. It will be on the shoulders of such fine young men and women that the future of African agriculture very soundly rests.

In 1983, I and five friends made a trip across the Sahara Desert in two Japanese cars. The first country we arrived in when exiting the desert was Mali. I vividly recall how surprised I was to find that the Malian people had constructed houses with a design similar to the Sagrada Familia Cathedral in Barcelona—theirs, however, predated the famous cathedral designed by Antonio Gaudi.

Some time ago, I accompanied my friend Sadako Ogata, the UN High Commissioner for Refugees, on a visit to Villa Ulongue in the north of Mozambique. In the greeting dance performed for her by the local people, I observed dancers dressed up like demons who chased and scared the little kids. In the villages of northeastern Japan, there is a similar custom and an equally evil demon who looks so much like the Mozambican demon that the two could be long-separated brothers.

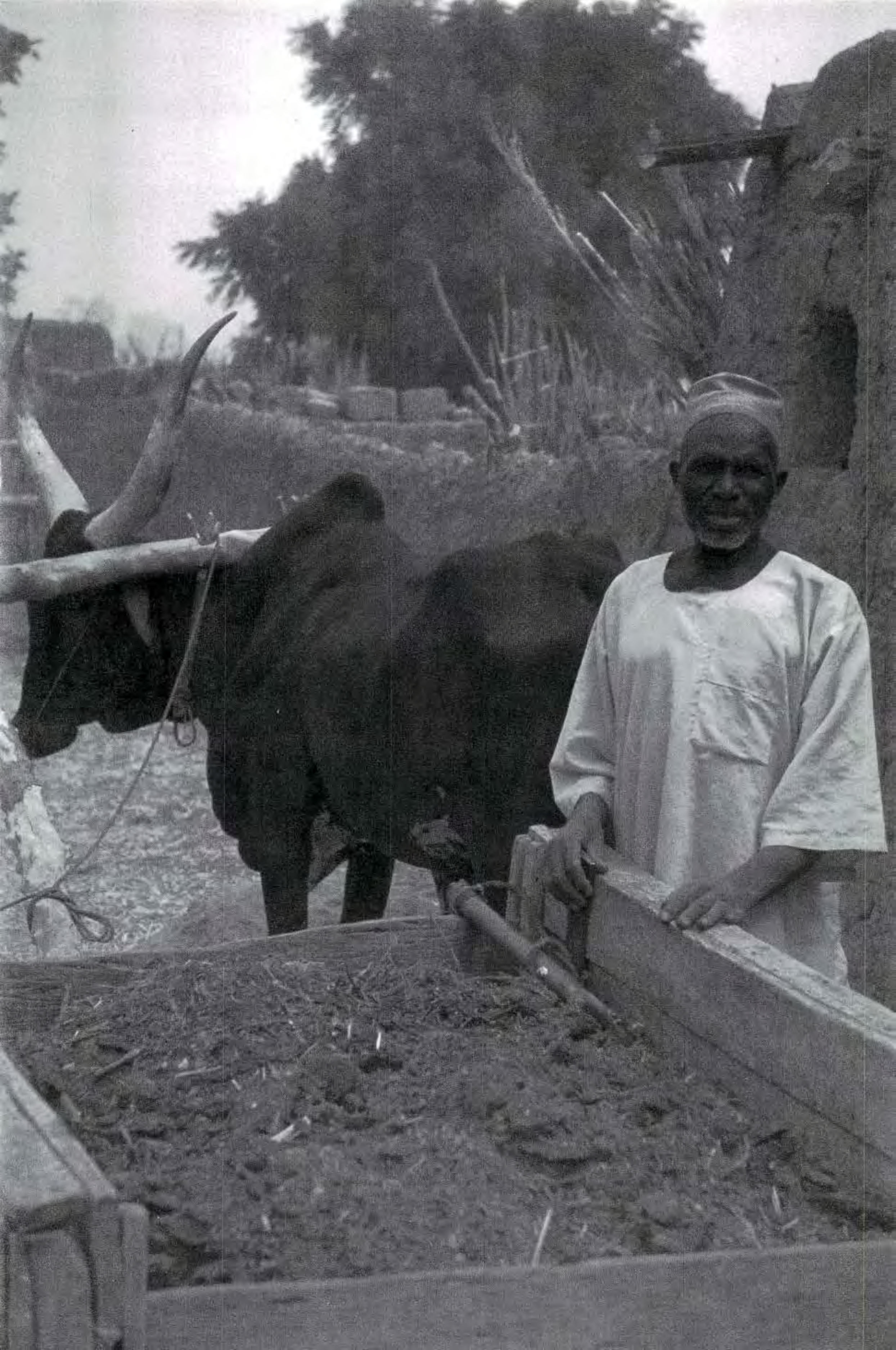
We must all join hands in reaching out to afflicted people and communities wherever they may exist upon the face of the globe. The Greek word σϖζω means "to save from death" or "to bring to life." It also denotes such actions as to watch over, abide in the heart, and remember. I am captivated by this way in which the ancient Greeks perceived human relationships.

When wishing to assist Africans, we should never try to impose upon them our way of doing things in the advanced industrialized countries. We must rather assume a posture of protecting and encouraging full expression of their own wisdom and spirit. It is indeed that wisdom that will guide our project to success. We in the SG 2000 project should carry out our activities with an abiding respect for indigenous African wisdom and ways. If we do so, we will be able graft roots embodying the heart of the African people onto our technology, and thus achieve successes naturally.

Whenever I stay in Africa, I feel the desire to compose a collection of poems, which I would choose to call, Morning Is an African Delight. So far, I have only drafted a few. No matter what bitterness and grief the beating heat of the daytime may bring the people of Africa, I believe that the morning, especially around dawn, offers a time of superlative serenity and glory in which people can forget all of their adversity. This is truly a blessed time of the day; and I believe it is symbolic of Africa's tomorrow. Africa is a blessed continent. As the African morning tells us, God has bestowed special blessings on that continent and its people, though these blessings may in some ways be very different than those he has bestowed on Japan or America.

We must each bring the blessings we receive to the table and share them with each other. In so doing, we will all enjoy a greater abundance. If we are not willing to share, our respective bounties will conversely be diminished. This is a little trick that God has devised to thwart man's penchant for selfishness and greed.

I wish you the utmost progress and success in each of your important endeavors.



Africa: The Proving Ground for Overcoming Global Poverty

Pierre Pettigrew

When I look at Africa through my Western eyes, I see so much that is contradictory: hope and yet despair, conflict alongside reconciliation, appalling poverty amid rich resources. I see great strengths and terrible weaknesses. I see old borders drawn to suit 19th century Europeans but also new forces stirring to serve 21st century Africans. Above all, I see in Africa the litmus test—the proving ground—for international cooperation, for overcoming global poverty, for human solidarity itself.

Development is a moving target. Africa must deal not only with its own alarming development challenges but also with fast-paced global change that has us all a bit disoriented and out of breath. I would like to talk for a moment about all this change and then suggest one area for action—one critical precondition for rural advancement—that I strongly believe has great potential for reducing poverty in Africa.

Globalization

To define the process that is reshaping our world, we invoke the term "globalization" almost like a mantra. It is important, I think, to define what we mean by globalization, to distinguish it quite clearly from the more traditional concept of internationalization. Internationalization refers to exchanges between nations—the rising flow of goods and services, money, and people across borders and oceans. It is striking. It is changing our lives. But it is not really new. And, of key importance, it still recognizes the power of the nation-state, the filter through which these exchanges must pass. Globalization is qualitative, not quantitative. It is reflected in the flow of resources, roles, and decision making power within firms and within strategic alliances of firms, ignoring national borders. And it is reflected in the new reality that bond markets now may have more economic clout than the central bank or finance ministry of a country, and not only those of a developing country. All of which means that, as the process of globalization proceeds, power is passing, day by day, from the nation-state—any nation-state—to the markets.

This isn't entirely a bad thing. I suppose we've all grumbled about tax burdens and government red tape and the dead hand of bureaucracy at one time or another, and nation-states, in Africa as elsewhere, certainly have a lot to atone for, from bad policies to incompetence to crimes against

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humanity. But globalization is an invisible, anonymous process, driven by abstract, nonhuman forces and factors. As it bypasses the authority of states, reducing their power, it sets up the marketplace as, in effect, the new god that we must worship, replacing the nation-state.

The trouble is, this new god, though it may be more efficient, is incapable of taking a long-run view and can think only in material terms. The state, for all its shortcomings, is made up of people—people whose life experience may give them a long-term perspective and whose children make them likely to have broad-ranging concerns about the future.

Furthermore, because the state is run by people, if we do not like what they're doing to us, we can eventually change them. Sooner or later, the state must respond to the demands of the people living in it. However, if we do not like what the market does, we can't repeal its laws. If we storm the bunker of globalization, we won't find a madman there or a clique of conspirators—just an empty space.

The twenty-first century seems destined to become the century of globalization. And as we enter it, Africa, already the most marginalized, vulnerable, and threatened region of our interdependent world, has the most to lose—or to gain.

After a half-century of liberation, high hopes, false starts, dreams deferred, of civil strife, feeble governance, frustrated efforts, even drought, famine, and now AIDS, sub-Saharan Africa is falling further behind and risks ecological collapse. In many ways, Africa today is where parts of Asia were a quarter century ago when some countries were called "basket cases." No one talks like that now. But Africa is badly positioned to follow Asia's lead, partly because of long years of dysfunctional governments and rule by cliques that excluded large parts of the population from becoming involved in development.

Role of Women

Here, in this room, are many of the foremost experts on all the factors in play, positive and negative, concerning the rural development that can prevent Africa's poverty from deepening—factors that range from democratization and economic reform to the specifics of soil and seeds. I want to contribute just one element to this discussion: the role of women.

The global facts are familiar: Women are half the world's people. They put in two-thirds of its working hours. They make up most of the illiterate and the poor. They receive one-tenth of the world's wages. And they own 1 percent of its property.

And we all know the picture for sub-Saharan Africa, where the food and agriculture sector accounts for some 70 percent of employment and income, as well as almost half of GDP. Beside taking care of children, meals, housework, the ill and elderly, and taking part in community affairs, and gathering wood and water, women carry out 70 to 80 percent of the agricultural work—the planting, weeding, watering, harvesting, processing, and storage of the food families eat.

In Ghana, for example, we undertook an

agricultural project several years ago that focused on productivity for single crops based on applied agronomic research. It quickly became apparent, during consultations with the farmers, that the vast majority of them were, indeed, women. Their experience in the fields was obvious: they knew exactly what they required, which was a more-integrated package of technical advice and inputs. We ended up developing a package that was more geared to intercropping and extension on post-production parts of the food cycle.

Women provide, day after day, the answer to the age-old universal human question, what's for dinner? In many rural areas, they are the heads of the households because the men are elsewhere, seeking jobs, or fighting wars, or shirking their responsibilities.

And yet, though women do most of the field-work, studies show that they benefit from less than 20 percent of agricultural support programs such as extension and credit. For reasons ranging from status and false assumptions to inertia, illiteracy, and domestic duties, men receive most training and loans and control most of the land, while most of Africa's real farmers are its women. This unacceptable situation is made even worse by the fact that women possess, among so many other skills, the indigenous skills regarding food production and processing, as well as veterinary and pharmaceutical knowledge.

What's wrong with this picture? It doesn't take an expert to know that it is upside-down. And it is hard not to think that it should have been obvious from the beginning. But now we have the World Bank and numerous scientific studies to confirm what our eyes have told us, time and again.

Areas for Action

What should we do about it? We should turn the picture right-side-up. If common sense doesn't tell us which way that is, there's always a study to guide our hand. In this case, studies by both the World Bank and the International Food Policy Research Institute show that women's marginal productivity in agriculture is potentially 14 percent higher than men's.

We should make sure that the resources going into agricultural support—the training, technology, seeds, and fertilizer—end up in the hands of those who work the fields, that is, the women. And we should increase those resources. We must work much more with the vibrant, effective women's groups that are flourishing nowadays in Africa, which means we need to train far more female agricultural extension workers, who can talk the local language and understand how the community works. And the contents of that extension must also fit the priorities of smallholder agriculture, including postharvest protection.

There is much more, of course. African governments need to create an overall enabling environment for women farmers, which may also mean changing laws about who can be a tenant, an owner, or the inheritor of land. It means moving away from policies with an urban bias toward those that support rural development. It means bringing women into the decision-making process. It means investing in their strengths.

What would happen? What would the result be if we really focused on women and their value and potential as agents of change and progress in Africa's countryside and villages? No one has ever really tried it, but again there are studies, and they suggest the potential of an additional GDP boost of nearly 10 percent for the country bold enough to carry it through. The implications—for the national economy, for rural prosperity, for family health and well-being—are profound.

So we should try it, not only as a favor to Africa's hardworking women, though it would brighten their lives and lighten their burden, and not only as a matter of social justice, though it would have wonderful spin-offs in that direction; we should try it because of cost-efficiency and greater sustainability and, above all, results on the ground. Many western societies could also learn from this initiative: they could give women a more fair opportunity, and their situation, too, should improve.

I suppose we've all said, often enough, that Africa's real wealth lies in its people—that it is rich in human resources. Just think about how the world will change if, for the first time, we give the right tools to the huge fraction of those people who are involved in agricultural production. These millions of women, who make up most of the poor in sub-Saharan Africa, are the potential powerhouse for a surge in rural development. This is a case where efficiency and equity go hand in hand, where integrating gender considerations into economic policy is clearly a good investment.

The Payoff

Assuming the present level of total funding for agricultural support and the existing gender division of labor, it is entirely reasonable to expect a jump in agricultural productivity along with significant macroeconomic improvements. When we're operating in a time of fiscal constraints, it is both realistic and necessary to reallocate support to the most logical target groups to maximize impact.

Focusing on women farmers offers us a genuine opportunity to use scarce resources, especially extension and credit, more productively. It offers hard-pressed governments, anxious to show results from the rigors of difficult adjustment programs, an opportunity to generate real benefits at the grassroots. And, while it requires a substantial change from long-established ways of doing things, that change may actually be a bit easier to carry out now than before because, by eroding the power-structures of the state, globalization may actually improve the chances of allocating resources more rationally. And, after all, development is inevitably about change—change for the better.

And beyond benefits to the nation's economy and its rural development, there is no doubt that such a shift in agricultural investment would yield big dividends in family health, in nutrition, in the vitality of villages, and the capacities of women. These social benefits would be substantial and lasting.

We know this, just as we know from many studies in the 1980s that when women are enabled through education to become agents and beneficiaries of change, to turn their potential into reality, everything soars—productivity, health, literacy, the well-being of the family, and the progress of the community.

Together, if we have the will, we can indeed help the women of sub-Saharan Africa become the pivot for a quick and widespread turnaround in rural development and the alleviation of poverty. In part because of gender roles, I believe that women are often more inclined than men to a horizontal, collaborative approach that is more flexible and democratic than the traditional, hierarchical pattern of social organization. I believe this approach may serve them, and all of us, well in the time of globalization because it inherently values and empowers the individual, while emphasizing horizontal networks of cooperation.

If a physician only paid attention to the left half of the body or if a lawyer only looked at half of the evidence, they would be struck off the rolls for malpractice, and rightly so.

I will just add that it is urgently necessary for us to think of the women of sub-Saharan Africa not as bystanders or burdens but as a valuable asset and the key target group for rural advancement and the reduction of poverty in the most threatened part of our world. And it is time for us to give them some tools and get out of their way. It is also time to stop empty commitments and promises and act, as our analysis tells us we should.

Lessons from Two Decades of Involvement in Rural Development in Africa

Edward V. K. Jaycox

My speech is supposed to draw the lessons from a couple of decades of experience and involvement with the rural development processes in Africa. I must say, however, that my experience is very much derivative, obviously, of the experience of my colleagues in the World Bank over 30 years, working on Africa with this very central sector, the rural sector. It is clearly driven by the agriculture economy but it is the rural sector that we are talking about. There's no denying the economic importance of this sector. It produces 50 percent of the GDP on average in Africa. The agricultural sector may be something less but everything depends on agriculture: 75 percent of employment and by far the bulk of the foreign exchange earnings in the export markets. And, when the sector doesn't work, by the far the greatest amount of foreign exchange earned is spent on food, or aid resources are used for food aid. So that is a big swing in terms of the financial, as well as the economic, fortunes of the country.

The agricultural sector is also the most important sector environmentally. Our studies show that if something dramatic isn't done in the next 20 years that, indeed, it may be too late for the agriculture sector in Africa to recover, economically speaking. We're talking about the continent with the most degraded soils. We're talking about a continent that is not managing its water. We're talking about a continent where the poor people are mining the patrimony. These are the people of the country. They're invading the forests. They're moving their crops into pasture land, and desertification is taking place on much too much land in Africa as a result. The rural sector is the location of 70 percent of the poor people—people living on less than one dollar a day. So it is clear that this sector, its success, its failure, is key to the economic fortunes of most African countries. It is also key to any chance we have of poverty reduction in the development process.

Edward V. K. Jaycox *is the former vice president, Africa, World Bank, Washington, D.C.*

Disturbing Trends

Let's take a look at the trends of this sector. They are disturbing. We've had a long history of agricultural growth at a rate slower than the population growth rate: roughly 2 percent agricultural annual output growth, 3 percent population growth. And, indeed, because of the importance of the sector, the GDP per capita in Africa has been negative for virtually the last 25 years. Imports and food aid are rising at 7 to 10 percent annually. Twenty-five percent of total food consumption is now imported. This is a tropical, agriculture-based economy, and it's importing 25 percent of its food supply. Over 30 percent of the population is now judged to be food insecure. That means that at any given time, because of income lapses, but also due to environmental factors and transitory factors, we have 30 percent of the people in Africa in severe danger of malnourishment.

Macroeconomic Instability

All of this poor performance in the agricultural sector has led to, obviously, a very poor macroeconomic situation. And, in fact, it has undermined the stability of the macroeconomics. Partly because of the nonperformance of the sector, the lack of tax collection, the lack of export proceeds, we find that debt has risen, imports have risen, the money supply has been expanded to maintain investment and expenditure to the point where the currencies were losing their values. And at that point we lost macroeconomic stability. This aggravated the agricultural scene. We got low rural investment. We got deteriorating infrastructure. We have a deteriorating environment—over 3.5 million hectares of forests are cut down annually in Africa to provide land for agriculture. We have a severe environmental problem.

But, not only that, half of the World Bank's projects—and these are projects, which I think you could stack up in terms of quality and performance against those of any other agency, and certainly any government—have failed in agriculture in sub-Saharan Africa, by the World Bank's own evaluation. This extends to the donors, to the bilaterals, as well as to NGOs—there's a tremendous failure rate.

Structural Adjustment

We have a bleak picture, then, in the rural sector in Africa, a downward spiral in fact. This has very recently been recognized in Africa by the leadership as a macroeconomic crisis. And, indeed, over 30 countries have courageously adopted painful economic reform measures that have in fact turned things around—just. We now have 30 countries in structural adjustment in Africa, which I would say are fairly successful. About half of these now have positive per capita income growth rates—the only ones. And, in those, it is interesting to see that the agriculture sector has responded. We now have rates of agricultural output growth in those reforming countries that is higher than the population growth rate. And, in fact, the agriculture sector is making a contribution to the national wealth.

Will Development Follow Economic Reform?

These are fragile, new opportunities, I would submit. Can we get back to the development business in Africa now, after economic reform? We spent 10 years on economic reform. Ghana has shown the way for many other African countries in the meanwhile. Ghana's agriculture is growing. Indeed, we see this in Uganda, in Mali, in Burkina Faso, in Côte d'Ivoire, in Tanzania now, in Kenya, in Ethiopia—this is a phenomenal resurgence of growth.

My main thesis is that this is a very important time. We do have a chance to get back to the development business. The reform agenda is not complete. It is not being fully pursued. But indeed we have for the first time in many years the chance to actually talk about investment in production, without it being undermined by poor policies—in several countries in Africa. But we also have heeded the lessons that we've learned—and I think we've learned a lot of lessons. We've learned lessons the hard way, by making a lot of mistakes. My point is that we cannot go back to business as usual. Even though the situation may appear to be welcoming us back.

Lessons Learned

The first lesson is one that I'm sometimes surprised we have to state. The lesson is that without growth there is no sustainable poverty reduction. You cannot redistribute the poverty in Africa and expect to come out with anything but everybody being poor. Without the underlying production, we're not going to have a sustainable result in Africa. It is clear that already many countries are too dependent on foreign aid. They're going to have to produce with their own resources and their own energies. I think that if we lose sight of that, we're in trouble. I know it is often said, "yes, we need growth to have an impact on poverty." But growth is not sufficient. Then we merrily go ahead and analyze in great detail the expenditure pattern that would get some poverty reduction. But we forget that we still have not secured this production base. We have not gotten this production base moving. So with all of the brainpower in the world, deciding how you're going to spend the money before you get it, is not going to help much. It is important that we get back to the basics, we have to increase productivity in agriculture and in agricultural services.

The second big lesson I think we've learned the hard way is that macroeconomic policies matter, and they matter tremendously for the success of this sector. Reasonable economic management is essential for poverty reduction and for growth. If we lose sight of the fact that we cannot have perpetual deficits, we cannot have inflation at an unreasonable rate, we cannot have an exchange rate that is overvalued, we cannot have unrealistic interest rates, people won't save and there won't be any investable funds.

These are fundamentals. These are like the laws of gravity and thermodynamics. If we do not master these laws, then we can't have anything working for us in a sector like agriculture, which is so dependent on the policy environment and the economic environment in which it is supposed to operate.

Within the sector itself, we need pricing policies and we need markets that work. We haven't had them. Governments have controlled these markets. Governments have monopolized these markets. Governments have fixed prices. Governments have destroyed the incentives for production and export through unrealistic prices and unrealistic exchange rates. But we do not yet have a substitute for these governments.

I put a warning out there that just abandoning this sector, or any sector for that matter, to the market is not going to work in Africa because those markets are not working. They have to be managed to some extent. A masterful hand at that has to work at it.

I think we are now in a dangerous time. We know what doesn't work. We aren't exactly sure what will work, what we can substitute for those things that didn't work, but we have to find those things now in a methodical way. Here, I think that the lesson of the role of government still has to be fully explored and is not necessarily going to be the same everywhere.

A third lesson is that the implementation capacity is a sine qua non for any results on the ground. Where is the capacity of Africa? Where are all of these trained people? Why aren't they on the ground managing these programs? Why are so many expatriates in Africa today? Are the trained Africans standing by, watching these expatriates do the work? Have they been frozen out by these expatriates? Do governments accept expatriates more readily than they do their own citizens in carrying out the executive work and policy work in their agencies?

I ask these questions because I do not have the answers. My view is that we actually have lost implementation capacity in Africa over the last 25 or 30 years. Salaries do not motivate workers any more. There is little going in the way of esprit de corps—our sense of duty. All of these things are missing in a critical time.

It seems to me that the donors are not paying enough attention to this issue of capacity. In Tanzania, I think we have 2,740 projects on the books. Well, there aren't that many managers to manage those projects. There aren't enough shillings to support the local currency costs of that number of projects. The situation is totally overloaded. The camel's back was broken long ago, and we are still adding projects—small projects that are taxing the capacity that exists. This is not working. I think we've learned this lesson, but we're not heeding this lesson.

Ownership is another lesson. Where is this political will? How many leaders in Africa actually believe in their rural sector? How many actually believe in their peasants? We know there's an urban bias. We know there's an elite view of the rural sector that denigrates these peasants. They're backward. They are a symbol of the past. They are a symbol of what's wrong with the country. I've heard this many times.

When it comes to where we're going to move ahead, we're going to move ahead on the backs and with the muscles of these women and these men. It is crucial to get that mindset across. And it seems to me that the political leadership in Africa doesn't yet get it. They do not understand they do not have choices. If they do not move with these people and make these people productive, help them get productive, enable them to become productive, they're going to lose their future.

The political leadership is at one level. All of the stakeholders in the rural sector must become convinced and have some reasonable consensus about how the country should be moving. I think there is tremendous work to be done. I do not think the donors are doing much about this. I was at a global coalition meeting in Addis Ababa where Robert McNamara and Jan Pronk and many African ministers of agriculture were there to talk directly to this point. A new consensus, a new energy, has to be found. It has to come from the top but also from the bottom. The empowerment of farmers, it seems to me, is an absolute necessity. And, I agree that the women in Africa are at the center of the agricultural crisis. They are also at the center of the solution. They constitute 70 to 75 percent of the cultivators. So, you cannot leave them out. And, in fact, a tremendous emphasis on them because of their disability, their deprivation, at this point, I think, is very appropriate.

I want to say that another lesson we've learned is that donors are a problem. Every one of the 2,700 projects in Tanzania is a donor-driven project. Every one of them has been added without any sense of whether it could be implemented by the capacity that exists, whether there's any budget to carry it on, whether there are enough teachers, enough recurrent expenditure, enough tax base to maintain the thing after it is finished. Donors may distort priorities. Donors do, in fact, decapacitate in Africa. Donors compete for units of capacity with each other. They do not mean to, I'm sure. But it is a result on the ground that unfortunately is a negative one. Donors have to be managed, and this means that the capacity of government has to increase, especially in this area.

We've also learned a few do's, as well as don'ts in project and program formulation. I think the idea of an isolated small project, unless it is a pilot project, just is off. I come back to these 2,700 small projects, each with their own manager and each with their own budget line, each with their own accountability, each with their own accounting. You can imagine the overheads. Where's the production? Most of these projects, by the way, are not being finished. They're not even being funded. Isolated projects, crop-specific, area-specific projects. They have to have extension. They have to have research. They have to have fences. They have to have trucks. They have to have offices. By the time you get these little projects with all of that overhead, there is really no economy left. And we've seen them all over Africa. You go around and you see the offices vacated, the trucks up on blocks, nothing growing, everybody's forgotten everything.

I just want to say that we have learned these lessons. We have to take them seriously. We have to discipline ourselves, and African governments must discipline the donors. I think that we are talking about integrated investment programs, which take into account capacity and the portability, all of the aspects of management that have been ignored in the macro.

Unknowns

Having learned all of these good lessons and now being resolved that we're going to heed them and that we're not going to do these things again, I'm only a little bit encouraged because there's so much we do not know. Only 4 percent of land in sub-Saharan Africa is irrigated. There's virtually no management of water in Africa. Look at the crop yields of a country like Zimbabwe—up 27 percent in 1 year because it is rebounding from a drought, the next year it is down 13 percent, then it is up 20 percent, and then it is down 11 percent. Now, that's not the policy. That's not the infrastructure. That's not the exchange rate. That's water. That's rain. The rest of the world has managed to manage water. In Africa it is considered too expensive, the crops are too cheap, the Africans do not have the experience. We have to find an answer. If we do not manage water, we're not going to manage fertilizer, we're not going to manage soil, we're not going to manage anything else.

We still do not know how to do credit in the rural areas. There are some powerful examples, but they still rely on subsidies to a large extent, which, when you put them on a national scale, become unaffordable, and therefore they shouldn't be embarked on. We cannot have a credit system that turns out to be a rationing system based on the unavailability of money.

We have, I think, a tremendous scope in Africa for the private provision of infrastructure. I'm not talking about private business so much as NGOs, farmers' organizations, and the like because I think that the days when the farmers should sit around and wait for the government to come and dig a well or maintain a pump are over. I do not think this is their business. They better concentrate on the schools and let private hands go to work on the pumps and on the wells.

I think that we do have a long-term issue of land tenure in Africa. I do not see the ability of the sector to actually restructure itself over the long term. As people leave the land, the bulk of the increase in the labor force in almost every African country has to be employed off-farm. The agriculture sector is not going to absorb labor any longer. So, the future is clear. The productivity of the land is going to have to be increased and with that the productivity of the farmers. But, as I see it, the land tenure system, if it doesn't allow land to be consolidated and increased in size and sophistication of technology, will become a dead zone for the future.

Poverty in Sub-Saharan Africa: Causes and Characteristics

Jack W. van Holst Pellekaan and Teresa Hartnett

If poverty reduction is to be achieved, then the causes and characteristics of poverty must be measured and understood. The first section of this paper focuses on the causes of poverty in the region. The second section provides a comparison of poverty in sub-Saharan Africa with other regions. The paper then examines the many characteristics of poverty in sub-Saharan Africa based on information from nationally representative household surveys. Particular attention is given to the Sasakawa Global 2000 partner countries for which household survey data are available. Finally the paper concludes with some implications of the evidence that might be useful in the design of poverty-reduction strategies.

Causes of Poverty in Sub-Saharan Africa

There are, of course, many causes of poverty because they are specific to country circumstances.

Some Conventional Propositions

The causes of poverty in Africa, as elsewhere, are complex, and the consequences of poverty often serve to reinforce the causes, leading to further impoverishment. The causes of poverty listed here are characterized by access to and endowments of assets of various kinds. It is useful to review these causes before making comparisons between Africa and other regions in the world and among countries in Africa.

Inadequate access to employment opportunities results from the geographic isolation of the poor, low savings rate, low domestic investment, and a pattern of growth that does not generate large enough increases in employment opportunities for the poor.

Inadequate access to physical assets, such as land and capital, and credit on a small scale: poor access to land, for example, is often caused by the absence of land reform, which would give land users the opportunity to establish legal or traditional tenure rights and would allow the landless, particularly the poor, to gain land through redistribution policies.

Inadequate access to the means for supporting rural development in poor regions results from the tendency of development programs to be designed for high potential and urban areas.

Inadequate access to markets for goods and services is caused by the poor's remote geographic location, inadequate rural roads,

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ineffective communication, and the small volume and seasonality of the poor's labor services and production.

Low endowment of human capital is a result of inadequate and inequitable delivery of education, health, sanitation, and domestic water services. Consequently, the poor have difficulty living healthy and active lives, and, therefore, taking advantage of employment opportunities.

Destruction of natural resources has caused the productivity of agriculture, rangelands, forests, and fisheries to decline, and the destruction has been accelerated by the desperate survival strategies of the poor as well as inadequate and ineffective public policy on natural resource management.

Inadequate access to assistance for those living at the margin and in transitory poverty caused by drought, floods, pests, and war is exacerbated by a lack of well-conceived strategies and resources.

Inadequate participation of the poor in the design of development programs arises from not involving representatives of poor communities. The result is that the needs of the poor are not taken into account in discussions between donors and governments.

Perspectives of the Poor

Poverty, as Amartya Sen (1981) succinctly stated, is a "matter of deprivation." In qualitative surveys, such as participatory poverty assessments, the poor are asked to identify their most urgent needs. Among those often mentioned are:

- A sense of isolation from services, markets, government institutions, and information. This finding was strong in Nigeria, Ghana, Benin, Cameroon, and Zambia. The feeling of isolation from institutions of the state, which are seen as unresponsive and distant, was strong in Cameroon, Nigeria, and Madagascar.
- In arid and semiarid rural areas, water supply for both domestic and productive use tends to be the most pressing priority. Characteristically, water arises as a priority need more often in focus-group exercises carried out with women than in those carried out with men, reflecting the tendency for women and children to bear the brunt of the labor and time involved in fetching domestic water.
- Not surprisingly, in areas where there have been massive crises of welfare because of drought or civil conflict, physical and livelihood security are the predominant concerns. In northern Uganda, for example, physical safety in farming was the overriding concern. In much of Zambia, local communities viewed the maintenance of institutional arrangements for the drought-response system, which had functioned well during the 1992 crisis, as vital.
- Effective functioning of and access to curative health care is the most consistent priority in rural and urban areas expressed in virtually all of the participatory assessments. Of particular concern to the poor are drug supply, cost of treatment, and level of courtesy and openness of health facility staff.
- In urban areas, access to employment, opportunities to learn marketable skills, and small enterprise credit emerge as consistent themes. The poor also gener-

ally emphasize education as a priority need in poor urban communities (Madagascar, Zambia, and Ghana), although information from many rural areas also cites the quality and cost of education as a significant concern (especially true of Niger).

Poverty in Sub-Saharan Africa Compared with Other Regions

Poverty is much worse in sub-Saharan Africa than in any other region except for South Asia. South Asia, however, performs better in terms of growth than sub-Saharan Africa.

Trends in Purchasing Power

The World Bank's Africa Region task force report on poverty reduction (World Bank 1996c) noted that since the early 1980s, there was a persistent downward trend in the purchasing power parity of GDP in sub-Saharan Africa in contrast with other regions of the world (fig. 1).

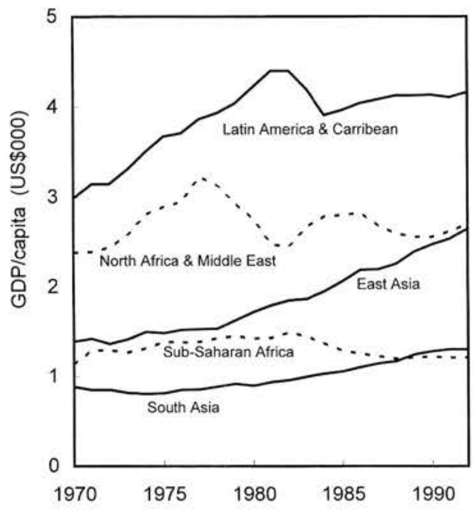


Fig. 1. Regional trends in purchasing power parity 1970–92 (real GDP per capita in constant dollars is calculated using purchasing-power-parity-adjusted US dollars, expressed in 1985 prices. Source: Penn World Tables 5.6 based on Summers and Heston 1991).

For a number of countries in sub-Saharan Africa where agriculture is the dominant real sector, one reason for the stagnation or decline in purchasing power is falling agricultural production. Indeed for countries as diverse as Burkina Faso, Ghana, and Mozambique (SG 2000 partner countries), there is a close relationship between agricultural production and the trend in national income based on purchasing power parity. These relationships need to be explored further to take account of other factors, but the congruence between agricultural production and national income based on purchasing power parity is striking.

Proportion of Population Living below $1 Per Day

The trends in purchasing power of GDP are also consistent with the number of poor in the various regions of the world. The latest World Bank annual report on poverty summarizes estimates of the number of poor (based on the number of people living below a poverty line equivalent to US$1 per day in terms of purchasing power in 1985 prices), the proportion of the population below the poverty line, and the depth of poverty (the extent to which people are below the poverty line) for the major regions of the world (World Bank 1996b). Table 1 shows that in 1993 nearly 220 million people in sub-Saharan Africa, representing almost 40 percent of the population, were living below the poverty line. The proportion below the poverty line increased slightly between 1987 and 1993. The degree of poverty in sub-Saharan Africa is greater than in any other world region and increased steadily between 1987 and 1993.

Table 1. Population living below US$1/day in developing and transitional economies, 1987–93.[a]

Region	Population covered[b] (%)	No. of poor (millions) 1987	1990	1993	Headcount index[c] (%) 1987	1990	1993	Poverty gap[d] (%) 1987	1990	1993
East Asia & Pacific	88	464	468	446	28.2	28.5	26.0	8.3	8.0	7.8
(excluding China)	(62)	(109)	(89)	(74)	(23.2)	(17.6)	(13.7)	(3.8)	(3.1)	(3.1)
E. Europe & Central Asia	86	2	n.a.	14	0.6	n.a.	3.5	0.2	n.a.	1.1
Latin Amer. & Caribbean	84	91	101	110	22.0	23.0	23.5	8.2	9.0	9.1
Middle East & N. Africa	47	10	10	11	4.7	4.3	4.1	0.9	0.7	0.6
South Asia	98	480	480	515	45.4	43.0	43.1	14.1	12.3	12.6
Sub-Saharan Africa	66	180	201	219	38.5	39.3	39.1	14.4	14.5	15.3
Total	85	1,227	n.a.	1,314	30.1	n.a.	29.4	9.5	n.a.	9.2
Total excluding ECA[e]	85	1,225	1,261	1,299	33.3	32.9	31.8	10.8	10.3	10.5

Source: World Bank 1996b.

a/ There are many differences between these estimates and previous estimates, including those in World Bank 1993a and World Bank 1990. Unlike past estimates, these numbers are based on survey data, rather than extrapolations, and on new purchasing power parity estimates. b/ By at least one survey. c/ Share of population below the poverty line. d/ Mean distance below the poverty line expressed as a percentage of the poverty line. e/ East Europe and Central Asia.

Population Growth is Eroding Living Standards

Population growth rates in sub-Saharan Africa exceed those of any other developing region. They increased from 2.8 percent a year in the 1970s to about 3.0 percent in the 1980s (fig. 2). The good news is that projections of annual population growth rates for sub-Saharan Africa for 1995 to 2025 range from 2.6 percent down to about 1.7 percent, which brings the growth rate back to the levels of the mid-1950s, but these rates are still well above the projected growth rates for other regions. Despite the decline in population growth rates, Africa's population will more than double by 2025. The main reasons are that mortality rates are declining faster than fertility rates and that the age structure is already much younger than that of any other region: currently, almost half the population is under 15 years old. Regrettably in the near term—roughly the next 10 to 15 years—Africa can do little that will have an immediate impact on population growth. The effects of past family planning programs are already reflected in the current projections of population growth rates shown in figure 2.

The higher the population growth in a labor-surplus economy, the more difficult it will be to improve living standards. It is important to note that only 18 countries in sub-Saharan Africa were able to improve GDP per capita (one measure of living standards) between 1988 and 1994 (World Bank 1996c). Such a poor performance has severely hindered improvement in employment opportunities.

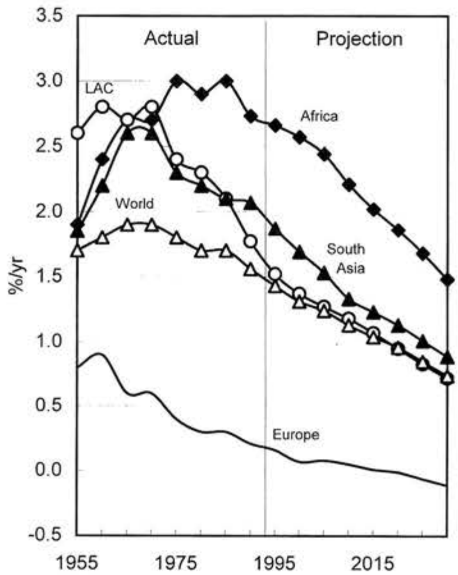


Fig. 2. Population growth rates for major regions. Source: World Bank 1995b.

Access to Social Services and Human Development

Beyond low income, a principal indicator of poverty is inadequate access to social services. Currently, the availability of social services in most countries of sub-Saharan Africa is the worst in the world, although the gap is narrowing. The World Bank's 1996 annual report on poverty (World Bank 1996b) also summarized the comparative situation on the basis of a number of social indicators. Table 2 provides a useful synopsis of three measures of welfare—infant mortality rate, life expectancy, and gross primary school enrollment ratio. It shows that for these social indicators, sub-Saharan Africa lags behind other regions in the world. Of course these general data hide considerable diversity among countries within each region.

Progress in education is a particularly important issue for rural development. While in percentage terms, primary school enrollment in sub-Saharan Africa has not caught up to South Asia and the Middle East, the number of students enrolled in primary school has expanded dramatically over the last 30 years—from about 12 million in 1960 to 64 million in 1990. But these advances stalled during the 1980s, particularly in countries of the Sahel. For sub-Saharan Africa as a whole, the gross primary enrollment rate for girls declined from 69 percent in 1980 to 64 percent in 1993. For boys, the rate fell from 91 to 77 percent over the same period (World Bank 1996f).

The series of human development reports prepared by the UNDP provide detailed information on social sectors and stress the importance of the connection between economic growth and sustainable human development. The Human Development Report 1996 explores in detail the nature and strengths of the links between economic growth and human development. It concludes that "the record of economic growth and human development over the past 30 years shows that no country can follow a course of lopsided development for such a long time—where economic growth is not matched by advances in human development, or vice versa. Lopsided development can last for a decade or so, but it then shifts to rapid rises in

Table 2. Social indicators: The narrowing gap between the rich and poor.

Region	Infant mortality rate (per 1,000 live births)				Life expectancy (years)				Gross primary school enrollment ratios[a] (%)			
	1970	1982	1987	1993	1970	1982	1987	1993	1970	1982	1987	1993
East Asia & Pacific	77	48	44	35	59	65	67	68	88	111	125	118
E. Europe & Central Asia	46	33	29	24	67	68	69	69	n.a.	n.a.	n.a.	n.a.
Latin Amer. & Caribbean	83	57	49	43	61	65	67	69	99[b]	105[e]	105	107[d]
Middle East & N. Africa	135	90	67	53	53	59	63	66	68	91	94	96[c]
South Asia	138	110	97	84	49	55	57	60	67	77	88	106
Sub-Saharan Africa	132	112	13	93	44	48	50	52	50	74	69	67[f]
Developing countries	97	71	63	54	56	61	63	65	78	95	105	107
OECD countries	19	20	8	7	72	75	76	77	104[g]	102	103	103[d]

Source: World Bank economic and social database and World Bank 1996b.

a/ Ratio of students attending primary school to students in the primary school age group. A decline in gross enrollment ratios that are over 100 does not necessarily mean a decrease in the proportion of school-age children going to school. It might reflect a reduction in the number of over-age children as a result of improved quality or efficiency as fewer children start school late or repeat grades. b/ 1975. c/1992. d/ 1991. e/ 1980. f/ 1990. g/ 1965.

both incomes and human development, or falls into slow improvements in both human development and incomes." At one extreme, the report estimates that, at the rates of improvement in human development in countries such as Mozambique and Niger between in 1970 and 1993, "it would take more than two centuries to reach the Human Development Index (HDI) level of industrial countries" (UNDP 1996, 1, 5, 83).

The Many Characteristics of Poverty

The discussion above on poverty in sub-Saharan Africa was based on aggregate data such as the African development indicators (World Bank 1996a), which, apart from being broad estimates, do not provide sufficient detail for discussion of country situations. Data from household surveys document the status of poverty in sub-Saharan Africa in more detail, which is important because of the diversity among countries.[1]

It is possible to summarize information from household surveys in 17 countries, including South Africa, of which 6 are SG 2000 partner countries.[2] The data sets have been provided to the World Bank by the national statistical offices and are available to other users upon authorization by the national statistical offices. Collecting and processing the data has involved years of painstaking work by a number of African statisticians, many of whom have worked closely with World Bank staff to generate the tables used in this paper.[3] The 17 countries account for about 56 percent of the total population of sub-Saharan Africa and 68 percent of the total GDP. The extent to which the 17 countries are representative of sub-Saharan Africa is discussed in the sidebar.

Levels of Poverty

Comparing poverty among countries is difficult because the definition of poverty differs from one country to another. In the international comparisons described above, the poverty line used was the purchasing power of US$1/day per person.[4] Poverty is also measured against a standard such as the cost of the minimum amount of food and essential goods and services required to sustain an individual in an active and healthy life. While standards for calorie intake are reasonably consistent, the non-food items can vary among countries. There are also difficulties in the selection of appropriate price deflators and exchange rates to take account of different consumer prices in rural and urban areas. Hence comparisons of the incidence of poverty from one country to another in absolute terms are difficult. In this paper, we use two-thirds of national average expenditure per capita as the poverty line.

[1] The World Bank, with considerable support from donors, has supported a poverty monitoring program in sub-Saharan Africa over the last decade, which has now accumulated household survey data from 17 countries. The data are the property of each country's national statistical office, which must provide authorization for use outside of the World Bank. For information on the importance of household survey data in the World Bank's poverty work, see World Bank 1996b, Chapter 3.

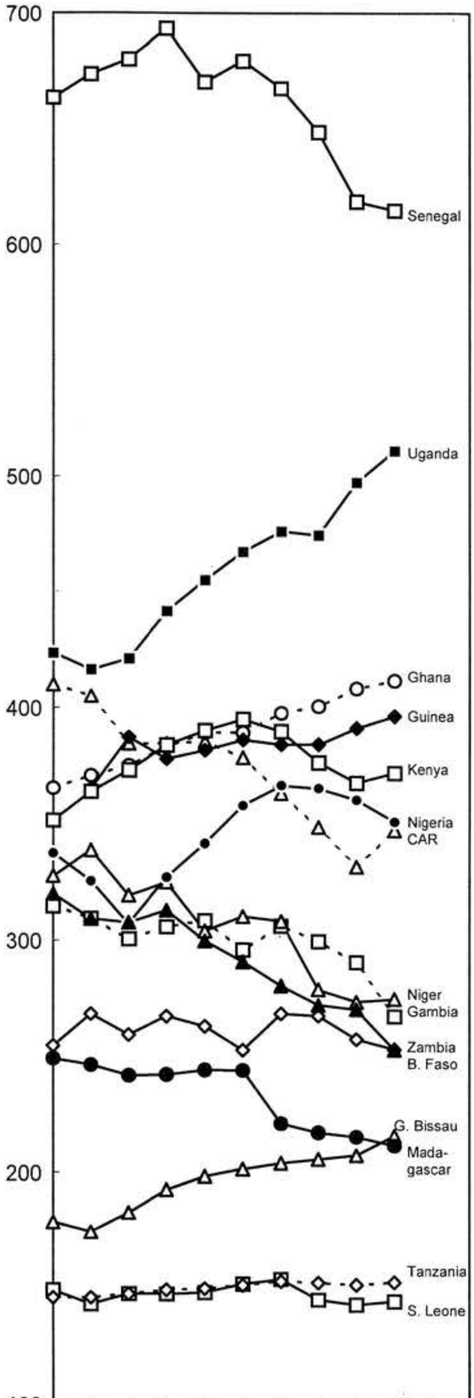
[2] Burkina Faso, Ghana, Guinea, Nigeria, Tanzania, and Uganda.

[3] Much of this work has been financed by the Norwegian Trust Fund for poverty monitoring and analysis in sub-Saharan Africa.

[4] This was a standard established in the *World Development Report 1990* (World Bank 1990). US$370 per year (or US$1 per day) in 1985 purchasing power parity was at that time the chosen upper poverty line, based on the then-available household surveys. US$275 per year was chosen as the lower poverty line.

Sidebar: Representativity of Countries in the Subset

Key economic indicators for 17 countries are summarized in the table below. It shows that the countries included for analysis in this paper account for about 56 percent of the total population of sub-Saharan Africa and are spread throughout the subcontinent. Hence this subset of countries provides a reasonably good picture of poverty in sub-Saharan Africa. Average GDP per capita in 1994 for the subset of countries was about US$635, compared with US$522 for all of sub-Saharan Africa. Without South Africa, the average of the remaining countries in the subset is US$259. Most countries in the subset also showed a negative GDP growth rate over the 1985–94 period compared with a growth rate for the region of –1.13 percent per year (see figure). Recent projections indicate a growth rate for sub-Saharan Africa of about 3.8 percent per year over the next 5 to 10 years. This is good news for poverty reduction since experience from other regions suggests that economic growth does reduce poverty in the long run.



Trends in GDP per capita for selected countries.

Source: World Bank 1996a.

Key indicators for selected African countries.

Country	Population 1994 (millions)	GDP/capita 1994[a] (US$)	GDP/capita Growth 1985–94 (%/yr)
Burkina Faso[b]	10.1	183	0.29
Central Afr. Rep.	3.2	270	–1.95
Côte d'Ivoire	13.8	485	–4.13
Gambia	1.1	336	–1.07
Ghana[b]	16.6	326	1.35
Guinea[b]	6.4	528	0.67
Guinea-Bissau	1.0	232	2.22
Kenya	26.0	264	0.66
Madagascar	13.1	146	–1.83
Niger	8.7	176	–2.05
Nigeria[b]	108.0	326	1.49
Senegal	8.3	470	–0.71
Sierra Leone	4.4	192	–0.52
South Africa	40.5	3,007	–1.57
Tanzania[b]	28.8	117	0.56
Uganda[b]	18.6	215	1.84
Zambia	9.2	378	–2.31
Sampled countries	318.1	635	–0.83
xSouth Africa	277.5	259	0.44
Sub-Saharan Africa	571.1	522	–1.13

Source: World Bank 1996a.
a/1994 US dollars. b/ SG 2000 partner countries.

Table 3. Population below the relative poverty line in 17 sub-Saharan African countries.

Country	Poor (%) Rural	Urban	Avg
Burkina Faso[a] (1995)	65	13	56
CAR (1993)	77	33	61
Côte d'Ivoire (1995)	49	31	40
Gambia (1992)	73	21	49
Ghana[a] (1993)	45	26	39
Guinea-Bissau (1991)	65	29	54
Kenya (1992/93)	69	12	61
Madagascar (1993)	59	21	51
Niger (1993)	43	14	38
Guinea[a] (1994/95)	52	51	52
Nigeria[a] (1992)	52	32	44
Senegal (1991)	78	21	55
Sierra Leone (1989/90)	74	36	56
South Africa (1993)	82	41	63
Tanzania[a] (1993)	52	20	42
Uganda[a] (1993)	46	16	42
Zambia (1993)	75	16	52

Source: World Bank, forthcoming.
a/ SG 2000 partner countries.

This approach results in the definition of a relative poverty line and, while it is an arbitrary decision to use the two-thirds benchmark, it is not unreasonable and above all it makes cross-country comparisons possible. The extent to which the population is above or below this poverty line varies among countries and, within a country, between rural and urban areas.[5] Table 3 presents data on relative poverty for six SG 2000 partner countries, and shows that all have a rural incidence of poverty of at least 40 percent, with most around 50 percent. Note also that rural poverty is much higher than urban poverty, and this would be the case even if adjustments were made for different prices in rural and urban areas.

Assets and Poverty

The poor have less land, capital, and education, and lower health status and entitlements than those in higher income groups. Table 4 shows that in South Africa, although some households in all consumption quintiles had access to land, the average area of land used by poor households was less than the average area used by rich households.

Gender and Poverty

Women farmers in general are disadvantaged in their access to resources and factors of production compared with men. Evidence from Kenya suggests that the gross value of output per hectare is 8 percent higher for men than for women; however, if women had the same human capital endowments and used the same amount of factors and inputs as men, the value of their output would increase by 22 percent (Saito 1992). Thus, women are possibly better—more efficient—farm managers than men. Their productivity is well below its potential. Capturing this potential productivity gain by improving the circumstances of women farmers would substantially increase food produc-

Table 4. South Africa: Access to cropland by consumption expenditure group, 1993.

Expenditure quintile	Households with access to land (%)	Avg area of land used last year (ha/capita)
1 (ultra-poor)	27.5	0.3
2	28.1	0.4
3	25.8	0.8
4	18.4	4.5
5 (richest)	28.1	63.7
All rural	26.2	4.6

Source: SALDRU 1995.

[5] Note that for some countries no adjustments have been made for regional (urban and rural) price differences because this would require price information for urban and rural areas, which is not always available. Adjustments of expenditures to account for inter-regional differences in prices can have an important impact on measures of poverty. Hence differences between urban and rural expenditures may be due largely to differences in prices and so they cannot be aggregated. Therefore, for this analysis, urban and rural data have been kept separate in the standardized data sets.

tion in sub-Saharan Africa, thereby significantly removing one determinant of food insecurity in the region. Because women produce an estimated 75 percent of sub-Saharan Africa's food, if these results from Kenya were to hold in sub-Saharan Africa as a whole, simply raising the productivity of women to the same level as men could increase total production by 10 to 15 percent (Saito 1992).

Demographics of Poverty

The World Bank's Africa Region task force on poverty reduction (World Bank 1996c), World Bank reports on poverty, and various reports by the African Population Advisory Committee (1993) refer to the burden population growth places on the rate at which poverty can be reduced and the per capita levels of expenditures available for essential social services. As mentioned above, population growth rates in sub-Saharan Africa exceed those for any other region in the world, and Africa's population is expected to more than double by the year 2025.

Two demographic indicators—household size and age structure—can be examined by expenditure quintile, using the survey data. The household survey data confirm the well-known fact that family size declines as incomes rise. Figure 3 shows the relationship between household size and average expenditure by quintile. It is clear that relatively affluent households have smaller families and that, apart from an unexplained reversal of the trend in the second urban quintile, the relationship is the same in urban and rural areas.

Figure 4 shows that poor families have a higher proportion of family members

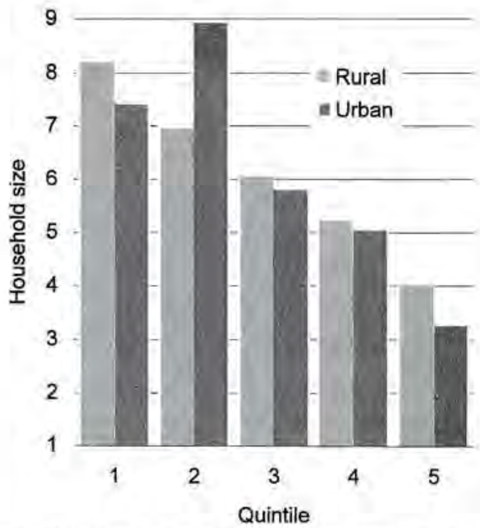


Fig. 3. Average household size by expenditure quintile (1 = poorest). Source: World Bank staff estimates based on standardized indicators for 17 selected countries.

under age 15, with rural households having a higher proportion than urban households. Figure 5 shows that the proportion of households with members under 15 is consistent for all 17 countries in the subset.

Education and Poverty

Primary school enrollment rates, as recorded in the 17 household surveys range from 26 percent in Niger to 81 percent in Kenya, highlighting the diversity of human capital development in sub-Saharan Africa. There are many striking features about education that emerge from the data. One is the consistent pattern of increasing enrollments in primary schools in both urban and rural areas as household expenditures rise. The average pattern is shown in figure 6, which also shows the dramatic difference between male and female primary school enrollment rates for the 17 countries.

One of the most startling differences in primary school enrollment rates is between the Sahel and other countries in

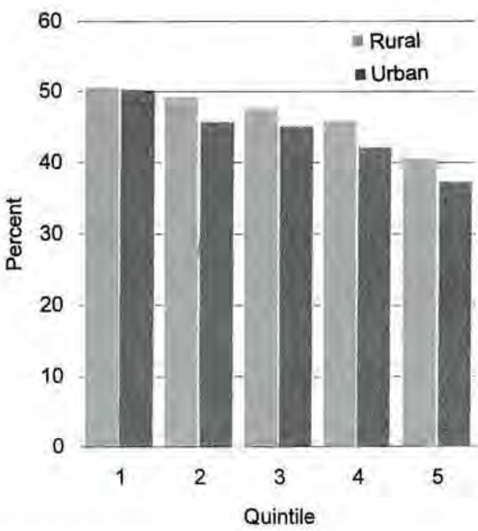


Fig. 4. Population under 15 years by expenditure quintile (1 = poorest) in 17 countries. Source: World Bank staff estimates based on standardized indicators for 17 selected countries.

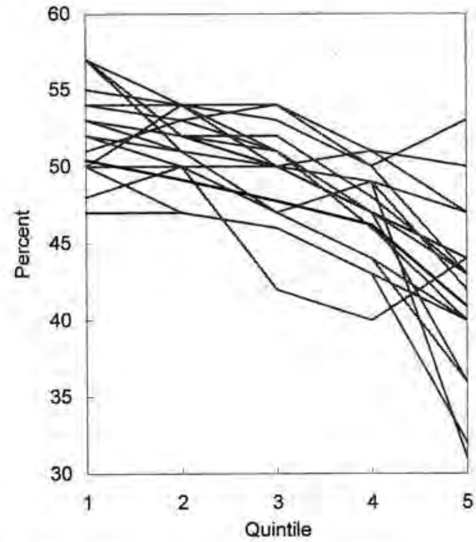


Fig. 5. Rural population under 15 years by expenditure quintile. Dark line is the mean. Source: World Bank staff estimates based on standardized indicators for 17 selected countries.

sub-Saharan Africa. Figure 6 shows these differences very well for rural and urban areas. Note in particular the large differences in rural areas between the Sahel and the non-Sahel. These discrepancies in access to basic education between rural and urban households have enormous implications for rural development.

Figure 7 highlights the considerable disparities among African countries in their primary school enrollment rates in rural versus urban areas. In a country such as Niger, there is a clear urban/rural bias, while in countries such as Kenya, Tanzania, and South Africa, there is very little bias.

These broad enrollment data mask wide differences among and within countries and ignore the very real issues of education quality and efficiency. For example, in Benin, among children of primary school age, 88 percent of the boys and just 44 percent of the girls were enrolled in school in 1993, and those lucky enough to be sent to school are on a difficult path. Repeat and dropout rates are high and increasing. One study estimated that out of a cohort of 1,000 enrolled, 319 children complete the primary school cycle and only 164 pass the primary certificate examination (World Bank 1994a).

The quality and efficiency of schooling are important issues in many African countries. In Uganda, where enrollment rates are quite high (99% for boys, 83% for girls), dropout rates are high and transition to secondary school low. Of the primary cohort that began school in 1986, 70 percent dropped out by P7 (the seventh and final grade of the primary school system). Of the cohort who sat the primary leaving exams, only 40 percent achieved admission to secondary school (World Bank 1996e).

In Ghana, where in 1993 primary school participation rates were relatively high

(83% for boys, 70% for girls), the poverty assessment concluded that the quality of schooling was perceived as low by both community members and service providers. The mushrooming of rural schools has meant that educational resources have had to be spread quite thin. Thus, while schools may be closer, rural communities tend to have so few teachers per school as to render the quality and value of education in such schools questionable (World Bank 1995a). A greater focus is needed on what happens inside schools and on "sector policies that empower schools and communities to control better the education of their children" (Heneveld and Craig 1996).

Health and Poverty

Although education services are important in alleviating poverty, their effect is indirect because people must also have opportunities to use their improved skills. In contrast, health services provide a direct benefit. Past progress has been steady, but gains in vital health indicators appear

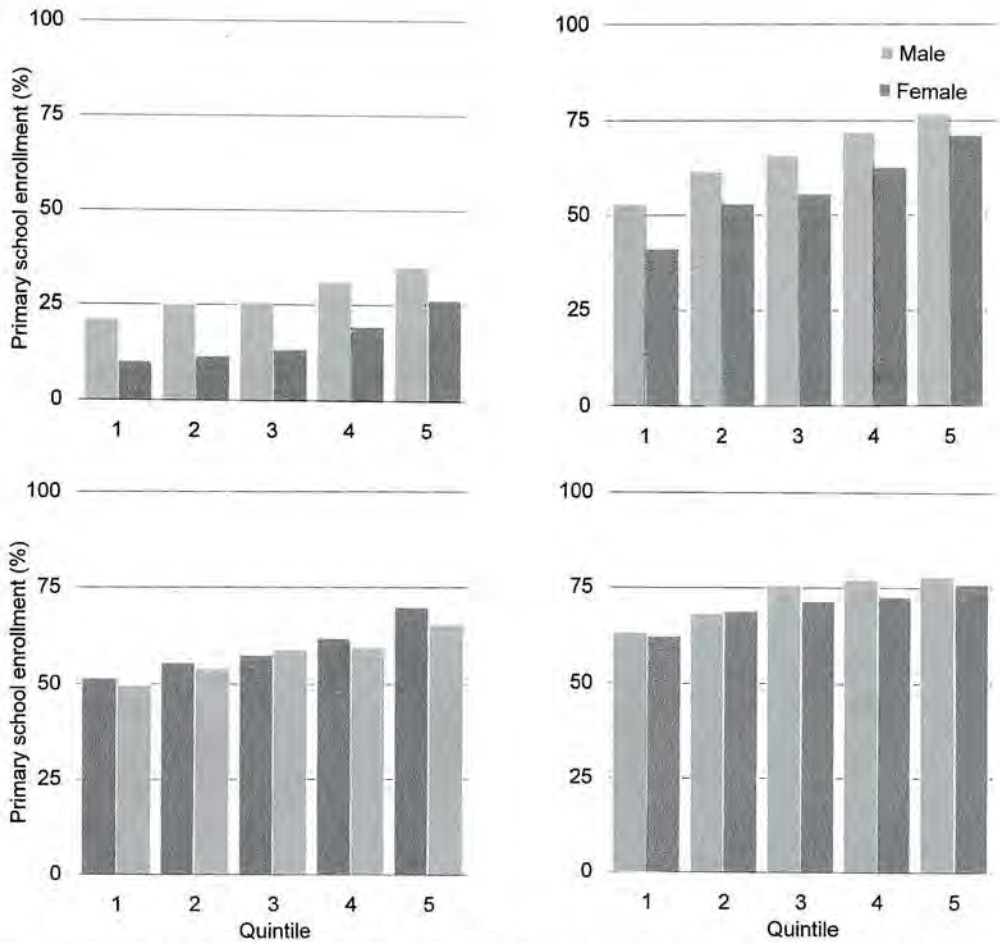


Fig. 6. Male and female primary school enrollment rates in rural and urban areas for Sahel and non-Sahel countries by expenditure quintile (1 = poorest). Source: World Bank staff estimates based on standardized indicators for 17 selected countries.

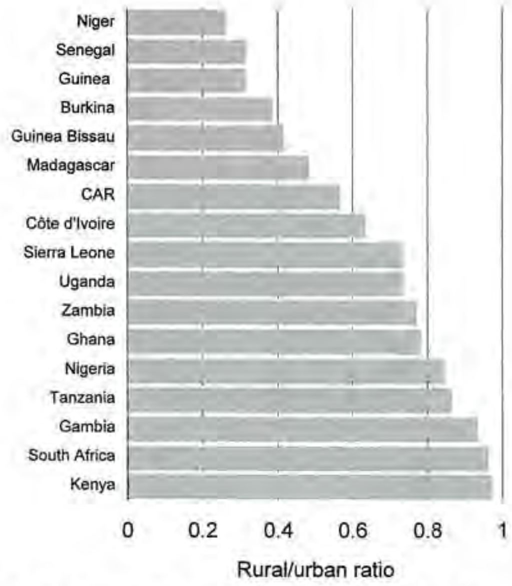


Fig. 7. Rural/urban gross primary enrollment ratios. Source: World Bank staff estimates based on standardized indicators for 17 countries.

to be at risk. Life expectancy increased by more than 10 years since 1960, but it has been nearly stable since the late 1980s. In 1991, life expectancy in sub-Saharan Africa was 51 years, compared with 59 years in South Asia, 68 years in Latin America, and 64 years in all low- and middle-income economies. The differences are far less striking within sub-Saharan Africa: the Sahel has the lowest life expectancy, 48 years; East Africa has the highest, 53 years. A recent World Bank review of health issues in sub-Saharan Africa drew attention to the many opportunities for improving the health status of Africans. It argued that despite tight fiscal constraints, significant improvements are within reach in many countries if certain policies are implemented (World Bank 1994b). The recommended policies include cost-effective packages to deal with the most common health problems, decentralization of health care delivery, improved management of essential inputs to health care, training of health personnel, and implementation of health-sector infrastructure.

Urban/rural differences in access to health services of all kinds are a mirror image of the situation in education. Rural households are markedly disadvantaged with respect to access to health services in sub-Saharan Africa. The percentage of urban population with ready access to primary health care ranges from 44 to 99 percent. In most Sahelian countries, fewer than 30 percent of rural people have ready access to health services, compared with 78 percent in urban areas, and in the rural areas of some countries, the figure is as low as 17 percent. Only about 50 percent of the total population has access to safe water. In rural areas, 42 percent of the population has access to safe water compared with 70 percent in the urban areas. An extreme example of the urban/rural difference is in Zambia where, because of investment in infrastructure, 88 percent of the urban population has access to safe water, compared with less than 20 percent of the rural population.

Food Insecurity and Poverty

Generally people with food security problems lack access to food because they lack income, assets, or entitlements with which to produce, buy, or exchange sufficient food for a healthy, active life. In 1990–92, the estimated average dietary energy supply available in sub-Saharan Africa was 2,300 calories per capita per day compared with 2,520 calories for all developing countries. Among low-income, food-deficit countries in sub-Saharan Africa, the average daily dietary energy supply is only 2,210 calories per capita. Overall, an

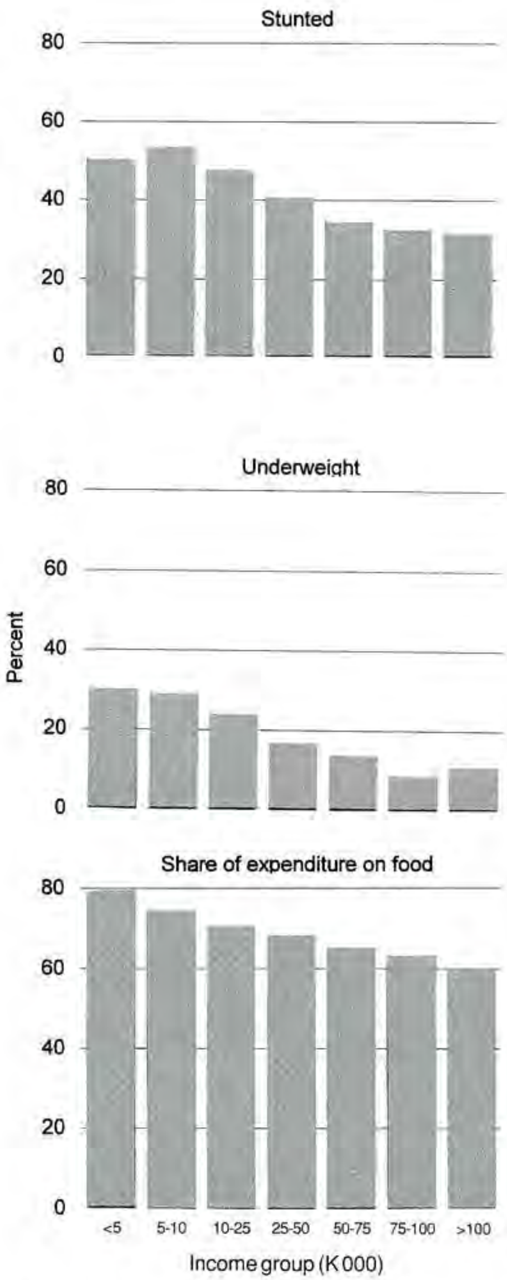


Fig. 8. Zambia: Anthropometric indicators by household income group. Source: World Bank 1993b.

estimated 35 percent of the population was chronically undernourished in sub-Saharan Africa in 1990–92 versus 21 percent in all developing countries (FAO 1996). Because the lack of income and assets also defines poverty, chronic food insecurity and poverty are virtually the same, and the framework for analyzing both of them is also much the same. Food insecurity may arise for other reasons. Transitory food insecurity is caused by factors such as seasonal changes in the availability and price of food. Civil conflict, droughts, and famine affect the poor and vulnerable most severely. To the extent that temporary factors destroy assets (land, food storages, or livestock), transitory food insecurity may result in chronic poverty and destitution. This has been the case for some people in countries such as Sudan, Somalia, Rwanda, Burundi, and Liberia.

Nutrition and Poverty

Poverty has created another serious problem for African children, namely malnutrition. In Malawi, Burundi, Madagascar, Rwanda, and Ethiopia, nearly half of all children are stunted as indicated by height-for-age measurements. In Niger, Mali, Nigeria, and Ghana, 1 child in 10 is wasted (low weight-for-height). With a few exceptions, such as Zimbabwe, Botswana, and Cameroon, at least one-fifth of African children are underweight. Micronutrient malnutrition, which is "devastating for preschool children and pregnant women," is widespread (World Bank 1994c). Although malnutrition is declining in every other part of the world, nutritional status has stagnated or deteriorated in much of sub-Saharan Africa in the past decade. Economic decline and poverty are at the heart of this problem. Other factors include poor understanding and recognition of nutrition, absence of a distinct institutional base for nutrition interventions, poor coordination among ministries responsible for nutrition-related actions, and limited political will.

The impact of income levels on anthropometric measurements in Zambia are shown in figure 8. Nutrition indicators in this figure are closely related to income. And, although the lowest income groups spend a greater share of their income on food, they are substantially less well-nourished than higher income groups. The relationships in this graph are at the heart of the problem of poverty and human capital development in sub-Saharan Africa, and they underline the importance of income levels for improvement in welfare.

The Environment and Poverty

Poverty is one of the main factors explaining environmental degradation in Africa. National environmental action plans, now completed for many countries, have clearly documented the extensive environmental damage in Africa caused by poverty. For example, migration to the coastal areas of West Africa by people seeking employment, resulting in increased population densities, has stressed the natural resource base (World Bank 1996d).

Furthermore, in many countries, the combination of distorted economic policies, population pressures, and low incomes is leading to the cultivation of ever-more fragile lands as people struggle to survive. As a result, environmental damage is increasing and agricultural productivity is declining. Indeed, the effects of continued high levels of rural poverty and high rates of population growth will be especially severe for sub-Saharan Africa's fragile and increasingly depleted natural resource base. This nexus among poverty, population, and environment is already one of the most important social and economic issues for Africa's future (Cleaver and Schreiber 1994). With increasing population and large numbers of poor in rural areas, efforts to protect or restore the environment become increasingly important and urgent, but also costly.

A Composite Picture of Social Indicators

The indicators derived from household survey data discussed above, plus some related to literacy, water supply, and sanitation can be put together conveniently into one diagram, although the amalgamation of a "regional picture" is premature because the data are based only on 17 countries. Also, an aggregation hides the considerable variation between countries. Nevertheless, figures 9 and 10 provide the main messages about the poor in sub-Saharan Africa. Figure 9 shows the rural/urban differences in some important poverty indicators. It is clear how much poorer rural people are in terms of access to social services. Note the information on water supplies, which reflects the higher dependence of rural people on wells as compared with urban people who depend much more on piped water. This picture is all the more serious, considering that, for all African countries, the rural population far outstrips the urban population. The access to education tells an important part of the story: a smaller proportion of the population has attended

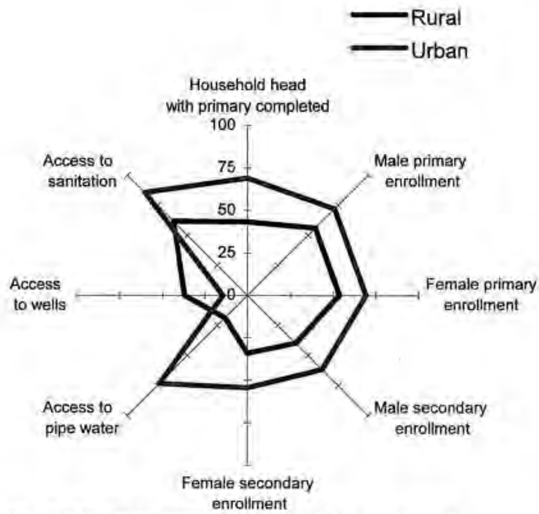


Fig. 9. Welfare indicators for rural and urban areas. Source: World Bank staff estimates based on standardized indicators for 17 selected countries.

school or is attending school in rural areas than in urban areas.

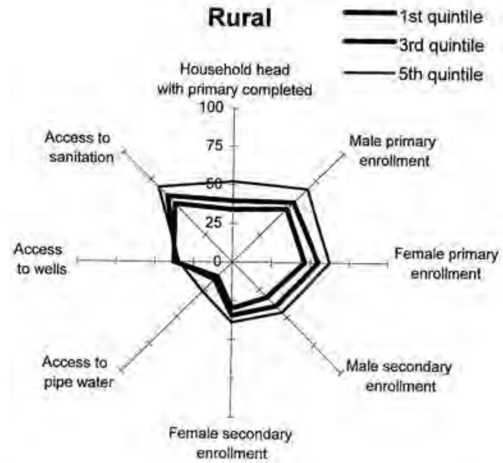
Figure 10 presents welfare indicators by expenditure quintile in rural and urban areas. Households with higher expenditures are better off in terms of access to education and in the quality of water supply and sanitation services. The other quintiles represent the nonpoor. The level of income, as represented by expenditure quintile, clearly affects people's access to social services. This underlines the importance of income growth for the poor.

The evidence presented illustrates the many deprivations faced by Africa's poor, particularly those living in rural areas. Some implications of the evidence are as follows:

Implications of the Evidence

First, higher incomes are associated with higher levels of well-being in rural and urban areas. This means that per capita growth must be much higher than it has been, or is projected to be, to have an impact on poverty reduction. The recent World Bank task force on poverty reduction (World Bank 1996c) concluded that annual growth rates for typical African countries should be at least 6 to 7 percent (i.e. per capita growth of at least 3 to 4% per year) for substantial poverty reduction to be achieved. In addition, the patterns of growth should be such that the poor will benefit from growth. Indeed, rural development must make an important contribution to achieving high levels of growth.

Rural



Urban

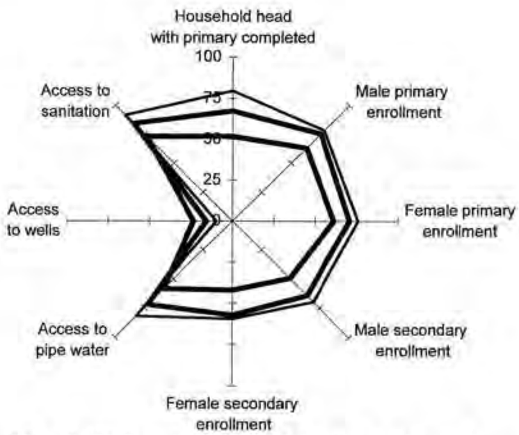


Fig. 10. Welfare indicators for urban and rural areas (1st, 3rd, and 5th expenditure quintiles; 1st quintile = poorest). Source: World Bank staff estimates based on standardized indicators for 17 selected countries.

Second, social services of all kinds must be improved to provide the enabling conditions for growth in rural areas, particularly in agriculture. These services include education, health, urban sanitation, rural domestic water supply, and rural roads.

Finally, there needs to be strong government commitment to poverty reduction and rural development. This commitment should be revealed in sound macroeconomic and sectoral policies, in the allocation of public expenditures, and in a rural focus for infrastructure development. In sub-Saharan Africa, the evidence for such commitment is weak.

Literature Cited

African Population Advisory Committee. 1993. African population programs: Status report. Washington, D.C. Duplicated.

Cleaver, Kevin, and Gotz Schreiber. 1994. *Reversing the spiral: The population, agriculture, and environmental nexus in sub-Saharan Africa*. Washington, D.C.: World Bank.

FAO. 1996. *World Food Summit: Food security situation and issues in Africa*. Rome.

Heneveld, Ward, and Helen Craig. 1996. *Schools count: World Bank project designs and the quality of primary education in sub-Saharan Africa*. Washington, D.C.: World Bank.

Saito, Katrine. 1992. *Raising the productivity of women farmers in sub-Saharan Africa*. World Bank Discussion Paper 230. Washington, D.C.: World Bank.

SALDRU (Southern African Labour and Development Research Unit). 1995. Key indicators of poverty in South Africa. University of Cape Town, Capetown, South Africa. Duplicated.

Sen, Amartya. 1981. *Poverty and famines: An essay on entitlements and deprivation*. Oxford, UK: Clarendon Press.

Summers, R., and A. Heston. 1991. The Penn World Table (Mark 5): An expanded set of international comparisons, 1950–1988. *The Quarterly Journal of Economics* 106 (2): 1–41.

UNDP (United Nations Development Programme). 1996. *Human development report 1996*. New York: Oxford University Press.

World Bank. 1990. *World development report 1990: Poverty*. New York: Oxford University Press.

World Bank. 1993a. *Implementing the World Bank's strategy to reduce poverty: Progress and challenges*. Washington, D.C.

World Bank. 1993b. Zambia household priority survey II. Southern Africa Department. Washington, D.C. Duplicated.

World Bank. 1994a. Benin: Toward a poverty alleviation strategy. Washington, D.C. Duplicated.

World Bank. 1994b. *Better health in Africa: Experience and lessons learned*. Washington, D.C.

World Bank. 1994c. *Enriching lives: Overcoming vitamin and mineral malnutrition in developing countries*. Washington, D.C.

World Bank. 1995a. Ghana: Poverty past, present and future. Report no. 14504-GH. Washington, D.C. Duplicated.

World Bank. 1995b. World Bank population projections: 1994–95 edition. Washington, D.C. Duplicated.

World Bank. 1996a. *African development indicators*. Washington, D.C.

World Bank. 1996b. *Poverty reduction and the World Bank: Progress and challenges*. Washington, D.C.

World Bank. 1996c. *Taking action to reduce poverty in sub-Saharan Africa*. Washington, D.C.

World Bank. 1996d. *Toward environmentally sustainable development in sub-Saharan Africa: A World Bank agenda*. Report No. 15111. Washington, D.C.

World Bank. 1996e. *Uganda: The challenge of growth and poverty reduction*. Washington, D.C.

World Bank. 1996f. *World development report 1996: From plan to market*. New York: Oxford University Press.

World Bank. Forthcoming. *Status report on poverty in sub-Saharan Africa 1996: Country profiles and patterns of growth*. Africa Region. Washington, D.C.

Comments on Poverty in Sub-Saharan Africa: Causes and Characteristics

Ellen Johnson Sirleaf

My assignment is going to be easy, since Mr. van Holst Pellekaan has rightly set the stage for our debate. Hence, I will stress key priority issues that he raised and supplement his analysis by looking forward to potential responses to challenging poverty.

Poverty is not a state of being; it is the effect of dynamic processes. Thus I agree that it is important to know why poverty exists before trying to see what should be done to eradicate it. This inquiry necessarily leads away from the nature of the poor as individuals to the nature of their social and physical environment. Poverty is not only a personal phenomenon, it is a social status. As such, although the effects of poverty can be measured statistically, from the point of view of poverty reduction, the processes of becoming poor are just as important as the state of being poor. These processes are processes of denial—denial of access to assets, denial of participation, denial of opportunity, and denial of self determination and dignity.

The social nature of poverty implies that those living in poverty are not the only ones affected by it. The entire society suffers too. There are several reasons for this. First, the larger community is deprived of the creative energies and potentials of those who are disadvantaged. Second, poverty and inequality often result in social instability, disease, population growth, migration, and environmental degradation. In turn, these factors tend to reinforce the privations of those who are caught in a spiraling cycle of impoverishment and marginalization. Sooner or later, everyone is affected by anyone's suffering. Therefore, poverty should not be narrowly regarded as a social problem, to be tackled by economic and social policies alone. Instead, it should be viewed more broadly as a critical development challenge. Its solution requires the mobilization of social energy and a strong commitment of all political, economic, and social forces.

Let me now review some priority issues relevant to poverty eradication and indicate potential responses to poverty challenges in the framework of sustainable human development.

Poverty Assessment: Causes of Poverty in Sub-Saharan Africa and Some Priority Issues

In 1992, 42 percent of the approximately 525 million people in sub-Saharan African were estimated to be living below the poverty line of $370 per capita, and the

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numbers are growing. By the year 2000, the number of people living in poverty is expected to jump to 304 million, or roughly 50 percent of the region's population. Women have borne a disproportionate burden in the growth of poverty. Over the last 20 years, the proportion of African women living in poverty rose by 50 percent compared with a 30 percent increase among men. Poverty, which until recently was a predominantly rural phenomenon, is now spreading quickly in rapidly growing urban centers. Another disturbing phenomenon is the increasing Africanization of poverty. The distribution of global poverty is projected to shift dramatically toward Africa, from 16 percent in the mid-1980s to 50 percent by the turn of the century. Finding creative solutions to cope with poverty is then one of the greatest challenges facing the continent.

To respond to the challenge, a multifaceted approach needs be adopted. At the core of this approach is the notion that poverty is not just a matter of meager incomes. Income poverty, in fact, is but one dimension of deprivation that expresses itself in political, social, cultural, and ecological terms as well as economic. Equally important are questions of the lack of access of people living in poverty to basic services such as health and education and to power structures that influence policies and programs that affect their lives. Thus, any efforts to sustainably reduce poverty must go hand in hand with a strategy for empowering broad-based participation.

UNDP's assessments of poverty through poverty profile studies and household surveys in Africa, as well as in other regions, have shown that, broadly speaking, there are four fundamental interactive sets that establish the basic pattern of poverty:

- unstable macroeconomic environment and poor development policies, which yield low economic growth
- high population growth not consistent with economic growth
- limited access to infrastructure and basic services
- poor natural resource management, leading to the degradation of the environment

All these fundamentals are equally critical, Mr. van Holst Pellekaan has dealt with them with particular focuses on the last three.

Let me review these four major fundamentals and share with you some lessons that we in UNDP have learned when assisting countries in assessing and tackling poverty.

Unstable Macroeconomic Environment and Weak Development Policies.

Macroeconomic management has been difficult for highly open countries, such as those in Africa, that rely on a few exports whose prices fluctuate significantly in response to world economic conditions. The sharp rise and then fall in the 1970s in the prices for cocoa, coffee, sugar, groundnuts, sisal, phosphates, and uranium, as well as the rise in the price of oil and its subsequent fall in the 1980s, placed enormous strains on those guiding macroeconomic policies. In many countries when export prices rose and revenues expanded, governments increased expenditures for both consumption and investment purposes rapidly. However, domestic political pressures made it difficult to reduce expenditures, especially those for consumption purposes, when export prices declined. Consequently governments frequently resorted to further foreign borrowing to sustain their domestic programs. Thus, when export prices continued low in the 1980s and many of the projects of the 1970s did not turn out to be very productive, most African countries were faced with crushing international obligations and little hope of being able to restore satisfactory economic growth.

In turn, these factors contributed to a reduction in the growth rates of investment and a depreciation in the returns on investment already undertaken. Furthermore, capacity utilization rates averaged only about 30 to 40 percent of installed capacity in most industrial sectors in African countries.

Consequently, sluggish overall growth and rapidly rising populations forced governments to reduce their relative spending on human investment, particularly in health and education. The share of central government expenditures on health declined from 6 percent to 5 percent between 1985 and 1990, while the share devoted to education fell from 15 percent to 11 percent. Still another disturbing consequence is the decline in primary school enrollment from a high of 77 percent in 1980 to 66 percent by 1990.

High Population Growth

Population growth in African countries, which averages 3 percent per year, is exceptionally high, not only compared with other regions but also compared with economic growth. The population of sub-Saharan Africa is projected to reach 654 million at the end of the century and will more than double by 2025, only 30 years from now. The high population growth will offset reductions in the number of poor in most countries, particularly since the rate of increase among the poor is higher than among the nonpoor. The projected population increase will also place a huge strain on the region's natural resource base and the ability of governments to provide minimal social services. The increase in the labor force resulting from increases in population and the high proportion of young people will also place a strain on the labor market unless there is an increase in employment opportunities.

Limited Access to Infrastructure and Basic Services

National policies and institutions often have built-in biases that exclude the rural poor from the benefits of development. They accentuate the impact of other poverty processes and fail to recognize the productive potential of smallholder farmers, which could be realized with the right kind of support.

The rapid infrastructural development over the past three decades has been concentrated in the main urban centers and in high potential regions. The effect of this concentration of facilities and services has been to widen the gap between the urban communities and the small, poor, and less-accessible rural villages. Small settlements are still without basic services. Lack of access to water, health, education, transport, electricity, credit, inputs (including technological packages), and extension is especially pronounced in the rural areas, where the majority of the poor are living. Other constraints are the short-age of manpower, an absence of training facilities, a lack of applied research findings on activities oriented toward smallholders, and last but not least, a lack of grassroots institutions to encourage people's participation.

Typical of African countries, access to rural credit has been characterized by a high degree of government intervention. Subsidized interest rates have created an artificial demand for credit, benefiting large farmers with enough collateral to borrow. Frequent government debt forgiveness has further exacerbated already low loan-recovery rates. Smallholders and poor landless were isolated because of the lack of proper titles to land and collateral requirements.

Equally important is the issue of research and extension and their adaptability to small farmers needs. Agricultural research institutions in the region have had a long record of research. Yet their activities have focused on high-yielding cash crops of interest to large farmers operating under favorable rainfed or irrigated farming systems. They were not geared toward the practical solutions to smallholders' problems inflicted by unfavorable arid and semi-arid environments. Along the same lines smallholders are not getting the support they need from extension.

Another aspect of the inaccessibility of small farmers to services and facilities is marketing. Despite their survival-related subsistence farming, small producers manage to deliver a limited quantity of their agricultural products. Yet this inevitably puts them in a relatively weak bargaining position. They cannot invest in improving their marketing capabilities (efficient transportation means, market information, and packing facilities).

Poor Resource Management and Degradation of the Environment

If poverty is both a cause and an effect of rapid population expansion, so is poverty both cause and effect of many dimensions of pressure on resources and degradation of environment. Many of the poor live in areas of extreme environmental fragility, a circumstance often prompted by a high level of control by the better-off of more stable and productive resources areas. Hence, the poor are extraordinarily exposed to the dangers of erosion, whittling away at an already meager productive base.

In many African countries, soil degradation is taking place at an alarming rate due to climatic changes, overgrazing, inappropriate agricultural practices, and poor soil and water conservation techniques. Poor agro-pastoralists and herdsmen are often cited as both perpetrators and victims. The threat is not entirely due to nature. Rather, poverty accelerates erosion and desertification. Without capital, the poor are frequently unable to invest in even traditional methods of soil and water conservation. And without sufficient land, they are forced to shorten fallow periods, putting further strain on the resource base.

Another poverty-related factor is water. It not only directly affects the lives of the rural poor and their animals, but also enhances the cropping intensity and the value added of irrigated farming. Because of the lack of capital for investment in water-saving and efficiency-increasing irrigation and farming technologies and techniques, smallholders are consistently in an unfavorable position to compete for the limited water resource base.

The adverse impact of environmental processes on rural poverty can often be traced to inappropriate development policies. For example, the provision of irrigation water at no charge has led to the overexploitation of scarce water resources. Inadequate water management and the lack of water pricing policy have contributed to waterlogging, salinity hazards, and the breakdown of irrigation systems and services due to the lack of revenues to operate and maintain them properly. Had decision makers charged water users part of the irrigation cost, this scarce resource would have been used efficiently and irrigation systems would have been maintained outside the fiscal budget. This comes over and above diversion of water from agriculture to industry and urban centers due to industrialization and urban development.

Potential Responses to Sustainable Human Development Challenges for Poverty Eradication

Let me now turn to what we believe are the critical potential responses to the development challenges induced by these priorities. In my judgment, seven measures are instrumental in eradicating poverty:

- a sound macroeconomic and regulatory framework
- development policies that promote access to capital among the poor
- development of sustainable employment opportunities through the promotion of the informal sector, small-scale enterprises, and labor-intensive public works programs
- development programs and projects that promote sustainable food security
- improved access to basic infrastructure and social services
- a sound institutional framework that enhances the full participation of all people in the development process
- a reliable, comprehensive, and relevant information system to measure the impact of poverty policies and programs

Sound Macroeconomic and Regulatory Framework

Sound macroeconomic policies and, more specifically, internal and external balance are a prerequisite for sustainable long-term growth and poverty reduction. Fiscal, monetary, and exchange rate policies therefore need to maintain conditions for sustainable growth by preventing the emergence of macroeconomic imbalances—by keeping domestic demand in line with available resources—and by adjusting quickly to external shocks.

These are critical, but they are not sufficient to reduce poverty. The concern must also be their effectiveness in promoting growth that makes efficient use of labor, especially rural labor, and enabling the poor to respond to opportunities to improve their well-being. Important issues are the impact of macroeconomic policy on unemployment and the distribution of income between urban and rural households. Special attention must also be focused on regulatory barriers in labor markets and the impact of land ownership and tenancy arrangements that may negatively affect the poor. In the context of adjustment, reform programs must be designed to move economies in a direction consistent with poverty reduction by setting them in a longer term framework than the classical 3-year macroeconomic framework and by reallocating public expenditures to the promotion of social sectors. But policies to stabilize and restructure the economy do have short-term costs, too. Hence analysis of their impacts—particularly their distributional impacts—are necessary to provide a basis for designing compensatory programs. A key policy instrument in redirecting investment to social sectors is the public expenditure review (PER). It is then crucial to update regularly the PERs to check the impact of macroeconomic and financial policies on the promotion of human development and, more specifically, on the reduction of poverty.

Development Policies that Promote Access to Capital

Prices may be right. The regulatory climate may be favorable. Macroeconomic policies may be on track. But, if the poor cannot access capital in its various forms, little progress will result. Policies that encourage economic growth will have a greater impact on the poor if they also enhance people's opportunities to build their own human capital and to access financial services and other crucial assets such as land. Therefore, policies to eradicate poverty need to consider the scope for accumulation—and maintenance—of assets by the poor.

Sound and sustainable social development policies positively affect the poor's ability to development human capital—the surest escape route from poverty. These include policies toward education, health, nutrition, and family planning. Because poverty jeopardizes health and nutrition, development policies should also focus on providing health and nutrition services. They should also help assure that children's opportunities for schooling are not sacrificed to families' needs for income.

Access to credit is also critical for unlocking the development potential of poor people, particularly those living in the rural areas. It is then important to enhance financial intermediation and develop appropriate financial instruments to increase national savings and reduce the current high level of the business lending rate in many African countries.

To do this, countries should review the legal and institutional obstacles to access to credit, and they should support the mobilization of local savings and the development of financial networks catering to microentrepreneurs, small farmers, the self-employed, and other low-income workers. Extensive support must be given to existing formal and informal community networks, such as money shops, community banks, revolving funds, and other community-based micro-credit schemes. Governments should also provide incentives to formal banking institutions to deliver credit and related services to people living in poverty.

Promotion of the Informal Sector

The informal sector has special relevance for poverty reduction policies. It tends to be more labor-intensive than the formal sector; it is often the entry point into the formal sector. Many small-scale enterprises survive at the margin, providing low-cost products to low-income clients. They face severe constraints such as access to finance, heavy regulatory barriers, and lack of technical skills. The per-unit output costs of complying with regulations and workplace quality, business location, terms and conditions of employment, registration and licensing, and so on, are higher for small producers. At the same time, small enterprises are less able to take advantage of economies of scale in the use of certain essential infrastructure services, such as power, transport, and communications. Hence an effective policy toward the informal sector, which concentrates less on regulation and more on the provision of infrastructure services is likely to yield sturdy and sustainable results for poverty eradication.

A Focus on Sustainable Food Security

Greater household food security is essential for breaking the vicious circle of poverty and malnutrition. In rural areas, this requires measures to promote subsistence farming and to raise the returns farmers receive on marketed crops. This includes, inter alia, a policy environment that promotes increased food production. Such an environment should provide adequate land tenure arrangements, and appropriate pricing and incentive policies for rural producers. It should also provide better infrastructure, especially feeder roads and small-scale irrigation, improved access to credit and inputs, research and extension services, and agricultural marketing. In Africa, where women constitute 80 percent of food producers, measures to enhance household food security must reflect knowledge of, and address, institutional discrimination women face in their attempts to gain access to land, credit, education, and technology.

In urban areas, household food security depends chiefly on the availability of stable and remunerative employment. Also, supplementary nutrition programs and subsidies on basic foodstuffs could be targeted to the poorest households to provide critical relief to the needy. In all cases, women must have equal access to all services and technologies.

These are critical issues that we will certainly discuss again during the upcoming World Food Summit. I would advise that our recommendations on all these issues be used as inputs in the summit's declaration on world food security and in the World Food Summit plan of action.

Improving Access to Basic Infrastructure and Social Services

Governments should devote a larger share of public expenditures to social sectors, particularly health (including reproductive health care and family planning services), education, shelter, and water and sanitation. These investments must be protected from across-the-board budget cuts, especially during implementation of structural adjustment policies. At the same time, the mix of social-sector spending must change by increasing allocations to services that are in greater demand among poor households. This implies more spending on basic education, especially nonformal education with special emphasis on women and girls, nutrition programs, and primary health care.

The Institutional Framework

The existence of severe institutional gaps is a major obstacle to poverty elimination in many developing countries. Despite significant improvements in development management capacities, government agencies still have limited capacity to design and implement poverty-sensitive programs. Current administrative structures and delivery mechanisms are insufficient; incentive systems are often inappropriate; and social organizations are underfunded and overwhelmed and therefore unable to exert demands on the state or to devise alternative models of social-service provision.

Since success in reducing poverty cannot depend exclusively on the central government agencies, technical assistance for capacity building should not be limited to the government nor to the central level. Institutions, both governmental and nongovernmental, that promote internal policy dialogue need to be strengthened to ensure that the society's collective preferences are being defined by fully taking into account all national sensibilities and aspirations.

Moreover, the existence of an enabling environment for the participation of all people greatly contributes to the success of poverty-eradication efforts. An open, transparent, and accountable system of governance encourages people to organize around common goals and to articulate them in the political system. Through their representative organizations, people in poverty must have a voice in decision making, especially in setting priorities and selecting policy options that take into account their interests and the socio-economic, political, and cultural environment in which they live. The devolution of authority to the local level makes this easier, as it brings policy makers closer to targeted populations. By doing so, decentralization allows for a better identification and ranking of local needs and priorities. This results in a more efficient planning of social spending, which increases the effectiveness and redistributive impact of expenditures on social programs.

The Challenge of Measuring and Monitoring Poverty

If sustainable human development is the ultimate aim of development, poverty and deprivation must be measured by social indicators in addition to the classical income-level measurement.

UNDP's human development index (HDI) provides a structured and systematic framework to combine income and social indicators. As such it could be used to set a human deprivation line that would serve as a poverty line with broader coverage of income and other important aspects of human well-being. For this purpose, an HDI value could be used as the deprivation threshold. Regions or groups whose HDI indicators are less than the value of the threshold would be considered as being deprived.

A country HDI would avoid the problem of total reliance on income as a measure of poverty. While most partners acknowledge the need to use social indicators for measuring poverty, it is rarely undertaken in practice due to the lack of a systematic framework to combine social indicators with income. The result is that, despite lip service, income often remains the actual measure of poverty in surveys and assessments, leading to strategies and programs that tend to focus on raising income rather than addressing other aspects of deprivation.

Finally, a word about progress in Africa. Kim Jaycox earlier lamented on many woes, failure in leadership, etc. But I see hope—in so many ways. The failures of, say, Liberia and Somalia are matched by the success of Botswana and Ghana and Uganda; the despair of Nigeria is matched by the hope of Mali and Sierra Leone and Namibia. Minister Pettigrew called this the contrasts in Africa. Leadership is increasingly exemplified in the combined effectiveness and commitment of, say, Vice President Kazibwe.

Establishing the Political Conditions for Rural Development and Poverty Reduction

Specioza Wandira Kazibwe

In this session, we are addressing the establishment of political conditions for rural development and poverty reduction. Personally, when you are talking about poverty, hunger, and nutrition, I do not like the term poverty reduction because it means that we are targeting for sub-nutrition or a state of malnutrition. I always prefer to target the best—to look where I want to go—and talk about poverty eradication. I hope that we shall come up with strategies to eradicate poverty and not to reduce it.

Two Tribes

Politics is the management of society. So, if we are to look at the political conditions, we must look at the society in Africa and diagnose it, if we are to give the right treatment. I will be very simplistic. In my profession, if you start by being more complicated than the disease, then you end up with the wrong diagnosis. When we look at what is happening politically, we are told there is turmoil in Africa because it is tribalistic. But I believe in Africa there are only two tribes—the tribe of the woman and the tribe of the man. Whatever prescription we give will have to revolve around those two tribes, if that prescription is to have any effect.

We must further disaggregate society into age groups—because we are talking about production in the home, in the village, in the country—so that we apportion the right role to each sector of the home or the community. So, there are the youth. There are the women, the older people. There are the children. There are people with disability. There are the adults and the old people. In Africa right now the old people are in the minority, and sometimes one wonders, what is the definition of old? I grappled with this as minister of gender and community development. When I was disaggregating the community of Uganda, we said that youth are between the age of 18 and 30. When we went to write our constitution, which came into force last year, we said, if you are above 65, then you are old. Definitely you are living on borrowed time because in Uganda life expectancy for an adult woman is 53 years and for a man it is 48. So, indeed, if you make it to 65, you are really old, and I believe the situation is the same in most countries in sub-Saharan Africa.

Household Units

We must look at the family structure. How is power distributed in the family?

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In the community? Who is the head of the family? Of course, in most of Africa, the family is patrilineal. But, who is really the de facto head of the household? That is also critical if we are to come up with the right solution to the problem of poverty in Africa and rural development. Who is really in charge of production in the home? Also, the number of dependents in an African country has a big bearing on the per capita income of the family. You may have a government minister seeming to earn a lot of money, but then the wife is sitting at home. They have a home in the village. But the wife sits in Kampala or the capital. She does not earn. She has a housegirl to cook. She has a housegirl to take the children to the village. Then, the grandparents are there. And you would think this minister is earning a living wage. But, when we look at the per capita income of that home, his salary is divided among 30 people. It happens to the national economy in that even as we attract these big investors who bring in a lot of money, they are compared with the small person, the peasant in the village, whose per capita income is less than $300 per year.

We must also know the status of the members of this family. What is their level of literacy and numeracy? What is their nutritional status? because that bears a lot on production. What functional skews do the members of this family have? Do they have access to water? How many schools? How many health units, etc.? For purposes of planning, even with some figures that show us that there is growth, the above are almost nonexistent. National figures show the literacy rate of Uganda is 68 percent for men and for 48 or 50 percent for women. If you go to the rural areas, you may find a village where the literacy rate for women is 9 percent and the rate for men is 11 percent. If we are to really plan for what is on the ground, we must not look at sub-Saharan Africa in total. We must not look at a country as a total planning unit. If we are really to rout poverty, we must go to the household.

I must say that I do not share the pessimism of many international conferences. Rural development can become a reality. This is so because the abundant natural resources, despite the degradation, can be turned around. My problem may be in changing the attitude of Africans—we say we have so much in plenty. Time is there. We are the ones to manage time. Time doesn't manage us. And where the semi-peaceful coexistence with nature has made people believe that it will be rosy all of the time, we forget that the balance of population, which has hitherto been determined by nature, will, because of medicines, tip over and, definitely, it will not be in our favor.

Intangible Assets

But then, I do not believe that the African is poor, even in real terms. I have problems when economists talk about per capita income. The economy of Africa is not monetized. When you talk about the African being poor, then you will say that the woman of Africa is useless because nobody pays her salary. If the husband was to pay the water bill, if he was to pay the electricity bill for cooking, if he was to pay the laundry bills, if he was to buy all of the food in the home. Let's monetize that. How dare you call an African poor when this African owns land or has access to land—which he did not even buy on the open market—and this African has built himself a shelter and neither pays rent nor mortgage. This African has cheap labor. I do not think that these kids and the women and grandchildren running all over the place are a liability in the real sense. Our problem is that we have not learned how to turn this cheap labor around so that we can improve on our productivity. This African has plenty of water. How can you say that there is no water? In some countries even the 3 months of rainfall is plenty of water. It rains like the heavens are going to meet the earth. There is plenty of water underground. There is plenty of water in the wells. There is plenty of water from the heavens. The fact is that the African is poor by definition because in the modern world one needs entrepreneurship, capital, and technology to turn the natural base into assets and cash so that one is, in conventional terms, removed from the poverty brackets.

What is it that we are looking for? What are we chasing? Are we chasing the levels of richness of America? The level of richness of Europe? Or, the level of richness of the first chief who was in our village? This is a question that we have to ask ourselves because, if you are a politician and you are concerned with the political conditions necessary for rural development and poverty eradication, then you must know in Uganda what is the ideal for me, as a Ugandan. What is the ideal for this Burkina citizen? What is the ideal for the Senegalese? What is the ideal for this Zulu? What is the ideal for this Kikuyu living in the mountains of Kenya? Because we are talking about science, we forget that pleasure does not always come from material goods. Because we are chasing the wind, we think that leadership in Africa and the amenities and benefits that go with it should be the same. I should be demanding what the vice president of the United States of America gets. What standards are we are going to put in place if we are to move and guide our people in what has to be done. People in Africa must be empowered to identify their problems, prioritize them, and plan for them. They must be a part of everything.

I know that in many conferences we say, the people must be at the center of everything, but how many of us do it? When the World Bank comes, the minister of planning and the minister of finance are there with all of the technical people. But, I do not know whether the World Bank people go to the village to talk to these villagers, because when they see you—and most of you are white—they say, they have brought us things. In fact, this concept of donor has really killed the initiative of Africans. They do not know that in 15 to 20 years, the children whom the donors are helping now will have to pay the debt. So even the nomenclature of what we are doing will have to change so that these Africans know that whatever is coming in now, they will have to pay for it, because what comes as grants is a small portion of what comes in as loans to our countries.

Responsive Politicians

In Uganda what we have done is to empower the people. I believe that is why Uganda is becoming an example in Africa. We defied our friends from here who were saying, you must go multi-party. But this woman in the village, she doesn't eat parties. She needs water. She needs a school. She needs a market for her goods. She needs to be educated on how she will make a decision, whether multi-party or not. We have been called a government of seminars and workshops, and we have taught our people. We have told them about their history, and we have asked them where they want to go and they have known where they want to go.

So, we hold elections right from the village level. In Uganda you can no longer be nominated as a leader. Right from the village, I was selected as a village secretary for women and I came right up to Parliament. And I went back for a vote and I beat seven men. And I went back for another vote and I beat them again. And I was nominated in Parliament to be vice president, and Parliament elected me unanimously. This is what we call empowerment, because even as I sit here, I know that I have a constituency to report to, not my party, but these poor people in the village who elected me to perform. We are talking about what kind of institutions to put in place so that we enable the people to put to boot the leadership if they do not perform. Our president is also elected through adult suffrage. He is not a leader of a party, because the leader of a party that has majority in Parliament is answerable to the party.

I remember in 1980 when we had multi-party elections, the symbol of my party, the Democratic Party, was a hoe. After the election, we could not find this hoe to ask it what happened to our votes. Now, however, the pictures of the candidates appear on every ballot paper. So when the elected official is seen in his constituency, some woman will say, I gave you my vote. Your face was on my ballot paper. What are you going to do about it? And this is happening right from the village through the local councils to Parliament, and it is something that is even being repeated in civic organizations.

The different sections of our community are disaggregated. The women have also been mobilized. The youth form councils, which are being used as specific vehicles of mobilization so that they can handle problems that are unique to them and thereby enable them to overcome this discrimination and the imbalances resulting from that discrimination. We have gone farther to make sure that decentralization is not an administrative or policy program of a particular government. We have put it in our constitution. And through this decentralization, people at the district levels are empowered to make their own budgets in line with the priorities according to their planning. I believe this continues to raise the political consciousness of the people, it puts them at the forefront of mobilizing themselves for local economic development, and it puts ownership of these programs into their own hands.

But, of course, being a politician, you are supposed to be distributing poverty, and it is not very nice, because the power of a politician in poor countries comes from dishing out jobs, appointing mayors, appointing counselors. This is where politicians will say, how can we do this? But, as I said, because leadership is elected on merit in my country, and you have a home area where you belong, you are even forced to put a residence in that constituency, whether you are a married woman or not. I married in another district but now I am representing the area where I was born so I must put a home there. If you put a home there and you come with your four-wheel drive, it needs a road. So at least you will facilitate putting in a road. And because you go there at least monthly and you see these nieces and nephews of yours not going to school, you mobilize people to put in a school. And if you got there and they bring you water with those small insects of Africa, at least you mobilize people or you bring a well-borer home. And, if it means that you will have to be carrying rice and maize from Kampala, you will mobilize the village to start growing food. I think you should also be a model farmer—because we are talking about what is the economic activity in the village, which is agriculture.

Appropriate Education

We all know that education is knowledge and knowledge is power. We in Uganda believe that the kinds of education that we have had have not helped us much because we have educated people to sit in offices. They came from a poor background but they do not want to hold a hoe. We believe that in the medium and long term we should look at the vocationalization of education in Africa because when we talk about it, we are told the Africans are not ready for this kind of high-tech technology. You need to have a degree.

Now, the technology we all getting in Africa is to be able to use a computer, to be able to understand email. And we are putting a lot of money in these things. I grant it is important. But what is it all for if we cannot educate our people to appreciate that whatever they are came out of the earth? We have a saying in my tribe that whoever does not remember where they came from, does not embrace an old woman. We, as leaders, must embrace the rural areas if we are also to look ahead to become old. So we are looking at vocationalizing the whole of the primary education cycle. If you are in a fishing community, let the primary curriculum teach about fishing. If you are in a pastoral community, let the curriculum talk about cows and goats and animals. If you are in a community that depends on bananas and coffee, let that be at the heart of education, so that every child grows up knowing this. When I go to agricultural shows in developed countries, one and one is an apple plus an apple. It is not an umbrella. It is not a mango from Africa. When they are being taught about the scale, they put cash on one side and they put liters of milk on the other side so that a child grows up equating milk with cash and knows that is how I will survive. In Africa education is not home-grown. The syllabus has not been home-grown. That's why you find that there are no local leaders. The leaders run away from the villages, and they do not even set an example for the people to take up.

After Beijing, we, the women of Africa, decided that out of all of those priorities, ours was functional literacy for the women who are to feed the nation, who are the agriculturists of Africa. Through functional literacy, we can move. This is a program where you teach the woman not only to read and write or to add, but you give her a skill in what she's doing so that her productivity improves. We have examples in Uganda where this has worked, and we are taking it up as a national program.

Two-way Transparency

Also rural development cannot take place without security of person and property. This I say with a subdued voice because our part of Africa has seen it all. So we can sit here and talk about wonderful formulas, but at the end of the day we must have good governance. We have talked about the technical capacity to deliver; do we have organization accountability?

When you are elected into government, you know, you have 5 years. But while you are there, are there institutions below you so that you can deliver according to your program? In our Parliament we have a standing committee on government assurances. You stand up as a minister and say, I'm going to do this, and this is my timetable. Parliament will be monitoring your progress. And I must tell you also that in our Constitution we have said that Parliament can impeach a minister who doesn't perform. A constituency can call you back if you do not perform, if you put them to shame, so that they can have other sons and daughters go and represent them because we have been wasting a lot of time. Do we have a predictable rule of law or are politicians just manipulating whatever is around for their own good? Do we have transparency?

As we sit here, leaders in Africa, ministers, donor agencies, are we really, in our efforts to eradicate poverty, doing what we think, to the best of our ability, is what should be done? Are we employing the right people in the jobs that are designated according to merit? Are these people the right people to put there or are they our friends or because I know them or they worked here?

Governments in Africa are accused of nepotism but this nepotism has infiltrated every institution, even at the international level. Is transparency or corruption only in people dipping their hands in government coffers? Or is the 10 percent on all multi-national transactions still the order of the day? In my country, we have even gone ahead to suggest that although we in Africa are accused of having eaten all of the development money, the people who helped us to formulate the projects—the experts—are not being put to boot. Those people who formulated the 50 percent of projects in Africa that failed, let them be put to boot also so that we can now share the responsibility, because we do not have the expertise to be able to supervise the World Bank, to supervise UNDP. They are the ones who come to supervise us. And when the projects fail, the governments of Africa are blamed. Where is the problem? I believe that this issue of transparency will go a long way in releasing funds that are otherwise redundant and going into the pockets of a few.

We must also communicate without inhibition so that we can discuss with frankness what is on the ground if we are to move. In Africa, we cannot talk about rural development without resources. Someone said you cannot have rural development with only the peasant as the engine of growth.

And when we talk about agriculture, we

are talking about the crop sector. What about the animal sector? The moment the SG 2000 program helps us to raise the yields of cereals, then we shall have the problem of markets. You will have it in Kenya, in Uganda, in Tanzania, and other parts. I know that now it is not a problem, but within a short time it will be, because the hatching period is so short. The moment you only promote the crop sector and leave the animal sector redundant, then within a limited period of time, you will find that the prices of cereals will go down. Let us look at the animal sector as well. If we had done that earlier, Africa would be exporting meat to Europe and everywhere, and you would see growth surging.

What about industry? When we talk about unemployment in the villages, what time frame are we giving ourselves? Even if we say now that each woman in Africa must not have more than two or four children, still the population will grow. Can the villagers, in the way they are practicing agriculture, on their small farms of less than 10 hectares, sustain the villages with agriculture as the engine of growth?

Our friends the donors, do not seem to want to talk about the industrialization of Africa. Governments in Africa must come up with policies to make sure that as they promote agriculture, they are promoting agro-based industries or other industries that will generate employment. There is no way you can develop the villages without developing the towns. When you get people migrating from the villages to go to town, you will get urbanization and not industrialization. Young people go to town, but there has been no employment for them there.

Conducive policies must be in place so that the farmer can sell better. In Africa the parastatals are places to reward somebody who is going to stand against you in the constituency. You tell them, don't stand and I'll make you general manager of a parastatal. This is precisely what has been going on. In Uganda, we have said, no. We are busy selling all government parastatals. It was a campaign tool for my president, and seasoned politicians were saying, don't talk about privatization. We educated the people about privatization, and my president got three-quarters of the vote in the country. Politicians should not fear to put power in the hands of the people to make the decisions. These parastatals, which you use to give out presents, continue to eat into the coffers of government, and they will also be your downfall. At the end of the day they will not perform, but the hole will become deeper and deeper, and you will have nowhere to get money to keep them going.

One other area, which as a matter of policy will have to be addressed by the politicians, is to make sure that a marketing infrastructure is put in place for the produce. This, of course, comes from knowledge of where a market is and the relevant infrastructure is put in place to make sure that we move. Many governments have tried to borrow money for roads, for storage, for energy generation, but a big chunk of this money sometimes goes down the drain because of corruption, both at the national and international level. We must invest both in the private and public sectors.

Such investment should now be diverted from investment in the people with the one degree or two degrees, so that they become experts at the international level. The human investment should be in the farmer, in this person in the village. That is where we should go as a matter of policy. We are training the people who are already trained and we continue re-training. At the end of the day, they do not get down to the village.

We have talked about the problem of coordination. Look at the set-up of governments in Africa. You find that there are departments in government; then there are projects being run as a department. There is a department for projects. Each ministry is working on its own. The ministry that is to market is not marketing. The ministry for agriculture has a department to market. The ministry for planning is looking at how the World Bank wants it to plan. We must look at the structure of government, look at the way we plan, so that the resources that are duplicated in terms of departments, and whatever, are put to good use. If we restructure where money should go, but we do not also restructure government institutionally, not only in its capacity to coordinate aid, but in its capacity reduce itself to a size it can manage, we shall not be able to move.

Power to the People

Finally, I would like to say that since it is the people who are poor, we must let them take charge of themselves. Let us, the politicians, the leadership, let power go to the people. Don't lead while you are frightened, but lead them by taking them with you. Let us leave, as a matter of policy, those who are best able to do something to do it. If you are in government, then govern. Don't go into business. Don't go into telling people that this mango should cost $5 when it should cost $10. Let the mango cost what it should, and let the people who are best in a position to determine that do so. Capacity-building efforts should target the one who is pinched most, and this is the farmer in the village. And I must say here, to add to what Minister Pettigrew said, that is the women. The policy conditionalities that are put on us by multilateral and bilateral agencies should take into account that in Africa we cannot yet pay a living wage because the cow we are trying to milk is malnourished. How can we talk of a living wage for a civil servant when we are talking about rampant poverty in the rural areas? Yet, this is the person who is to generate taxes for us. Donors or lenders do not give us money to pay our workers.

We must think afresh, do things in a new way, because the way we have been doing it has not worked for Africa, and politics means knowing all of the problems. But, we must do one thing at a time because when we attend conferences like these, we want to tackle poverty, we want to tackle education, we want to tackle health, we want to tackle so many things at the same time. I think because we are talking about a cooperative approach, let each person tackle what they can do best, what they can chew, so that we are in a position to move. It is only then that we shall be able to sustain agricultural development in the rural areas as an engine for rural development and, at the same time, protect or sustain what nature has given us.

Comments on Establishing the Political Conditions for Rural Development and Poverty Reduction

Pierre Pettigrew

President Carter insists on us not being here 10 years from now with the same kind of statistics. We want to change them. Obviously, the way to change them requires certain policy orientations and certain political actions.

Politics is about power and what is power? Power can be exerted, I would say, in two major ways in the next few years. Your political action in your own countries will be on two counts. You have to create the right legal conditions for development to take place. Some change has already been made through the structural programs and improvements have been done at the macroeconomic level. Much more needs to be done and we know it. The role of women is the one priority I would stress. For women to have access to the land, it means that you have to change some ownership laws in many African countries. We have to change the way land is inherited, as well.

So these are a lot of small actions that political leaders have the responsibility of doing. And, to do them, they have to use the other asset that power is about, mobilizing our population. Vice President Kazibwe was quite right, we have to trust the population. We have to trust the general public. We have to educate or inform well about the decisions that have to be made. But these reforms require political mobilization at the grassroots level, otherwise they will be resisted, even if you change the legal framework. That's why I say that political actions need to be at both levels, mobilization and a legal kind of framework that needs to take place. So we have to set clear priorities of action for development. I think that it is important to leave here with clear priorities for eradicating poverty in Africa. But, we also need to have clear strategies.

You should realize that talking about political conditions is always delicate for a country like Canada. We have done much more in the last few years in assisting countries in good governance, but that involvement needs the respect of the authorities in your countries. So it is important that you make us feel comfortable doing it and that you set your own priorities as to the kind of assistance you expect from the international community. The Canadians, for instance, sometimes have in Ghana, in Ethiopia, in Mali, a lot of dialogue between political leaders that would not have been possible without a certain context that we could provide. People who wouldn't talk to one another or wouldn't want to be seen together, could dine at the Canadian ambassador's table and say to one another things that would actually improve chances for certain political reforms. So the international community can help you, not only at the

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technical level but certainly in the political orientations that you need to take place.

There were two books published last year, one here in the United States and one in France, on what needs to occur for economic development to be successful. Francis Fukiyama called his book, *Trust*, and Alain Perfide called his, *La Societé de Confiance* (The Society of Trust).

Both say that development has historically taken place in the societies in which trust was an important element between the various parts and elements of it. They do not say it is the climate, the natural resources, capital, or this or that. They both come to the conclusion that trust is at the heart of the matter for development.

Perfide's thesis is particularly interesting, because he looks at 400 years of economic development and even the different degrees of development in the developed countries and comes up with extremely enlightening explanations for how Africans are living. It has helped me to understand why parts of my own country are better developed than others.

Working Group Reports: The Action Plan

Group 1

We focused on measures that would show government commitment to developing the rural sector. The basic criterion that we followed was that of implementability in the short and medium term. We identified four key measures.

1. *Substantially increased investment in the rural economy.* Here we're talking about the rural economy, which does include the agricultural as well as the nonagricultural sector in the rural areas. And, in terms of spending these resources, emphasis should be given to the rural infrastructure, particularly rural roads. The way the cost of transportation varies, depending on the state of the roads, is enormous. For example, in the Sahelian countries on a good asphalt road, it costs CFA40 per tonne-kilometer, and on a fairly deteriorated road, it costs about CFA157 per tonne-kilometer. And, on rudimentary dirt roads, the cost per tonne-kilometer is about CFA105, and for a deteriorated dirt road, it is about CFA296 per tonne-kilometer. So, therein lies an element that is important for bringing in inputs and getting the outputs to the markets. For that reason, rural roads were selected as a priority.

A second emphasis should be coordinating the efforts of all those who are involved in the rural economy and streamlining the undertaking by donors in the community. You cannot have 20 or 30 NGOs, each doing its own thing, without knowledge of what the country's priorities are.

A third point is the decentralization of the decision-making process. One reason is to guarantee the correct identification of needs and priorities and reduce the response time to local development needs and priorities. An interesting point was made about decentralization and the flexibility of local offices of donor agencies. If you're in Mozambique, for example, the local World Bank officer cannot do much. You have to phone or go to Washington. So the response time is dramatically increased and, therefore, less effective in terms of getting results on the field.

2. *Ascertaining ownership and leadership in the development process,* that is, how, when, where to spend the funds according to African priority needs. What this means is that countries should be ready to refuse funds that are inconsistent with their priorities. For countries that are starved for cash, it does require a huge political commitment and political will. This has the merit of almost immediate implementability for those countries that are committed.

3. *Women's role in the development process.* Sometimes governments will have to legislate to overcome structural barriers that prevent women's participation in development activities and access to resources and assets. For example to get a loan, a woman needs her husband's signature. Probably you cannot expect men to give up that power. You may have to legislate it, and actually remove the constraint. Land inheritance is also where the government should legislate simply because

some of the cultural barriers may be too entrenched for people to abolish on a voluntary basis.

4. *Governments must get the international community to redirect resources toward capacity building*. Technical assistance people are traveling around the world, when in fact African countries may have domestic capacity that can do precisely those things that are being done by those expatriates. For example, there's no need to get a U.S. or British consultant to do a maize study in Gambia or in Senegal, when you have people in the countries who can do that themselves. One has to be very careful in defining what all of this capacity building means. It has to do with education. It has to do with development activities that are taken up by local communities and local people. That is, for example, if it does imply the participation of the private sector, the local private sector ought to be used.

What is the financing mechanism? Particularly on the first point, increasing rural resources, we identified three mechanisms. One is the budgetary allocations by governments. The governments must take part of the budget and increase the allocation to the rural sector. These allocations might reflect the contribution of the agricultural sector to the GDP of the economy. If the agricultural sector is 30 percent of GDP, the budget allocation would be about 30 percent.

Second, the government cannot do everything and, therefore, communities will have to participate in this business. If, for example, the government or an NGO builds a road, then it should be up to the community to maintain that road. It is not a cash contribution, it is an income contribution that makes these government investments sustainable over the long term. So, the participation of the community is critical.

Third, because the rural sector has long been penalized by certain policies, one way of financing agriculture is to maintain resources in the rural economy by removing policies that discriminate against the rural sector. Examples of discriminatory policies are overvalued exchange rates, importation of heavily subsidized foodstuffs that compete with domestic production unfairly, the management of food aid, and preventing farmers from exporting their crops when prices are high and yet providing no support when the prices are low.—Fidele Ndayisenga, *rapporteur*

Group 2

We looked at strategies on how to get political commitment. What we are after is a government-wide consensus on the importance of the rural sector and the elements of a strategy to deal with its mobilization and development. It would involve every ministry, even defense—the idea being that we need a complete agreement on the allocation of resources. This should be an integrated strategy, with every ministry actually contributing, because rural development is a complicated affair involving people and all their needs—health, education, their productivity—and involving the land, the environment, the factors of production, crops, livestock, and fisheries. There are ministries in most governments for all of these things. Probably such a strategy should have a regional dimension because there are many aspects, including markets, food security strategies, and research in ecological zones that could be put on a regional basis to good advantage, saving money and getting a better result.

Whatever strategy government may come up with and eventually agree on, we felt that it was a necessity to have it validated through a process of public participation involving the other stakeholders, the implementers, the agencies, and most important, the farmers. Farmers have not had a voice, traditionally, in most African countries. They have not participated in the decisions that have affected them most closely. This is particularly true of women who, as we have seen, are to a large extent the decision makers.

The proof of the pudding here is in budgets. We know that we can have a conversation with any head of state in Africa and get absolute agreement that rural development is important; that poverty eradication is important; that, yes, more money should be spent. But, when you look at the budgets, you know that this is not the governing variable. In fact, there's a lot of lip service to this objective and we're not necessarily getting the follow-through.

There are a lot of problems with this budget. First, revenue performance is very poor. The government allocations could be improved. Most of the donors' projects are not in the budget. They're added to the budget; there's no budgetary control over donors' projects. They're not part of the planning process. We're talking about reallocations and whether these budgets actually look like these objectives. That would be, in effect, the validation that the processes worked.

Obviously, if they are going to eventually succeed, these consensus government-wide plans have to have that quality of doability and hitting the right targets. These are some very modest proposals.

During our working group meeting, President Carter, in effect, offered that, indeed, part of the process of the SG 2000 venture is to get this political commitment. How can we do that? One way would be to invite heads of state to produce such comprehensive plans and follow a suggested process of validation through public participation. Those that take up this offer or those that are thinking about it could perhaps be convened with their ministers, with other important decision makers in the society, by President Carter and others that he may bring to the table. But the idea would be to create a bandwagon effect of success and commitment among the powers that be in the African scene.

I think that the size of the rural sector intimidates governments into inaction. Governments fear that if they make a commitment and do have successes, that it will, in fact, engender more commitment. It will have a snowball effect.

Another way to come at it is through various interventions, by donors or the ministers, to get farmers organized in ways that they can understand, so they can become informed about what their options are, what the options are in rural development, and about successes—who's doing what in the country, in the neighboring country, in other parts of the world—that show that these things can be done so that we generate a demand for performance and facilitation in an enabling environment from the farmers to the government. This I think reinforces the will.

Then, a third point about outsiders—donors, people who want to assist this process: they should basically put their energy in their dollars, where their mouths are. They should in effect base their contributions to rural development and poverty reduction on the performance, as opposed to the rhetoric, of the states involved. In other words, there would be a conditionality that performance, as shown by budgets and the allocation of resources, adequately targeted and managed, and in fact as shown by results on the ground, would be the condition for further support.

I think that's about the best we can do in mobilizing this political commitment. It depends upon the energy of people like President Carter and whether they are willing to take on such a job. When it comes to the substance, I think there is a consensus forming around these very powerful elements.—Edward V. K. Jaycox, *rapporteur*

Group 3

On the question of ensuring more effective political commitment to rural development and poverty reduction, we listed four points:

- democracy and accountability, at least to have a situation with or without parties where elected people were accountable to their constituencies and could be replaced if they were not performing.
- more transparency or more knowledge and information available to the citizenry about, for example, the splits between rural and urban budget allocations.
- more citizen involvement and participation in needs assessment and prioritization. This would be facilitated by more decentralization in governance and the decision making in budgeting.
- true leaders who are patriotic, who have a moral commitment, and who are sincere in their efforts to make the hard decisions and move their countries forward.

Then, we looked at the high priority policy decisions:

- infrastructure—investments for roads and potable water; education, with an emphasis on women and functional literacy programs, and more focus on primary education and less on higher education in terms of relative budget splits; and investments in research and extension.
- more efforts to generate off-farm opportunities in rural areas, as well as in urban areas.
- family planning and health, and getting population growth rates down.
- getting the terms of trade right—freeing up markets so that true comparative advantages work to ensure that agriculture isn't being taxed unfairly; having currency rates correct; and protection against dumping.

To finance these options, there are a number of possibilities.

1. Sounder physical policy, deficit reduction, better tax collection—not higher tax rates but better collection—and continued

reductions in numbers of government employees, particularly in parastatals. The big need is to continue to reform ministries as they give up many of their former parastatal and economic activities to the private sector.

2. More efficient spending, which would be facilitated by the decentralization process so that people closer to the problems and the needs had more say in how money was spent.

3. User fees, particularly for things like higher education and other activities, and particularly for people who can pay for it; but scholarships for those that are truly academically qualified, but financially incapable of going on to higher education.

4. More efforts to mobilize rural capital and strengthen financial intermediaries.

5. Block grants—a certain amount of budget allocation to rural communities through block grants so that they can use them as they see fit according to their priorities.

6. With the privatization and divestiture of parastatals, targeting the reinvestment of this money to infrastructure in some sort of infrastructure development funds.

7. Really looking at the legal and the regulatory structure in a country so that it is better positioned to attract more private investment. There still are lots of barriers, and there is still a hesitancy to give up the public-sector view of development and let the private sector in, particularly foreign companies.

8. Debt forgiveness with certain conditionalities. Like private banks, public-sector donors have to write off some debts, too. They were part of the debt generation.

9. Coordination of donor projects so that we do not have recurrent cost problems.

10. Much more national, unified extension research and programs, not all of these patchy ones.

11. True control over donors and NGOs, as well, because they're part of the problem.—Christopher Dowswell, *rapporteur*

Group 4

We thought that four basic truths must be stated as background for an action program. First, even more than in the past, we are confronting environmental and demographic challenges. Then there is the importance of the strategic role of the rural sector in the fight against poverty. It must be taken into account because if you want to take up the gauntlet, then you can't avoid taking on the question of demography and the rural sector—its importance in the fight against poverty.

Second, discussions of Africa should not always concentrate on misery and poverty because Africa also has some seeds of improvement. We have to catalyze energies and cultivate these seeds of change. Political determination is fundamental. Of course, political determination, or will, that is not followed up does not assume concrete form. This applies to the donors, to the states, and to all of the players.

Third, we think that the key element will be the social dynamic on a local level, subregional level, national level, or regional level and international level. Some people call it civil society, but it may be basic organizations or political parties or other things.

Fourth, the struggle against poverty cannot be seen just from one point of view. It is not only in rural areas, it is also in urban areas. That's why we must avoid, in mobilizing energy, a sort of dualist approach that splits the country into the rural and urban areas.

On the basis of these facts, we arrived at concrete conclusions for drawing up an action program for stimulating rural production to eliminate poverty.

1. *Confidence and trust*. One of the general lines that should be the subject of actions is, first of all, the need to encourage confidence and trust, which has been missing for so long, among the various players.

2. *Macroeconomic framework*. This confidence or trust will develop and dialogue will allow us to facilitate the second major line of thinking that must take into account regional dynamics—the need to create a viable macroeconomic framework to reinforce confidence. That's what we need if investment is to come in. We need that to ensure stability on a national and a regional level, and we need it to facilitate the mobilization of people and assets.

3. *Adult education*. Another major line of thinking for an action program has to do with adult education, especially of women. We have to go right down to the farmers and the men and women who work.

4. *Mobilization of rural areas*. Mobilization of rural areas will be needed because they will have to finance rural development, but also local savings will be needed and they must be supported by contributions that might come through national plans or other avenues.

5. *Soil improvement*. We're going to have to properly manage water resources. In Africa, when we look at our resources, great potentials exist and we can master their management, but we will need a lot of investment for such management. So, we will have to enable the population to secure their production and stabilize it by restoring and making the soil more productive by actually using phosphates in order to improve our natural resources.

6. *Alternative energy sources*. Opportunities in the cities allow the countryside to empty out and the towns to increase. We should try to stop this hemorrhage and take measures for using energy in the countryside because there are substitute energies that can come in from vegetable sources or from solar energy.

And, finally, to finance this, we must solve the problem of foreign debt. Whether it is multilateral or bilateral, it cannot just mechanically go away. I think the solution will lie in agreement with the donors. We will need a sort of contract for trust between the donors and the countries that have contracted these debts, so that the financing of the rural development can be guaranteed without high risks and we will be able to take advantage of a new dynamic between our countries and the donor countries.—Mahamane Brah, *rapporteur*

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Rural Development Strategies for Poverty Reduction and Environmental Protection in Africa

Kevin Cleaver

This paper traces the evolution of agricultural and rural development strategy pursued by donors and African governments during the past 30 years, and it evaluates the impact of the most recent approaches. Comments received on an earlier draft from African government leaders, NGOs, academics, and World Bank staff have contributed to the paper. Important issues raised by African commentators have been added at the end.

Rural development needs definition. In this presentation, it means the improvement of the economic and social well-being of the rural population. Improving people's participation in political decisions is also part of rural development. The improvements have both a short-term and long-term dimension, with the long term influenced by environmental considerations. Rural development activities that are not environmentally sustainable will not improve long-term well-being. Further complicating the picture is the concept that rural development must be widely shared among the rural population—the poor cannot be left out.

About 70 percent of Africa's poor are rural. Figure 1 presents indicators of well-being for Zambia's rural and urban populations in 1991. Zambia is typical of many countries for which comparable data is available. The axis shows the percentage of the rural or urban population characterized by seven indicators of well-being. For example, "nonpoor %" represents an income-based poverty indicator. About 15 percent of Zambia's rural population and 55 percent of its urban population are characterized as nonpoor by this indicator. Forty-five percent of the urban population and 10 percent of the rural population have access to safe water. Forty percent of the school-age female population in urban areas are enrolled in school compared with 30 percent in rural areas. The relative bias against rural areas

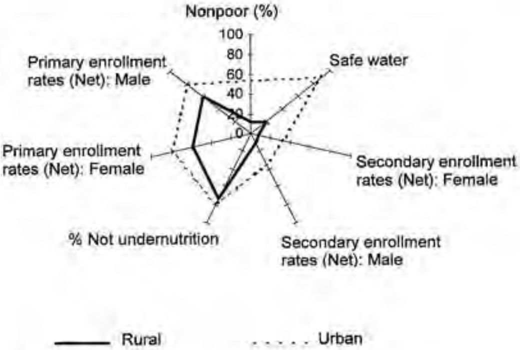

Fig. 1. Rural-urban disparities in Zambia. Source: Grootaert and Marchant 1991.

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Table 1. Agriculture as percentage of GDP in Africa.

Country	1975-84	1985-89	1990-93
Somalia	58	62	63[a]
Ethiopia	50	47	55
Tanzania	45	48	51
Equatorial Guinea	n.a.	62	50
Burundi	56	51	49
Uganda	61	53	48
Ghana	55	48	47
Guinea-Bissau	47	45	45
Mali	57	46	44
CAR	38	39	43
Chad	45	39	39
Comoros	34	38	39
Sierra Leone	34	48	38
Malawi	36	40	38
Niger	47	35	38
Togo	29	34	37
Benin	33	34	36
Rwanda	44	39	34
Liberia	30	34	n.a.
Côte d'Ivoire	25	29	33
Mozambique	34	42	33
Burkina Faso	32	35	32
Madagascar	29	31	32
Nigeria	30	36	31
Zaire	26	30	n.a.
Sudan	34	31	30[b]
Cameroon	28	23	29
S. Tomé & Principe	n.a.	22	27
Mauritania	28	26	25
Zambia	15	14	24
Kenya	31	28	24
Guinea	n.a.	24	24
Gambia	30	28	23
Senegal	23	21	19
Angola	n.a.	15	18
Egypt	22	19	17
Morocco	17	17	17
Eritrea	n.a.	n.a.	15[c]
Tunisia	15	14	15
Cape Verde	11	13	14
Zimbabwe	13	14	13
Congo	12	12	11
Namibia	11	11	10
Lesotho	23	18	10
Algeria	8	10	10
Swaziland	21	15	10
Mauritius	15	12	9
Gabon	6	9	8
Botswana	17	6	5
Libya	2	4	n.a.
South Africa	6	6	4
Seychelles	7	5	4

Source: World Bank Africa regional data base.
a/ 1990. b/ 1990-91. c/ 1992-93.

shown for Zambia is characteristic of every African country surveyed. In many cases, a large percentage of the urban population does poorly, but the rural population does worse.

Poverty reduction will require agricultural development in most African countries not merely because the poor are preponderantly rural and dependent for the most part on agriculture. Analysis done in the World Bank shows that rapid economic growth is a necessary, though not sufficient, condition for reducing poverty generally. Economic growth of 6 to 7 percent a year has been found to be necessary in the average African country to obtain a 2 percent a year reduction in the number of poor (World Bank 1994c, 1996a). To obtain 6 to 7 percent annual economic growth in most African countries requires an agricultural growth rate of 4 to 5 percent. This is due not only to the large contribution of agriculture to GDP, 30 to 35 percent on average (Table 1), but the fact that in most countries the major industries are agroindustry, agricultural marketing, and farm input supply.

Figure 2 supports the above proposition, showing poverty characteristics for all African countries, categorized into three per capita income levels (US$287 or less, $288–$459, and $460 or more). The poverty indicators are similar to those used for Zambia. This graph shows that poverty indicators are worse for countries with lower per capita income. Per capita incom for reducing poverty (World Bank 1994c, 1996a).

There are additional objectives achieved by a focus on agriculture. Many donors

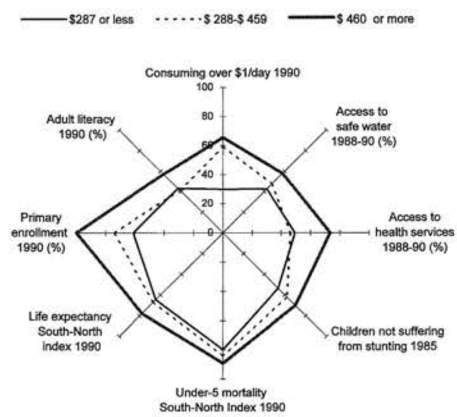

Fig. 2. Priority poverty indicators for sub-Saharan Africa at three levels of GNP per capita 1990–92 (in 1987 US dollars). Source: World Bank and UNDP.

and, increasingly, African governments have identified special constraints facing women's participation in the economy to be drags on economic growth. Most working women are employed in agriculture, and many of these constraints exist in the rural economy, including legal and customary constraints to land ownership and credit access; increasing absence of male partners who work in towns and cities or off-farm, leaving the woman as the head of the farm; work burdens on women in addition to farming, including household management, and water and fuelwood collection; and cultural constraints to use of equipment and oxen (Cleaver and Schreiber 1994). Dealing with the development of women will require addressing the constraints facing women farmers.

In addition, most literature now agrees that the major environmental issue facing Africa is a combination of soil, water, forest, and pasture degradation in rural areas. The principal cause is expansion of farming areas as the rural population grows, combined with farming practices that often lead to mining of the soils and cutting of forests for fuelwood or to open land for farming and that do not make good use of water (Cleaver and Schreiber 1994). One indicator is the rapid rate of forest destruction, which ranges from 3.5 to 5 million hectares per year. Additional outcomes of this process are a decline in biodiversity and destruction of animal and plant life and of environmentally delicate areas.

How Has African Agriculture Performed?

Agriculture is critical to Africa's economic, social, and rural development. But agricultural performance has been poor on average (Table 2), and therefore agriculture has not contributed to development:

- Agriculture growth has averaged less than 2 percent annually for the past 30 years.
- Population is growing over 3 percent a year.
- Food production per capita is declining (Table 3). Even with a rapid increase in food imports (7 to 10% a year), 30 percent of Africa's population is food insecure.
- Too many donor projects fail (for example, 50% of World Bank agriculture projects have failed during the past 25 years).

The result has been the maintenance of high rural poverty and environmental degradation. Overall, this situation has been worsening since the independence period in the 1960s.

However, there is great heterogeneity in African agricultural performance: some countries are doing much better (table 2). This heterogeneity suggests some answers

Table 2. Agricultural growth rates (%/yr) in Africa.[a] High growth rates—rates adequate to achieve food security—are indicated by clear cells; medium growth rates are indicated by light shading; low growth rates, which represent a probable decline in the ability of the country to feed its population, are indicated by dark shading. Diagonal lines indicate data not available.

Country	1975-84	1985–89	1990–95	1990	1991	1992	1993	1994	1995
Chad	−1.0	3.6	8.5[b]	8.9	20.0	6.0	−3.7		
Tanzania		5.0	5.5	5.6	8.1	6.4	5.2	3.5	3.5
Namibia		5.4	5.4[c]	0.0	6.6	−4.6	14.5	14.1	
Guinea-Bissau	−2.6	7.3	4.5	3.7	3.0	3.6	5.3	7.3	3.4
Guinea		4.2	4.3	3.4	3.6	3.8	5.0	5.1	5.0
Benin	3.0	4.6	4.1[c]	−1.3	7.9	2.9	1.8	9.7	
Burkina Faso	1.0	4.6	4.0[c]	−6.7	20.7	1.2	1.3	−0.2	
Uganda		2.7	3.7	5.2	2.9	−1.0	9.3	1.8	5.9
Mauritania	2.9	4.5	3.5	−6.6	4.2	1.8	9.7	3.0	5.0
Togo	2.8	4.3	3.0[c]	3.1	−1.2	1.8	15.1	−6.3	
Niger	1.3	2.9				−7.4	0.7		
Nigeria	−3.0	6.4	2.6	4.2	3.5	2.1	1.4	2.4	3.0
Zaire	1.7	2.5							
Tunisia	1.2	−1.2	2.3	30.3	13.9	5.5	−5.3	−9.9	−9.0
Mali	2.6	10.1	2.0	−1.2	−5.3	15.2	−8.7	6.6	8.6
Egypt	2.8	0.3	2.0	1.7	1.8	1.4	1.6	2.9	3.0
Ethiopia		3.9	1.8	1.6	7.1	−2.2	6.2	−4.7	4.1
Ghana	0.2	2.3	1.7	[illegible]	4.7	−0.6	2.8	1.0	4.2
Madagascar	0.2	2.8	1.6	2.1	0.5	1.7	3.2	−0.5	2.7
Malawi	2.2	1.2	1.5	−0.2	12.8	−25.1	53.0	−29.3	28.3
Mozambique		3.7	1.3[c]	1.1	−4.0	−11.3	21.3	5.0	
Somalia	8.1	3.5		1.3					
Botswana	−3.5	12.2	1.1	3.6	2.7	2.0	−1.0	−1.1	2.5
Comoros		3.7	0.9	2.8	1.6	−0.8	0.7	1.3	1.5
Algeria	3.6	7.1	0.9	−9.2	15.3	2.0	−4.3	−10.8	20.0
Côte d'Ivoire	2.7	1.3	0.9	10.4	−3.8	−3.9	2.3	2.1	5.1
CAR	0.6	3.1	0.8[c]	0.0	−3.1	0.8	2.9	5.0	
Cape Verde		12.3	0.8[b]	6.4	1.3	−1.2	−2.4		
Cameroon	5.6	0.2	0.1	7.8	−2.9	2.7	−2.2	−3.8	4.0
Mauritius	−2.5	0.6	−0.2[c]	9.8	−1.9	6.5	−7.2	−6.8	
Gabon		2.0	−0.5	−4.3	3.5	−2.2	1.1	−3.4	2.3
Seychelles	−2.3	−2.5	−0.5[c]	17.5	0.3	−6.7	−1.8	−4.8	
Kenya	4.1	4.4	−0.9[c]	3.5	−0.7	−3.3	−3.3	3.1	
Zimbabwe	−0.1	1.5	−1.0[b]	−6.7	3.1	−24.4	48.5		
Angola		0.5	−1.2	−0.3	4.8	11.0	−28.0	12.0	7.5
Congo	3.4	4.8	−1.4	1.6	−8.4	3.2	−8.8	3.6	6.7
Swaziland	1.7	0.8	−1.5[c]	3.1	3.9	−17.7	9.8	0.4	
Zambia	0.5	5.6	−1.6	−8.9	5.2	−33.1	79.6	−19.8	−13.2
South Africa	0.2	7.6	−1.7	−6.8	3.8	−27.2	17.2	8.6	3.2
Eq. Guinea		1.0	−1.7[c]	0.7	−6.6	−3.9	0.1	5.3	
Gambia	2.6	0.2	−1.8[c]	−12.5	16.7	−22.2	11.0	4.2	
Burundi	2.0	4.1	−2.5	5.6	2.1	3.0	−7.1	−10.6	−5.2
Senegal	−1.2	4.7	−2.6[c]	9.8	−2.5	−0.9	−5.4	−12.2	
Sierra Leone	8.1	1.6	−3.3	4.3	−14.2	−15.5	5.4	12.6	−6.1
Sudan	1.5	−1.1		−3.6	−4.2				
Morocco	1.3	10.0	−5.2	−5.0	21.7	−35.5	−4.7	63.0	−45.9
Lesotho	−5.1	6.3	−5.2	2.4	−29.5	−23.3	18.3	46.0	−31.3
Rwanda	5.5	1.0	−8.6	−2.7	5.6	5.3	−15.0	−41.2	22.5

Source: World Bank Africa regional data base.

a/ The growth of value added in agriculture (including forestry, hunting, and fishing), in constant 1987 dollars. b/ 1990–93. c/1990–94.

Table 3. Index of per capita food production (1979–81 = 100) in Africa.

Country	1975-84	1985-89	1990-93	1990	1991	1992	1993
Morocco	100	127	130	136	152	117	116
Cape Verde	87	139	126	133	112	123	139
Nigeria	103	107	126	122	123	128	130
Burkina Faso	99	125	125	113	130	129	128
Tunisia	103	99	125	113	144	116	126
Egypt	102	108	118	115	116	120	120
Benin	98	107	115	112	118	114	115
Guinea-Bissau	107	113	113	117	110	112	113
Algeria	99	102	109	97	116	118	107
Uganda	120	100	102	105	103	99	101
Mauritius	105	104	101	100	101	103	99
Zaire	101	100	101	101	101	101	100
Guinea	99	94	98	95	96	100	102
Côte d'Ivoire	97	102	97	100	96	94	97
Chad	96	94	97	92	98	101	96
Senegal	116	110	95	98	100	88	96
Ghana	102	102	95	86	97	98	98
CAR	99	96	94	94	93	95	95
Burundi	102	98	94	96	95	95	90
Kenya	105	105	93	102	98	92	81
Mali	98	94	91	90	97	87	91
Sierra Leone	105	99	89	96	94	84	82
Comoros	102	91	89	86	102	82	86
Zambia	112	100	89	89	90	75	102
Tanzania	101	99	88	95	92	84	83
Togo	96	88	88	91	84	81	95
Swaziland	98	98	86	91	97	78	79
Ethiopia	96	88	86[a]	87	85	86	n.a.
Congo	102	98	86	91	85	84	84
Madagascar	101	91	85	87	86	83	83
Gabon	98	87	84	87	85	83	81
Mauritania	94	87	84	89	88	80	78
Angola	104	91	82	83	84	84	79
Cameroon	103	93	82	90	82	78	77
Rwanda	98	91	81	83	86	81	75
Mozambique	101	85	78	89	82	66	75
Sudan	95	82	78	66	78	86	80
Lesotho	100	86	76	94	76	64	72
South Africa	93	85	76	82	81	67	76
Botswana	104	81	75	78	79	77	66
Niger	91	68	74	65	80	77	74
Somalia	99	95	72	88	71	61	68
Namibia	88	72	72	70	72	72	73
Libya	98	74	70	77'	79	71	52
Zimbabwe	103	94	69	88	80	43	66
Gambia, The	130	99	66	71	75	57	61
Malawi	101	81	64	67	70	50	71
Liberia	101	95	60	64	61	59	54
S. Tomé & Principe	99	70	59	55	52	66	65

Source: World Bank Africa Regional Data Base.

a/ 1990-92.

because the better performers show the way for the laggards.

Early Strategy to Deal with Rural Development

In the 1970s, donor agencies and African governments began significant investment in five types of agriculture projects (IFPRI 1995; Cleaver 1993). The first was integrated rural development. It had a spatial focus—a region within a country. These projects provided most investments needed for development in the region. Typical components included seed production and distribution, agriculture research, agriculture extension, land use planning, rural crafts and small industry, livestock extension and veterinary medicine, forestry and tree planting, rural roads, water supply for villages, health centers and schools in rural areas, and credit to finance on-farm investment by smallholders. A project management unit, which was expatriate-supported and insulated from the ministry of agriculture, managed the project.

Never included in such projects was private marketing or credit. The private sector was often suppressed by government. Parastatals marketed locally produced cash crops and imports, and government agencies fixed prices paid by parastatals to farmers. Private agriculture trade was highly regulated and in some cases made illegal above certain quantities. Farms were private, but supported by the public services provided by projects.

The academics, donors, African governments, and NGOs of the day applauded this approach, writing about it glowingly. There was remarkable homogeneity among donors and countries in implementing these projects within these policy frameworks.

The second type of project was single-crop development. Examples were cashew nuts, palm oil, rubber, cotton, tea, coffee, cacao, and sugar. There were three submodels: (1) A parastatal company managed plantations for production. This was combined with central processing plants, usually located on the plantations, and centralized marketing. Sugar, rubber, palm oil, and tea were most often managed in this way. (2) Alternatively, support was provided to outgrowers (small farmers) to produce a commodity bought by the parastatal company. The company provided specialized extension and credit to these client farmers. The parastatal also processed and marketed the crop (cotton, coffee, and cacao were often handled this way). (3) Sometimes, projects included a combination of the above (both a plantation and outgrowers).

In these projects the parastatal company frequently provided health and education services to employees and client farmers. Company towns grew up. Exports were often managed by a separate government agency, though sometimes by the company. The company was owned by government, but sometimes cooperatives were used.

The third type of project was agricultural credit, managed by a parastatal bank. Typically, a donor loaned funds to the agriculture credit bank. The credit bank on-loaned to farmers for farming investmentSometimes the donors supported a fourth type of project, which was a free-standing agricultural research or livestock services project, managed by a government organization, typically the ministry of agriculture and livestock development. But mostly these services were provided through rural and commodity development projects.

In arid or semi-arid areas, irrigation was developed, the fifth major project type. These projects were handled by government project management units. The projects had a heavy engineering content. The idea was to deliver water to farmers' fields, and farmers managed the use of the water on the field. Often these projects had other components, similar to those in the integrated rural development projects (marketing, extension, research, and credit). In the early years, many were relatively large.

In addition to the physical and social infrastructure included in rural development and commodity development projects, there was some effort outside such projects to construct schools and health facilities in rural areas (Psacharoloulos 1990; World Bank 1994b). In the 1970s and early 1980s, these projects focused on structures, leaving teacher and medical training, school supplies, policy, and other "software" to government. Several donors provided significant scholarship programs for advanced training in the donor country, but few returnees practiced in rural areas. Similarly, highway projects often traversed rural areas, providing some transport service, but rural roads were neglected outside the agriculture project areas. Rural water supply was supported by some donors, although, again, most was done in integrated rural development projects.

Impact of Early Strategies

In most countries, through the mid-1980's, the governments price and marketing policies toward agriculture effectively suppressed farmer incentives. This situation was ignored by donors during project design. Tanzania, a favorite of the donors at the time, was typical (Cleaver 1993). It maintained a policy of

- *confiscatory official agriculture prices:* black markets developed, but with the risk of confiscation and arrest of farmers and middlemen who participated
- *inefficient government marketing enterprises:* with high overhead and poor services, they could not meet agricultural marketing needs
- *poor farm input supply by government,* often having significant corruption
- *suppression of potentially competing input supply and marketing*—private or cooperative
- *an overvalued exchange rate,* which reduced the local currency value of export crops and cheapened the local currency value of imported food, resulting in the substitution of imports for local food production and a decline in agricultural exports

These approaches and policies were rather consistently applied across Africa, with a few countries, such as Kenya and Côte d'Ivoire, more open to private participation and others, such as Guinea, even more closed and controlled than Tanzania (Cleaver 1993). The result was to reduce farmer incentives to produce, even when donors invested substantially in agriculture.

There was an urban bias in government expenditure throughout Africa. Despite donor expenditure for rural development, governments spent little on rural infrastructure, rural health, and rural education in most of Africa. Of course there was variation, with Kenya and Côte d'Ivoire spending more in rural areas. Highway. projects, urban infrastructure, health and education facilities in towns and cities, and public employment took precedence over rural development throughout Africa (Cleaver 1993; IFPRI 1995; Swegle 1993).

These domestic policy problems were exacerbated by agricultural subsidies in industrial countries, which reduced world prices for agricultural products, including some of those from Africa (for example, most livestock, cereals, and oilseed products). This further reduced African farmers' income. Some industrial countries dumped agricultural products (dairy products and sometimes cereals) into Africa, hurting African farmers still more.

In addition to the policy problems and the problems of world markets, project management units for all five types of agricultural projects circumvented government line agencies and were run by donors and expatriates. Resistance to the projects by staff in government agencies was the reaction. Government capacity was not developed, in fact it was undermined. And the enclave projects were not embedded in governments nor in indigenous institutions. By the early 1990s, the population of expatriates working in African governments and public enterprises (all activities, not just agriculture and rural development) exceeded the numbers of European colonial administrators in 1955. Because the projects were not embedded, when donor funds dried up and the expatriates went home, many of these projects and their services simply disappeared.

Rural development projects often brought serious coordination problems between the independent projects, each of which had separate administrations and donor procedures. Big donors supported big regions, little donors supported little regions. The USA, World Bank, Germany, Scandinavia, Netherlands, France, UK, IFAD, and the European Union were major supporters of these projects. Each donor maintained considerable independence, and their projects were independent. Some NGOs supported similar projects, though almost always on a much smaller scale. The projects were in aggregate very expensive because management and overhead was duplicated in each region. What looked to be working in a single region of a country did not work in the longer term for the country as a whole.

There have been some exceptions to the general failure of the integrated rural development projects. In Nigeria, they have been more successful, although this is in part due to their conversion to the new sector investment approach (discussed below).

The single-crop commodity projects had the same types of problems. These projects were managed by government parastatals. Production was costly due to parastatal inefficiency, in turn caused by the use of administrative rules and regulations rather than market-oriented management. Corruption was often a problem. World Bank public expenditure reviews during this period nearly always found large public-sector subsidies to agricultural parastatals. Rather than agricultural marketing and processing creating value added for African economies, they were often drains on value added, requiring subsidies from the rest of the economy (through taxes or through repayment of loans required to sustain them by future generations) or assistance from donors.

There were successes among the commodity projects, although often with a curious twist, which should have taught us something about the elements needed for success. An example was cotton in West Africa (modeled on the Compagnie Française pour le Développement du Textile), where farmer prices, though fixed by government, were close to world market levels in many countries, and there was some private participation in the French mother company. Other examples were Côte d'Ivoire rubber (private participation in Societé Africaine de Plantations d'Hèvéa), Kenya tea (farmers participated in the Kenya Tea Development Authority), Kenya coffee (farmer cooperatives and private companies purchased, processed, and marketed coffee), and private sugar estates in Kenya. Few significant successful commodity projects had exclusive government ownership (Cleaver 1993; for a contrary view, see Gibbon, Havnevik, and Hevmele 1993; for analysis of private sector development, see Jaffee and Morton 1994).

The private sector also had some successes without donor assistance (the IFC invested in some). Kenya horticulture, Kenya's oilseeds industry, Ivorian cacao plantations, Del Monte pineapples (Kenya and Cameroon), and Zaire Unilever (palm oil and cacao) are examples.

Public-sector agricultural credit projects were a disaster. All public-sector credit banks in sub-Saharan Africa became financially insolvent by the early 1990s, requiring continued donor assistance and government subsidy. In most cases, loans were made more often to the political elite and to large farmers, and less to small farmers despite their better repayment rates. The parastatal banks generally had high overheads and a poor management culture, and they were often subject to corruption. The closest to success was a bank in Malawi, but the difficulty of maintaining that success was enormous. There are no other exceptions in sub-Saharan Africa.

Large irrigation projects in Africa have had a mixed record with some disasters such as Kenya's Bura Irrigation Project, Senegal's irrigation projects on the Niger, and large irrigation projects in Nigeria and Malawi. There have been successes however, notably Mali's Office du Niger and, until the political and economic management of Sudan brought that country into economic chaos, the Gezira Irrigation Scheme. In general however, the large public-sector irrigation schemes have been uneconomic.

A number of African critics of the above analysis say that the exceptions to the negative findings about the lack of success of large-scale irrigation, integrated rural development projects, commodity projects, and credit projects suggest that generalization is not possible. The integrated rural development projects in Nigeria were relatively successful, as was the Benin Borgou rural development project. The problem with this viewpoint is that the number of these projects that have been successful is so limited that present knowledge would dictate extreme prudence if not reticence in making new investments in them.

While these public-sector failures (and some private-sector successes) occurred in the 1970s and 1980s, the rural population expanded. For survival, they expanded the cultivated land area to produce more. Intensification (more production on same land area) was largely unsuccessful, with some exceptions. The average annual rural population growth rate in Africa equaled the agriculture growth rate (2%). Growth of population and land expansion, not an increase in crop yields or productivity, were largely responsible for the agricultural growth that occurred. Table 4 shows crop yield stagnation in most countries.

The conclusion from this experience was that public-sector agricultural and rural development widely supported by African governments and intellectuals and the Western academic community and donors was fatally flawed in its design and execution. This was due partly to factors external to the projects themselves (poor government policy, international prices, climatological constraints, institutional weakness) and partly to fundamental project design flaws in each of the sectors addressed.

In the social sectors, the creation of schools and health facilities without trained and motivated personnel and without supplies did not succeed in significantly improving levels of rural education and health (Heneveld and Craig 1996; World Bank 1994b). Rural roads were scarce, and water points were poorly maintained throughout Africa (Carapetis, Levy, and Wolden 1991; Sharma 1996).

Problems of government marketing and input supply, price controls, overvalued exchange rates, as well as project management units circumventing line agencies, began to be addressed in projects and in adjustment programs at the end of the 1980s. Similarly, the content of health and education programs and policy began to be addressed.

A Change in Approach

Changes in approach that began in the late 1980s and 1990s have progressed slowly, based on trial and error and research.[6] Change in government agriculture policy became an objective of some donors, and of some governments in a number of African countries. First, economic reform was supported by donors in a growing number of countries. It included exchange rate reform, removal of price controls, public expenditure reforms (eliminate white elephant projects), and marketing and input supply reform to allow private and cooperative-sector participation in a more competitive environment. Private and cooperative banking and financial intermediation was promoted. This process was part of "structural adjustment."

Second, integrated rural development projects began to be phased out by donors and governments, as were public-sector agriculture credit projects and large-scale irrigation projects. Commodity projects

[6] The new approach was only fully articulated in 1993, in *Strategy to Develop Agriculture in Sub-Saharan Africa* (Cleaver 1993) and in Swegle 1993 and IFPRI 1995. FAO articulated similar strategies.

Table 4. Cereal crop yield (t/ha) in Africa.

Country	1975-84	1985-89	1990-95	1990	1991	1992	1993	1994	1995
Egypt	4.1	4.9	5.9	5.6	5.6	5.8	6.0	6.0	6.0
S. Tomé & Principe	n.a.	1.5	2.1	3.0	2.0	2.0	2.0	1.5	2.0
Mauritius	2.0	3.8	2.0[a]	2.0	2.0	n.a.	n.a.	n.a.	n.a.
Madagascar	1.7	1.8	1.9	1.9	1.9	2.0	2.0	1.9	2.0
Equatorial Guinea	1.7	1.8	1.9	1.9	1.6	2.0	2.0	1.6	2.0
Gabon	1.7	1.6	1.8	1.6	1.7	1.8	1.8	1.8	1.9
South Africa	1.7	1.8	1.7	1.8	1.9	0.9	2.0	2.3	1.2
Kenya	1.5	1.7	1.6	1.5	1.5	1.5	1.5	2.0	1.9
Uganda	1.4	1.4	1.5	1.5	1.4	1.5	1.5	1.5	1.6
Guinea-Bissau	0.7	1.5	1.5	1.5	1.6	1.4	1.4	1.4	1.4
Zambia	1.6	1.9	1.5	1.4	1.6	0.8	2.3	1.4	1.3
Ethiopia	n.a.	n.a.	1.4[b]	n.a.	n.a.	n.a.	1.3	1.5	1.5
Swaziland	1.3	1.7	1.4	1.1	1.8	1.0	1.3	1.8	1.3
Burundi	1.1	1.2	1.3	1.3	1.4	1.4	1.4	1.3	1.3
Comoros	1.1	1.2	1.3	1.3	1.3	1.3	1.3	1.3	1.3
Rwanda	1.1	1.2	1.3	1.3	1.2	1.2	1.2	1.2	1.6
Tanzania	1.1	1.3	1.3	1.5	1.2	1.1	1.2	1.2	1.4
Cameroon	0.9	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.3
Ghana	0.8	1.0	1.2	1.0	1.2	1.0	1.3	1.3	1.4
Sierra Leone	1.4	1.3	1.2	1.2	1.2	1.2	1.2	1.2	1.1
Tunisia	0.8	0.8	1.2	1.1	1.6	1.5	1.2	0.9	0.6
Gambia	1.1	1.2	1.2	1.0	1.1	1.2	1.2	1.2	1.2
Zimbabwe	1.2	1.5	1.1	1.6	1.3	0.4	1.5	1.4	0.5
Nigeria	1.2	1.2	1.1	1.1	1.1	1.1	1.1	1.1	1.1
Guinea	0.9	1.0	1.1	0.9	1.2	1.1	1.0	1.1	1.1
Malawi	1.2	1.1	1.0	1.0	1.1	0.5	1.5	0.9	1.3
Liberia	1.3	1.2	1.0	1.0	0.9	0.9	1.1	1.1	1.1
Côte d'Ivoire	0.8	0.9	1.0	0.9	0.9	0.9	1.1	1.1	1.1
Morocco	0.9	1.3	1.0	1.1	1.6	0.6	0.6	1.6	0.5
Lesotho	0.9	0.7	0.9	1.0	0.5	0.6	1.0	1.7	0.7
Benin	0.7	0.8	0.9	0.8	0.9	0.9	0.9	1.0	1.0
Congo	0.7	0.8	0.9	0.9	0.9	0.9	0.9	0.9	0.9
Algeria	0.6	0.8	0.8	0.6	1.1	0.9	0.7	0.7	0.9
Zaire	0.8	0.8	0.8	0.8	0.8	0.8	0.9	0.8	0.8
Senegal	0.7	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.9
CAR	0.6	1.0	0.8	0.8	0.8	0.9	0.9	0.8	0.8
Mali	0.8	1.0	0.8	0.7	1.0	0.8	0.8	0.8	0.8
Mauritania	0.4	0.8	0.8	0.9	0.7	0.9	0.8	0.7	0.8
Burkina Faso	0.6	0.7	0.8	0.6	0.9	0.8	0.8	0.8	0.8
Togo	0.8	0.8	0.8	0.7	0.8	0.9	0.9	0.7	0.7
Eritrea	n.a.	n.a.	0.7[b]	n.a.	n.a.	n.a.	0.7	1.0	0.5
Namibia	0.6	0.7	0.7	0.7	0.7	0.3	0.7	0.9	0.6
Chad	0.6	0.6	0.6	0.6	0.6	0.7	0.6	0.6	0.6
Sudan	0.6	0.5	0.6	0.5	0.7	0.7	0.5	0.5	0.5
Somalia	0.5	0.8	0.5	0.8	0.6	0.5	0.5	0.4	0.4
Mozambique	0.6	0.5	0.5	0.5	0.3	0.2	0.6	0.5	0.7
Angola	0.6	0.4	0.4	0.3	0.4	0.5	0.4	0.2	0.3
Cape Verde	0.5	0.4	0.3	0.3	0.2	0.3	0.4	0.3	0.3
Botswana	0.3	0.2	0.3	0.3	0.4	0.2	0.3	0.3	0.4
Niger	0.4	0.4	0.3	0.2	0.4	0.3	0.3	0.3	0.3
Djibouti	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Libya	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Seychelles	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.

a/1990-91. b/ 1993-95.

were continued, but with efficiency and company restructuring given prominence.

Third, a single national agricultural research system and a single national extension system supported by donors and by international agricultural research institutes were developed in many countries to stimulate technology adoption in farmers' fields. Initially these national programs were government-run, but by line agencies rather than by project management units. The participation of the private sector, cooperatives, and NGOs would remain low. Similarly, national veterinary services, national forestry services, and land management services would be supported, co-financed by consortiums of donors, and managed by government line agencies.

Fourth, farmers' groups would be increasingly supported to manage input supply, marketing, irrigation, tree planting, and soil conservation. The Scandinavians and the French were enthusiastic about this approach, as were some NGOs. Other donors, such as the World Bank, came only much later to realize the importance of participatory farmer organizations.

The earliest model of the changed approach was applied in agricultural extension. Kenya saw the first of new-style agricultural extension projects in 1982. It had (Bindlish and Evenson 1993; Bindlish, Evenson, and Gbetibouo 1994):

- A national extension program, which coordinated donors.
- Preparation by doing (pilot programs, testing, demonstration)—not by expatriate consultant studies.
- Management and supervision by government line agencies. Expatriate advisors have been phased out almost completely (few of the 27 extension projects now underway in Africa that are supported by the World Bank have any expatriate advisors). The projects are managed by existing government institutions instead of project management units.
- A simple management and institutional framework.
- An expanded World Bank staff field presence. Staff spend time in the field to observe project implementation.
- A cross-Africa network of extensionists created to share experience and "best practice."

In Kenya this approach has worked: simple technology was adapted by millions of farmers, providing excellent aggregate results in terms of agricultural growth (Bindlish and Evenson 1993; for a contrary view, see World Bank 1996c). A similar positive result has been documented in Burkina Faso (Bindlish, Evenson, and Gbetibouo 1994).

There is skepticism expressed that the initial good response from the extension projects will be sustained, due to the scarcity of new technology on the shelf to transfer to farmers, the weakness of research, and a low-input technology bias of the World Bank's model of extension (Christopher Dowswell, Sasakawa Africa Association, personal communication). While the problems of research are a serious medium- and long-term constraint, extension can and does deliver knowledge of both sophisticated and simple technology as a function of farmer capacity to implement.

A second criticism is the purported high cost of these programs to government. This is indeed an issue in many countries: cost containment and reduction has to become a major goal in the future as these programs are designed to fit within government fiscal capacity.

The other lesson of Kenya is that there are synergies between extension and other aspects of the strategy, which were responsible for the good results:

- Economic and agriculture policy was relatively good in Kenya—pricing, marketing, and exchange rate policy were "liberal."
- Kenya's government spent more on rural health, education, and roads than did most African governments.
- The private sector was allowed more freedom in marketing, processing, and input supply.
- The cooperative sector flourished.

This evolving strategy was articulated in a World Bank agricultural strategy document (Cleaver 1993). It applied the new philosophy of using government line agencies rather than project management units, African rather than expatriate management, national scope rather than regional or commodity-oriented, and a heavy policy orientation. Economic and agricultural policy were to encourage private-sector development, market development, reduction of price distortions, and market deregulation. There was little or no direct support of the private sector involved in the strategy. In addition to national agricultural extension and research and agricultural policy reform, the following subsectors were proposed as the focus:

- building public-sector institutions to manage agricultural policy and budgeting
- small-scale irrigation managed by the public sector
- natural resource management (forestry, parks, public lands, pastoral improvement) by the public sector
- support to farmers' groups (provided by donors and NGOs)
- agricultural and rural credit through private and cooperative banks
- national health and education programs managed by the public sector, which include services to rural populations
- development of infrastructure in separate water, rural roads, and transport programs at the national level, serving rural areas

Is the New Strategy Working?

A qualitative rating of performance on agricultural policy, fertilizer policy, extension, and infrastructure was undertaken for a number of countries. In table 5, the check mark denotes a country doing relatively well in the policy area specified. The first two columns reflect an evaluation of the quality of agriculture and economic policy. The most recent assessment (1992–95) shows considerable change, as some countries have progressed, while others have gone backwards compared with the 1988–92 period. The 1992–95 rating is a composite based on assessment of macroeconomic stability and structural reform. It refers less to agricultural policy than did the 1988–92 rating.

Table 6 shows real (constant price) agricultural growth rates for each country for the period 1988–92 (1981–87 agricultural growth rates are shown for comparison).[7] The countries are divided into three

[7] All data are World Bank data.

Table 5. Policy performance indicators (√ = good).

Country	Agr. policy 88-92[a]	Agr. policy 92-95[b]	Fertilizer[c]	Extension[d]	Infrastructure[e]
Benin	√	√		√	
Botswana	√	√	√		√
Burkina Faso	√	√		√	
Burundi	√				
CAR	√		√		
Chad			√		
Congo	√				
Côte d'Ivoire		√	√	√	√
Ethiopia		√			
Gabon	√				
Ghana	√	√	√	√	
Guinea	√	√	√	√	
Guinea-Biss.					
Kenya	√	√		√	√
Madagascar	√				
Malawi	√	√	√	√	√
Mali	√	√		√	
Mauritania		√	√		
Mauritius	√	√			√
Mozambique	√				
Niger	√			√	
Nigeria	√		√	√	
Rwanda	√		√		
Senegal			√		
Sierra Leone					
Sudan					
Tanzania	√	√	√	√	
Togo	√		√	√	
Uganda	√	√		√	
Zambia		√		√	
Zimbabwe		√		√	√

Source: Cleaver and Donovan 1995.

a/ Countries were judged to be performing well in regard to agricultural policy if they either reduced overall taxation of agriculture or raised real producer prices for agricultural exports compared with the 1981/83 period; the underlying data are in World Bank 1994a, figs. 3.3 and 3.4.

b/ A qualitative rating, based on recent World Bank evaluations of the quality of the economic policy of the country.

c/ Countries were judged to be performing well if fertilizer consumption (nutrients per hectare) increased by more than 3%/yr from 1986 to 1991, excluding Congo, which suffered a 10-fold decline in the 1970s and early 1980s.

d/ Based on World Bank project supervision reports about the quality of national extension systems at the end of the period (see also Bagchee 1994). Covers 1992-94.

e/ Carapetis, Levy, and Wolden 1991. Covers situation in 1991. Kenya was added due to successful investment in rural roads since 1991.

groups according to performance on the four key ingredients of the strategy evaluated in table 5. Countries in the first group did relatively well in agricultural policy in the 1988–92 period and in *at least one other indicator.* Agricultural growth rates for this better-performing group are relatively good in 1988–92, with some exceptions, and the weighted average annual growth rate of 3.2 percent is not bad. Low growth rates for a few countries underline the fact that other factors play a role: rainfall, international commodity prices, severe land constraints, and civil disruption.

The second group in table 6 includes countries doing well on either agricultural policy alone or two indicators during the 1988–92 period. These were the medium performers. The average agricultural growth rates are much lower in the 1988–92 period than the rates for countries doing better on policy and on agricultural investments.

The poor performers were those doing poorly in policy during the 1988–92 period and poorly on all other indicators (with a maximum of one indicator on which they did well). As expected, countries doing least well on policy and investment tend to do least well in agricultural growth. Unusually good rains can, of course, overcome some poor policy in an occasional year (as in Chad), but this cannot be counted on.

More recent data was used to see if the above patterns continued after 1992. Table 5 shows several countries doing well in policy performance for the first time in the 1992-95 period, while several countries that were previously doing well slipped backward. Table 7 was constructed with countries doing well in agricultural policy and investment in the 1988–92 period that

Table 6. Average agricultural growth (%/yr) in African countries, grouped by policy performance in 1988-92.

Country	1981–87	1988–92
Doing well on agricultural policy and at least one of three indicators		
Mauritius	3.4	9.0
Tanzania	4.3	5.0
Benin	6.1	4.9
Nigeria	3.8	4.2
Guinea	n.a.	3.3
Uganda	0.2	3.3
Mali	0.0	2.6
Botswana	–4.6	2.2
Togo	6.8	2.0
Rwanda	–0.6	1.8
Ghana	0.8	1.6
Kenya	2.5	1.6
Burkina Faso	2.6	0.8
Niger	2.2	n.a.
Malawi	3.0	–1.8
Weighted avg	2.6	3.2
Doing well either on agricultural policy or on two indicators		
Burundi	3.1	2.5
Côte d'Ivoire	–5.7	2.3
Madagascar	2.6	2.0
Mozambique	–0.4	0.6
Congo	2.3	–0.4
CAR	3.4	–0.6
Gabon	1.7	–1.2
Zimbabwe	1.9	–2.1
Weighted avg	–1.7	0.9
Doing well on only one indicator other than agricultural policy		
Cameroon	0.5	5.8
Chad	2.2	5.6
Ethiopia	–2.2	1.0
Mauritania	0.9	0.1
Senegal	2.8	–0.2
Sudan	1.3	–0.5
Guinea-Bissau	4.2	–2.1
Sierra Leone	2.7	–2.9
Zambia	8.0	–10.4
Weighted avg	0.9	–1.9

were still doing well in 1992–95. The table shows their most recent agricultural growth rates.

In five of these countries, growth has remained excellent. Notable exceptions,

Table 7. Recent[a] agricultural growth in countries with good policy performance in both 1988–92 and 1992–95 periods.

Country	Agr. growth (%/yr)
Tanzania	5.5
Guinea	4.3
Benin	4.1
Burkina Faso	4.0
Uganda	3.7
Mali	2.0
Ghana	1.7
Malawi	1.5
Botswana	1.1
Mauritius	–0.2
Avg (unweighted)	2.8

a/ 1992–94(95).

Table 8. Recent[a] agricultural growth rates in countries that pursued good economic policy and at least one other indicator of good agriculture investment in 1992–94(95), that did not do so in 1988–92.

Country	Agr. growth (%/yr)
Mauritania	3.5
Côte d'Ivoire	0.9
Zimbabwe	–1.0[b]
Zambia	–1.6
Avg (unweighted)	0.5

a/ 1992–94(95). b/ 1992–93.

which had poor recent growth, were Malawi, Botswana, Mauritius, and Ghana. These poor outcomes, despite good policy, underline the riskiness of agriculture, resulting from commodity price changes, rainfall variation, and factors other than those surveyed here.

Table 8 shows the recent agricultural growth for countries that did not perform well in the 1988–92 period (table 5) but that *improved* their agricultural and economic policy most recently. Only in Mauritania did agricultural growth show a strong rebound. Zambia has done poorly recently, largely as the result of a 1993/94 drought, and some slippage on the policy front.

Conclusions from the Data

Many factors affect agriculture: weather, world prices, war, and civil strife, as well as economic policy, agriculture policy, and the quantity and quality of agricultural investment and investment in rural development. Agriculture growth rates can be negative as a result, even when policy is good. But, the data show that some countries are consistently succeeding among the group that has gone furthest in implementing the strategy. These include Benin, Mali, Guinea, Tanzania, and Uganda, plus Nigeria up to 1992. (Nigeria has collapsed since 1993, showing that good performers can slip backward.)

Some countries implementing many parts of the strategy are generally doing well, but are not consistent: Kenya, Côte d'Ivoire, Zimbabwe, Togo, Mauritius, and Botswana. But the heterogeneity in agricultural performance between countries is apparent. Also apparent is the difficulty, even for the better performers, of sustaining annual agricultural growth rates of 4 percent or more. Remember that these high growth rates are needed to have a significant impact on economic growth and poverty reduction.

Also lying behind the data for the good performers is a conclusion about agricultural projects. The projects supported by the donors and NGOs in these countries, which increasingly mirror the new strategy presented above, are more successful. The rates of problem projects for the World Bank are less in the better performing countries. In fact, many of the bank's failed projects are located in failed states: Zaire, Somalia, Nigeria, Rwanda, and Burundi are the worst examples.

The numbers also are a reminder of the considerable heterogeneity in Africa's agricultural situation. Agricultural conditions in the Sahel for example are very different from those in the East African highlands and from the forest areas of central Africa. Major differences are in land availability, rainfall, availability of irrigation water, forest cover, importance of livestock, and soil type. But these differences affect mainly the agricultural content of extension messages, of research priorities, of investment priorities (for example the importance of livestock or irrigation), and of natural resource management programs. The differences make it necessary for every country to have its own strategy. A general strategy for Africa is not an adequately fine-tuned guide for each country. However, the experience of the past with respect to policy and to the organization and basic approach of various agricultural services is important for each country and each donor to know as they devise their strategy. The strategy presented above is basically an organizational strategy. The agricultural content of each element will vary from country to country.

Getting Better Performance and More Consistency

Weaknesses in the new strategy have become increasingly apparent in Africa.

Enabling Environment

One of the most important weaknesses has been that the enabling environment for private investment, which was to be created through structural adjustment, was not enabling enough to stimulate private investment in the rural sector in most of Africa (World Bank 1994a, 1995). Exacerbating this, the donors, working independently or through government cannot support the private sector adequately. Donor loans and grants through government to the private sector, particularly to small farmers, do not work well because the government intermediaries are subject to bureaucratic inefficiency.

One alternative to direct donor and government assistance to the private sector is to use private banks, cooperative banks, or micro-credit schemes as intermediaries. The problem is that private banks have not proven to be very interested in smallholder farmers, small traders, and microenterprises in rural areas. Cooperative banks and micro-credit schemes are too small to serve many farmers, although they work better. As donors, including the World Bank, reacted to the failure of parastatal credit banks by eliminating funding for them, alternative financing vehicles were not developed fast enough to serve the credit, banking, and savings mobilization needs of the rural sector.[8] In the absence of private-sector interest and effective nongovernmental credit schemes, many donors, including the World Bank, compromised with the new strategy, reverting to the support of government credit banks and marketing and processing enterprises, with poor results similar to those obtained in the past.

NGOs

NGOs are increasing in importance, though some are repeating the past errors of the donors. These errors include expatriate management, which bypasses African management and does not build African capacity, and small projects with autonomous management, resulting in hundreds of projects that are unmanageable and unsustainable without the NGOs. The World Bank's agricultural strategy failed to realize the importance of NGOs and bring them into the strategic discussions, project investments, etc. Conflict with NGOs, sprinkled only rarely (though increasingly) with cooperation was the result.[9]

Neglect of the Poor

The poorest are often ignored. Subsistence farmers who have low sales of crops and who live in remote areas are often not reached effectively by national programs and price increases.[10] Development is passing by many of the poor. The poorest people in rural areas are

- the disabled and the old
- women whose husbands are gone (often men migrate off farms for work)
- those in remote areas not well served by infrastructure
- people in low-rainfall areas

The needs of poor women were most often ignored. Their lack of access to credit, land, extension advice, combined with time constraints imposed by family maintenance were not accounted for in most agricultural projects (an exception has been some extension projects that have responded to women's needs). Nutritional

[8] An interesting assessment is made by the staff of the new Consultative Group to Assist the Poorest (C-GAP) which supports micro-credit development. C-GAP staff find an absence of viable micro-credit schemes in Africa to which support might be offered. World Bank funding for agricultural credit in Africa has nearly dried up.

[9] Christopher Dowswell of Sasakawa Africa Association expresses some skepticism that the NGO he represents will be able to work effectively with the World Bank in the long term. We are testing this in Uganda, Guinea, Burkina Faso, and Mali.

[10] See Cleaver and Donovan 1995. Analysis was based on donor-financed poverty assessments undertaken in 14 African countries.

needs and the demand side of the food security equation (as opposed to the production of food) are relatively ignored.

Capacity Building

Although the new strategy identified the building of African capacity to manage as an important element, efforts to build such capacity were most often half-hearted. Many donors persist in financing expatriates to manage "their" projects. The African capacity that exists often continues to be ignored. There are few good models of donor interventions that build capacity, although the national extension programs come closest. This lack of clarity is related to the difficulty encountered in reforming the civil service (excess staff, poorly paid, poorly trained). It is also related to the donor failure to work in partnership with NGOs and to foster participation by rural populations in project design and implementation. Without development of African capacity at all levels, from the farm to government, many donor and government projects are badly managed and excessively dependent on expatriates. An effective capacity-building strategy has yet to be implemented, though several are on the drawing board (Dia 1996).

Declining Investment

The decline in donor support to rural development projects and integrated commodity projects led to a decline in donor investment in rural health, education, and infrastructure facilities. National health, nutrition, education, and infrastructure programs were not developed fast enough to serve rural areas to counter this decline. The result was a deterioration in rural health, education, nutrition, and infrastructure services in most African countries, which continues to this day.

Environmental Degradation

Natural resource management projects were not sufficiently effective in retarding the high rates of soil, water, forest, and wildlife degradation affecting most of Africa. The projects are still too limited in scope and ambition to have much effect on these widespread problems. In addition, the causes of natural resource degradation are complicated, involving the persistence of poverty (the rural poor exploit the environment for survival), maintenance of farming techniques that mine the soils, unregulated logging, difficult-to-control poaching, and land tenure systems that often provide no protection for individual investment in the land. Finally, governments have not had the capacity to manage natural resources. Because many natural resource management projects are administered by governments despite weak capacity and often in conflict with local communities, the likelihood of failure is high. The results are that natural resource degradation continues.

Commitment to Agricultural Development

Most important, the lack of government commitment to agricultural development in many African countries greatly inhibited the quality and quantity of donor efforts, caused sustainability problems for public investments, and discouraged private investment in agriculture. Governments often did not provide the operation and maintenance funds needed to sustain investments in agricultural research, extension, rural infrastructure, irrigation, environment, water supply, and public marketing and input supply. Donors indiscriminately financed such investments even when it was clear that government commitment was lacking and government operating budgets were insufficient. The result was as expected: even potentially good investments were not sustained upon the departure of the donor. A related problem is that without government commitment, donors continued to substitute for government commitment by financing and managing their own agriculture projects. These projects remain uncoordinated with one another, producing a hodgepodge of extension systems, credit systems, and marketing systems in each country. Each project reflects the donor's own views rather than government views or national needs.

Lack of Analysis

All of the above problems resulted in part from the lack of analysis of constraints to rural development, frequent lack of quality support to government strategy development, and lack of selectivity by donors in choosing their partners.

Necessary Adjustments in the Agriculture and Rural Development Strategy

The critical subsectors requiring investment, operation, and maintenance remain those identified above. The data shows that economic and agricultural policy reform of the type recommended by the World Bank (market liberalization) combined with investment in and efficient management of agricultural extension, research, rural infrastructure, and natural resource management programs stimulates agricultural growth. Donor and government programs should be national in scope and rely more on African management and less on expatriates as stipulated in existing agricultural strategies.[11] However, this existing strategy is necessary, but not sufficient. Several adjustments are needed.

Government Commitment

Solving the fundamental problem of lack of African government commitment to agriculture will require expanded efforts in information, education, and communication. These efforts should be undertaken by interested Africans. The Global Coalition for Africa (GCA) is beginning to promote such an effort, as is the Sasakawa-Global 2000 program. GCA uses African agricultural specialists and those government leaders who are committed to African agricultural development to help convince skeptical government leaders.

National Agricultural Strategy

Each African government should develop a comprehensive agricultural strategy that can be supported by government, the private sector, NGOs, donors, and particularly by the farming and agricultural community. The quality of the strategy and of its execution will demonstrate commitment, or lack of it, by the nation and its partners.

Donors need to work together to develop a joint agricultural strategy for Africa that supports the emerging African strategies, such as the one recently developed with

[11] Such as those proposed by the World Bank in 1993, IFPRI, Sasakawa-Global 2000, FAO, and by other donors (Canada). The proposals here benefited from the thinking of agricultural staff in the World Bank, and a draft bank-wide agricultural strategy (World Bank 1996b).

the support of the GCA. Second, donors should be more selective in their assistance, providing more to countries whose governments demonstrate commitment to agriculture through good strategy, good policy, and adequate allocation of local resources. Little or nothing should be provided by donors for agriculture in countries that do not so demonstrate commitment. Over time, more effective governments will manifest their increased effectiveness by increased interest in agriculture, better policy, and more investment. Donors can expand assistance to such committed governments.

Private Sector

More effective instruments of donor support to private farmers, marketing and processing companies, and banks need to be developed. These instruments do not need to be part of agricultural projects, but could be part of direct support to private enterprises that process, market, and provide saving and loan services to agriculture. This donor support would stimulate greater private equity investment in these activities as well. Projects in rural micro-enterprise development, rural savings and loan activities, and private marketing and processing need focused attention. Donor institutions like the World Bank's MIGA and IFC, France's Proparco, Britain's Commonwealth Development Corporation, Germany's KFW, and the European Investment Bank already have the instruments to expand support to such enterprises. Bilateral donor grants can be helpful, as could guarantees by the World Bank. World Bank loans are unlikely to be

Making investment by the private sector viable will require as its prerequisite, more effective policy reform programs to create the elusive enabling environment for private investment in farming, marketing, processing, and input supply. The traditional structural adjustment elements of liberalized price, exchange rate, marketing, and credit systems are one element of this enabling environment. But more is needed, such as land tenure reform, legal protection of women (credit and land), an effective legal system in rural areas, decentralization of administrative decision making to local (including rural) areas, and freedom of association for cooperatives and farmers' groups. Attaching these broader policy reforms as components of structural adjustment, sector adjustment, or sector investment projects will be necessary for private direct investment (foreign and local) to expand in rural industry and farming.

NGOs, Donor Coordination, and Sector Investment Programs

African and international NGOs are multiplying in many African countries, coincident with political opening in many of these countries. Some donors have moved quickly to support NGO projects, while financing public-sector managed projects alongside. A better idea would be for African governments to invite NGOs to join donors, and government itself, as well as interested private investors, to support public expenditure programs in agriculture. These sector investment programs might have a policy component and support some combination of *national* services for agricultural extension, research, livestock, forestry, soil conservation, agricultural planning, land tenure, and irrigation. In countries with stronger capacity, a single sector investment operation combining all of these activities could be mounted. Government would lead; the donors and NGOs wishing to support agriculture would co-finance. The advantage would be, first, the avoidance of the large number of donor-inspired agriculture projects, each with their own separate services. Second, by avoiding donor- and NGO-inspired duplication, African management capacity could be more efficiently utilized, and the numbers of expatriate managers reduced to a minimum if not eliminated entirely. Government commitment would be tested through its leadership of the national sector program. Subsequent donor support would be pooled for the ongoing public expenditure program in agriculture.

Early experience with sector investment operations (the first is in Zambia) indicates that they are difficult to manage, that many donors and NGOs do not wish to give up their independent projects, that government too readily adds ineffective programs, and that agricultural policy is critically important. Less-ambitious subsector programs may be more appropriate for most countries, in which the public expenditure program in agriculture is broken down into a half dozen component parts—extension, research, forestry, land tenure, irrigation, planning—each of which is financed separately. This would still permit avoidance of, typically, hundreds of separate and largely ineffective and competing donor projects.

Rural Infrastructure, Health and Education

Donors and governments need to include rural infrastructure, health, and education within national programs for each of these sectors in much the same way as agriculture is treated. There is no case for including these activities in agriculture or rural development projects: that approach already failed. But national education and health programs generally allocate too little to primary facilities and to rural areas. Rural roads and rural water are also neglected. Donors should focus their resources for these sectors in countries where relevant sector investment programs and policies of governments are most sensible and where governments are most committed. The sector investment approach, modified as in agriculture to subsector approaches where government capacity is weak, is the direction to take.

Natural Resource Management and the Environment

Experience thus far suggests that an expanded and higher quality effort is needed to arrest deforestation, soil and water degradation, as well as destruction of biodiversity more generally. There are starts, with forestry management (as opposed to logging) projects, natural resource management programs in the Sahel, environmental action plans containing important rural actions, rural water management projects, and most important, research and extension programs that include soil and water conservation and tree planting. Other than research and extension, most activity is in the pilot-program stage and relatively small-scale. Impact is still difficult to identify, and as indicated above, the problems are worsening in most. A review of the experiences thus far would be worthwhile to identify the interventions that work best for broader application.

The World Bank's soil fertility initiative is just getting off the ground. It promotes a combination of efforts to support (1) the development of extension messages to farmers for better soil and water management techniques, (2) expansion of the technical frontier through research on soil fertility problems and solutions, (3) public investment in soil and water conservation and rehabilitation works in those public lands that are fragile, and (4) land tenure reform. The scale of these efforts will need to be huge.

Associated actions that will help are general education to include teaching of conservation to school children and population projects (to reduce the pressure on the land caused by rapid population expansion) (Cleaver and Schreiber 1994). It is now apparent that local community management, or participation in management, will be critically important for natural resource management projects (forest dwellers, irrigation water users, pastoralists, farmers, hunter/gatherers).

Capacity Building and Farmer Participation

The building of African capacity to manage is an objective that extends beyond the needs of the agricultural and rural sectors. Management of government services, of private marketing and processing, and of farmers' fields all require strengthening. Better and more effort to use existing African capacity (rather than substituting expatriates), better training of African managers and staff, more use of nonpublic institutions in agriculture projects, privatization (which uses nongovernmental African initiative), and civil service reform are major instruments for capacity building. Farmer participation and extension efforts to strengthen farmer capacity are vital. Fostering the participation of farmer beneficiaries in project development and execution will be critically important (Dia 1996).

Reviews of World Bank agriculture projects find that project training is often the least well-defined component of a project: it is often an afterthought. Second, there are many nonformal organizations in African rural society, such as village associations, women's associations, savings and loan associations, and farmers' cooperatives that can take part in projects or execute parts of projects. The public sector can be divested of many activities, allowing private entrepreneurs to develop (with the appropriate enabling environment and direct assistance as indicated above). This will allow government to focus on the essential public services such as extension, research, forestry, livestock development, and planning. For these essential services, general civil service reform is often needed: with a reduced public-sector work force, better paid, with a clearer management and supervisory structure (such as that provided by the training and visit system of extension), but with a much reduced role befitting the public sector's limited capacity. Pilot programs need to be undertaken in which management of project services by local communities, villages, or other groupings (pastoral associations, water user associations, women's groups, and cooperatives) is attempted.

Helping the Poorest of the Rural Population

Although the above additions to the strategy should help in assisting more people in the rural sector, the extreme poor (the old, the disabled, the very isolated, and families with limited labor—often women-headed households) will benefit less or in some cases not at all. To deal with this problem will require some targeting of agricultural, education, health, and nutrition (food) services to poor areas and to poor groups. The objection to targeting is an economic one. The efficiency of providing infrastructure, health, education, and agriculture services to poor areas and to people less able to make good use of these services is said to have high cost and low payoff. Regions that are physically isolated for example are the most costly to serve. The disabled are unlikely to reap enough from services to justify expenses in an economic sense. This objection needs to be investigated in each case and will no doubt prove to be true in many. Safety nets for the rural poor will need to be articulated in these cases, where lower return investment is made to achieve social objectives, with the admission that economic objectives are secondary. These safety nets might include grant funds for self help and for local infrastructure or marketing projects, food for work, and labor-intensive public works. Nutrition components should be added to health projects. In cases of extreme suffering due to drought or war, direct food distribution may be necessary.

Government programs should be made explicit in strategies, which should be prepared in as participatory manner as possible. Donors can assist with analysis and identification of "best practice" from elsewhere. Analysis of the impact of the strategy on the poor and on women will need much attention. Similarly, monitoring and evaluation needs strengthening for both projects and overall strategies. Although investment costs have not been estimated (it is impossible to do), it will be much higher than present levels of government, donor, and private investment.

- The application of the above principles to the basic strategy will result in a change to each element of the strategy:
- national agricultural extension with participation by farmers, NGOs, and the private sector, with closer attention to fiscal sustainability
- national agricultural research with better links to farmer needs on one end and international research on the other
- agricultural policy reform and institution building with more on land tenure, decentralization of the public administration, overcoming constraints to rural women's participation, and reform of the legal system
- farmer-managed, small-scale irrigation
- expanded natural resource management programs with more farmer and community management; support to national water, national forestry, and national soil fertility programs
- support to farmers' groups, to mobilize farmer participation in project preparation and implementation, especially that of women's groups
- direct support for private-sector marketing and processing (from equity investment arms like IFC and MIGA)
- agricultural and rural credit through private and cooperative banks that are rural-based, that mobilize savings, that use market-determined interest rates, and that undertake serious loan recovery efforts
- expanded national health, education, population, and nutrition programs that

include services to rural populations and a focus on primary services
- development of infrastructure in national water, rural roads, and transport programs, each serving rural areas with private participation
- women's issues dealt with through extension, farmers' groups, credit, social services, and policy reform
- safety net for the poorest
- capacity-building efforts in all projects and programs
- all of the above based on government agricultural strategy, operationalized through sector investment and policy programs, with monitoring and evaluation built in

Issues raised by African Leaders and NGOs

Many of the issues raised during discussions of this paper[12] have been identified above, notably the need for rural financial intermediation, the negative impact of industrial-country agricultural policy and protection on African agriculture, and the observation that some projects of the integrated rural development and commodity types have worked. Additional issues raised are as follows.

Urban Bias

There has been criticism that the paper makes too much of the urban bias in public expenditure. These critics point out that rural-urban linkages are important. Towns and cities are major markets for cash sales by farmers, act as collection points for marketing of both outputs and inputs, provide centers in which larger secondary schools and provincial hospitals serving rural areas can be established, and are the seat of local administration. Many farm families have members who work in towns and cities and return investment funds to the farm.

In response, all of these observations are correct. Nonetheless, most poverty assessments undertaken by the World Bank in Africa have concluded that public expenditure programs and price policy have greatly favored urban areas and in particular the larger cities. This may explain why Africa has the most rapid rate of urbanization in the world. In much of Africa, the rural sector would benefit from relatively more public expenditure on secondary towns (rather than mega-cities), as well as in rural areas. Expenditure on urban areas needs to be made more efficient.

The Rural Environment.

An important criticism of the strategy is that it does not say enough about the rural environment. In response, the content of a rural environment strategy will vary significantly from country to country. In the Sahel, the main problems are soil degradation on relatively low rainfall farms, in pastoral areas, and on hillsides, along with poor water management (both river water and groundwater, as well as farmer management of rainwater). In the tropical forest areas, the major problems involve poor management and conservation of natural forests, dwindling supplies of fuelwood and building material, lack of biodiversity conservation, and poor fertility management on farmers' fields. Rainwa-

[12] Editor's note: In revising this paper following the Airlie House workshop, the author incorporated responses to comments made at the workshop and at the World Bank conference Rural Well Being: From Vision to Action, held in Washington D.C. in September 1996.

ter for farming is abundant, but soils tend to be poor. In the East African highlands, problems relate to high density population settlement; the need for an intensified agriculture; using organic and inorganic fertilizer, high yield seeds, and improved livestock; and better farmer management of soils and water. In the coastal zones of West Africa, the issues are similar to the East African highlands although the agricultural environment and crops are generally different.

Generally, the intensification of agriculture is good for the environment in Africa because it permits farmers to increase their incomes and for farms to support more people without opening new farmland in environmentally sensitive areas such as forests, wildlands, and pasture lands. Soil and water conservation can be practiced on-farm as can afforestation. But this is not enough. Better management of the commons—forests, rivers, pasture land, and parks—will be more necessary than public services have been able to afford in the past. Experience shows that the most important factor needed in addition to what is now being done is to provide incentives for local populations to participate in the management of these common property and public property resources. If they have no such incentive, they will move into these areas, converting them to open access for exploitation without efforts to conserve. Incentives can include salaried employment in these areas, turning over areas for community use and management in an agreed sustainable manner, or other participatory schemes.

The above efforts should be complemented by keeping infrastructure out of the most sensitive areas (especially roads, which bring settlers) and by a increase in the scale of natural resource management programs. There are some good pilot programs.

Fertilizer

Several African participants indicated that public distribution of *subsidized* fertilizer will be necessary to raise fertilizer use. The low levels of fertilizer use in Africa are claimed to be keeping crop yields low. In response, it is true that fertilizer use is extremely low and will need to increase as part of a crop-intensification strategy. This is why fertilizer use is given such prominence in this paper. But public-sector distribution of subsidized fertilizer has been a traditional strategy of African governments and donors in Africa. The fact that fertilizer is still so low is testimony to the failure of this approach. Subsidies are burdens on the public treasury and serve largely to reduce costs to farmers, thereby simulating demand. The problem with fertilizer use has been more on the supply side, and these subsidies do not remedy supply-side constraints. Government distribution systems have been unwieldy, often resulting in the wrong fertilizers distributed at the wrong time, captured by those well enough connected to obtain it. Corruption in distribution has been common.

A better approach would be to privatize fertilizer imports, manufacture, and distribution. There are examples of successful development of private fertilizer distribution (Malawi is the most recent). Removing licensing and foreign exchange rationing from fertilizer imports, eliminating subsidies, redirecting public funds to extension support to farmers, helping new distributors to become established, and constructing roads may have a larger impact.

Regional Integration.

Several critics indicated that regional integration would help develop agriculture. Reduction of barriers to agricultural trade between African countries would open up competition and markets. In response, the reduction of trade barriers between African countries in agricultural products would no doubt stimulate agriculture and create more competition. Even greater gains can be made in exporting and in import substitution behind low trade barriers to products from all countries. Nevertheless, the World Bank supports initiatives for regional integration in Africa.

African Strategies.

Several critics pointed out that this document supports the idea that Africans should develop their own agricultural strategies, and yet here is a donor again suggesting a strategy for Africa. In response, donors should not do papers such as this. But as long as there is a vacuum on the African side, this vacuum will be filled by donors. In addition, donors need to assess the value of their assistance in order to improve it.

Capacity of "the People" to Participate

Several critics indicated that large proportions of the African population have not received sufficient preparation to participate significantly in strategy and project design and implementation. They cautioned about increased popular participation. In response, it is true that education and democratization will improve the environment for popular participation over time. But our finding is that even in the current context, greater participation in program and policy design by stakeholders or their representatives improves both design and popular commitment.

Donor Selectivity

Many African critics did not like the strategy's call for greater donor selectivity in the countries to be assisted and the subsectors within countries to be assisted. Countries that are poorly managed need help, according to these critics, to overcome their problems. If donors ignore such countries, it will take them longer to resolve their problems. Similarly, the critics stated that the requirements for agricultural development are broad. Focus on a few subsectors is unlikely to generate the accelerated agricultural growth rates desired.

In response, as donor resources decline, it is most sensible from an economic and impact perspective to focus resources where they will have the largest impact (by country or sector). Continued high rates of failure of donor projects, for any reason, undermines the industrial-country constituency for aid and is likely to lead to further cuts. Wasted aid resources do not help the affected country.

Debt

Many critics felt that the African debt problem should be linked to the rural development strategy. African countries could put more into agriculture and the environment, as well as into other things, if the debt were written off. Some critics suggested that donors should provide debt write-off in return for greater government investment in agriculture and rural development. In response, it is the unsustainable debt burden of many African countries, as well as of some developing countries outside of Africa, that has led to the debt initiative recently developed by the World Bank and the IMF, with the assistance of other partners in development.

Overgeneralization

There was some concern that solutions to problems suggested in the paper were too general. The adaptation to each country's circumstances would result in quite different solutions in each country. In response, this is true. It is why the critical ingredient in resolving issues is a country agricultural strategy that is converted to investment and policy programs. These will vary, as indicated. In particular, the agricultural content of extension, research, livestock, and natural resource management services will vary from one ecological zone to the next. But there are some common problems and findings that will help motivate these country strategies.

Literature Cited

Bagchee, Aruna. 1994. *Agricultural extension in Africa.* World Bank Discussion Paper 231. Washington, D.C.: World Bank.

Bindlish, Vishva, and Robert Evenson. 1993. *Evaluation of the performance of T&V extension in Kenya.* World Bank Technical Paper 208. Washington, D.C.: World Bank.

Bindlish, V., R. Evenson, and M. Gbetibouo. 1994. *Evaluation of T&V based extension in Burkina Faso.* Technical Paper No. 226. Washington, D.C.: World Bank.

Carapetis, S., H. Levy, and T. Wolden. 1991. *The road maintenance initiative.* Vol. 1. Economic Development Institute Seminar Series. Washington, D.C.: World Bank.

Cleaver, K. 1993. *A strategy to develop agriculture in sub-Saharan Africa and a focus for the World Bank.* World Bank Technical Paper 203. Washington, D.C.: World Bank.

Cleaver, K., and W. Graeme Donovan. 1995. *Agriculture, poverty, and policy reform in sub-Saharan Africa.* World Bank Discussion Paper 280. Washington, D.C.: World Bank.

Cleaver, K., and G. Schreiber. 1994. *Reversing the spiral: The population, agriculture, environment nexus in sub-Saharan Africa.* Washington D.C.: World Bank.

Dia, Mamadou. 1996. *Africa's management in the 1990s and beyond.* Washington, D.C.: World Bank.

Donovan, W. Graeme. 1996. *Agriculture and economic reform in sub-Saharan Africa.* AFTES Working Paper 18. Washington, D.C.: World Bank.

FAO. 1995. *The state of food and agriculture.* Rome.

Gibbon, Peter, Kjall Havnevik, and K. Hevmele. 1993. *A blighted harvest.* London: James Currey.

Grootaert, C., and T. Marchant. 1991. *Social dimensions of adjustment priority survey.* Washington, D.C. World Bank.

Heneveld, Ward, and Helen Craig. 1996. *Schools count: World Bank project designs and the quality of primary education in sub-Saharan Africa.* Technical Report 303. Washington, D.C.: World Bank.

IFPRI (International Food Policy Research Institute). 1995. *A 2020 vision for food, agriculture, and the environment.* Washington, D.C.

Jaffee, Steven, and John Morton. 1994. Africa's entrepreneurs: Private-sector processing and marketing of high value foods. Africa Technical Department, World Bank, Washington, D.C. Duplicated.

Lele, Uma. 1990. *Agricultural growth and assistance to Africa: Lessons of a quarter century.* ICS Press: San Francisco.

Psacharoloulos, George. 1990. *Why educational policies can fail: An overview of selected African experiences.* World Bank Discussion Paper 82. Washington, D.C.: World Bank.

Sharma, N. P. 1996. *African water resources: Challenges and opportunities for sustainable development.* Technical Paper 331. Washington, D.C.: World Bank.

Swegle, Wayne, ed. 1993. *Developing African agriculture: New initiatives for institutional cooperation.* Mexico City: SAA/Global 2000/CASIN.

World Bank. 1994a. *Adjustment in Africa: Reform, results and the road ahead.* New York:

Oxford University Press.
World Bank. 1994b. *Better health in Africa.* Washington, D.C.: World Bank.
World Bank. 1994c. The many faces of poverty in Africa. Technical Department, Africa Region, World Bank, Washington, D.C. Duplicated.
World Bank. 1995. A continent in transition. African Region, World Bank, Washington, D.C. Duplicated.
World Bank. 1996a. Africa Region poverty task force report. Washington, D.C. Duplicated.
World Bank. 1996b. From vision to action in the rural sector. Washington, D.C. Duplicated.
World Bank. 1996c. Project performance audit report, Kenya, First National Extension Project. Operations Evaluation Department. Washington, D.C. Duplicated.

Comments on Rural Development Strategies for Poverty Reduction and Environmental Protection in Africa

Steve Obimpeh

As we gradually but surely leave the 20th and enter into the 21st century, it is important for African leaders to put together comprehensive and well-coordinated strategies to ensure substantial poverty reduction on an environmentally sustainable basis. Before embarking on the development of rural development strategies for poverty reduction and environmental protection, it is imperative that we pause to critically review and evaluate the achievements and disappointments of the various rural development strategies that African countries—with or without the advice of our developmental donors, such as the World Bank, the International Fund for Agricultural Development, and SG 2000—have pursued over the past years, with a view to taking advantage of opportunities these strategies have offered while avoiding pitfalls and dangers as we move into the 21st century.

My comments will be divided into two parts. First, I shall comment generally on the paper presented. Then I will focus on efforts that Ghana has been making to reduce rural poverty on a sustainable basis within the government's Vision 2020 program for making Ghana a middle-income economy within the next 25 years.

I congratulate Kevin Cleaver for his objectivity. Indeed, both donor agencies and African governments have been moving from one paradigm of development to the other over the past 30 years. Ghana has gone through all of the stages that Mr. Cleaver has identified. Among these were integrated rural development schemes, isolated from the rest of the economy, especially the private sector; the different models of single-crop development; government-managed agricultural credit schemes, etc. There was one thing common to all of the schemes: the success rate was about 50 percent.

In general, past schemes failed to recognize that the agricultural sector holds the key to poverty reduction, environmental protection, and commercial ventures as a business, rather than being subsistence undertakings of penurious farmers, women, and those unable to find jobs in industry, commerce, or the civil service. Within this context, most schemes were operated on the premise that government pronouncements and actions are the most important determinants of the sector's performance. Past agricultural schemes, therefore, were driven mainly by the conventional wisdom on agricultural devel-

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opment without adequate political and economic commitments. It is no wonder, therefore, that these schemes were ad hoc, inadequate, inconsistent with macroeconomic, fiscal, trade, and commercial policies, and intended to favor urban dwellers at the expense of our rural people who are responsible for the bulk of agricultural production on which our national economies depend.

The empirical record shows that most development schemes were unable to break the exploitation and control of the agricultural sector prevailing in most of our countries through (1) high direct and indirect taxation and underpricing of agricultural commodities for the benefits of the urban population; (2) concentration of infrastructure and social amenities in cities and district capitals, in most cases; (3) imposition of top-down government schemes, normally from the ministries; and (4) unwillingness to transfer the administration of marketing, storage, input distribution, and credit programs from parastatals to the private sector.

I agree that per capita income growth is necessary but not a sufficient vehicle for poverty reduction. From the data presented on agricultural growth rates in different countries, we observe that countries that continue to subsidize fertilizer for farmers are doing better than those that have totally removed subsidies. To maintain soil fertility, the role of fertilizer in agriculture in African countries should not be ignored. We are not necessarily calling for subsidizing fertilizer, but we are calling for making it available at affordable prices.

Let me turn to the situation in Ghana, which had one of the highest per capita incomes in Africa at independence in 1957. But a continuous decline in per capita income after the early 1960s increased the incidence of absolute poverty and reduced efforts at poverty alleviation. The launching of Ghana's now-famous economic recovery program (ERP) in 1983 was the cumulative effect of a economic decline that had roots in the reduction of agricultural output. This reduction was the result of policy-induced distortions in the domestic economy, which were inimical to growth, equity, and poverty reduction. On the macroeconomic level, an overvalued exchange rate (₵2.75 to US$1 in 1983 compared with ₵1,700 to US$1 now) kept the domestic costs of imported goods low, while penalizing producers and exporters of Ghanaian products, leading to extreme isolation of the official Ghanaian economy from international markets.

The strategies we adopted were short-term economic financial stabilization from 1983 to 1985; medium-term rehabilitation of production capacity over the stabilization period, 1986–88; the liberalization and sustainable growth period, 1989–95. Now, we say we are entering the accelerated growth period, 1996 to 2020.

Even though the overall result of the ERP has been impressive, more needs to be done to attract substantial private financial resources and schemes into the agricultural sector and other sectors for the accelerated growth envisaged. Annual agricultural growth is expected to increase from an average of 2.1 percent in the 1983–95 period to 4 to 6 percent from 1996 to 2020, in order for the economy to achieve an 8 percent annual growth rate under our Vision 2020 program.

Since 1991, when we launched the Medium-Term Agricultural Development Program, various projects have been implemented to complement the outputs of earlier ones. With the support of the World Bank, SG 2000, and others, the research and extension systems are being strengthened to ensure that farmers have access to technology for improvement of productivity. In modest ways, other projects being implemented in specific target areas are providing support that has enhanced farmers' outputs and incomes. This is clearly manifested by the progressive increases in production figures for nontraditional export crops.

The centerpiece of the government's strategy is increased productivity in the acquisition and distribution of inputs for farm production, agro-processing, and marketing. Behind this strategy is the recognition that agriculture is a multi-stage business comprising all the sectors mentioned and that there is a need to take a holistic approach to agricultural growth and development. It is increasingly clear that performance in the agricultural sector is influenced largely by forces external to the sector. These include an enabling macro-economic environment, the quality of the support infrastructure (such as roads, transport, and communications), finance, good governance and political commitment, perception and attitude toward the sector (that is, it is a business and not only the poor go into agriculture), regional and international trading regimes, and above all, the prevailing international economic environment.

Even though government actions are important to the sector's performance, equally important are the action of all stakeholders. Farmers, fishermen, agro-processors, financial institutions researchers, and distributors must be more responsive and the private sector must show willingness to channel substantial resources into the sector, not because of government directives but because of the profitable investment opportunities in the sector.

Given that agricultural performance is directly correlated with rapid economic growth and development, effective natural resource management, slower population growth, and poverty reduction, the government is currently working on an agricultural growth strategy that explicitly recognizes the need for an agriculture-friendly macroeconomic environment: financial set-up and participation in the provision of adequate short-, medium-, and long-term financial resources; attraction of the educated, as well as private entrepreneurs, whose ability to acquire and use technology and management skill will bring about the critical mass of efficiency needed to transform the sector; the development of a satisfactory arrangement for the timely procurement of appropriate inputs; research services; irrigation facilities; agro-processing; and efficient marketing services by the private sector with the assistance of government.

The idea is to build up a workable partnership with sister ministries and donors to ensure a coordinated, optimal use of the country's renewable natural resources. The success of our effort will be measured by how quickly we are able to take advantage of the $100 billion African high-value commodity market to raise rural income through a spot diversification. We have set ourselves a target of about 1 percent of this market within the next 5 years or so. This means that Ghana's current nontraditional export earnings of about ₵160 million will have to be quickly increased to about ₵1 billion, with the small-scale farmer producing the bulk of these products.

To ensure that the efficiency of small-scale farmers increases to the point that they can take advantage of the external market opportunities, government is working out the modalities for establishing serviced agricultural estate by the private sector on a build-operate-and-transfer or build-operate-and-lease basis. These core estates will be linked physically and financially to a large number of small-scale producers who will procure their inputs, including financial needs, from these estates and, in turn, sell output to them on mutually agreeable terms. We have a few examples already in place. The government is also taking steps to streamline the legal framework for the acquisition and transfer of land to encourage investment by both local and foreign entrepreneurs.

In conclusion, I wish to reiterate that Ghana will continue to pursue the objective of becoming an agriculture-based, middle-income economy by the year 2020 by clearly defining the appropriate role for government in assisting the private sector, including the small-scale producer, to become Ghana's engine of growth for enhancement of rural development in the national economy. That will require the understanding of our partners in our effort, since we know of no country that has successfully developed agriculture without government assistance and support.

Rural Household Dynamics

G. Edward Schuh

The subtitle of this conference refers to forging a political commitment to break the cycle of poverty. I'm not sure what the "cycle of poverty" refers to in this case. My predilection is to think of the poor in developing countries as being locked into a low-level equilibrium trap and unable to break out of it without some external intervention. But if we are to accelerate rural development in Africa, and to alleviate poverty, whether there is a cycle of poverty or not, my theme is that we will need to give more attention to the much-neglected household and the women in those households as the focus of our development efforts.

My remarks are divided into three main parts. I will try to provide some perspective on the nature of the development problem. This will provide the setting for the following section, in which I will discuss the dynamics of the household. In the last section, I will discuss the policies needed to alleviate poverty in low-income countries.

Perspective on the Development Problem

Much of what we know about agricultural development is rooted in a small book, *Transforming Traditional Agriculture*, by Nobel laureate Theodore W. Schultz. He taught us that an important feature of traditional agriculture is that it is locked in a low-level equilibrium trap, with resources allocated efficiently but with households earning low levels of income. The challenge for policy makers desiring to promote economic growth is to break out of that trap. This requires more than ensuring that the resources families own are allocated efficiently, for his assumption was that they already were. It requires that some way be found to create a dynamic process of change.

Professor Schultz, as we all know, put the emphasis on investing in human capital, with special emphasis on the production and distribution of new production technology at the farm level and the education of members of farm households. It was investments in these forms of capital that would in his view help to break out of the low-level equilibrium trap. That is, it was investment in these forms of capital that would create the dynamics that would lift rural people out of poverty.

We have learned much about this process since Professor Schultz's pathbreaking book. A recent evaluation of the main

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propositions in his book shows most of them to have been confirmed by later research and by development experience around the world.

Let me now pick up the theme of human capital and its impact on the sector as a whole. First, what is human capital? We now recognize that it takes many forms, and that therefore there are a variety of investments we can make to promote economic development. Schultz put the emphasis on the development of new production technology for agriculture and on the education of the rural population. Let me focus on these two forms of capital and their role in promoting the development of agriculture as a whole.

New production technology, if it is to be adopted, lowers the cost of production. The early adopter earns an economic rent from the adoption of the new technology since the price of the commodity will have remained the same, other things remaining unchanged. However, if the new technology is for staples or subsistence commodities (such as rice, wheat, maize, and cassava), for which demand tends to be inelastic (relatively unresponsive to changes in price), the price will tend to decline as output increases relative to demand.

This introduction of new technology sets off a dynamic process that affects the sector as a whole. In the first place, the early adopters, with their larger income, start to acquire the land of those who do not adopt the technology. This starts a process of farm enlargement, and the eventual release of the nonadopters from the sector. As the process of adoption proceeds, moreover, those who do not adopt the technology are eventually forced from the sector because their incomes decline. They have to find employment elsewhere in the economy.

It is in this process that the education of the rural population becomes so important. In the first place, the farmer needs to have cognitive skills to decode the technology and to adopt it. Hence, education becomes important for the modernization of the agricultural sector. Perhaps more important, however, those who have to leave agriculture need to have general education if they are to obtain gainful employment in the nonfarm sector. Schooling thus becomes an important part of an adjustment policy to help the population adjust to the changed conditions of production.

If, however, the new production technology is introduced into the production of tradable commodities (exportable goods, and those that compete with imports), there is less of a tendency for the price of the commodity to decline. The farmers retain a larger share of the benefits of the new technology. However, the country as a whole either garners larger amounts of foreign exchange, or it saves some it would otherwise have spent for imports. In either case, the additional supply of foreign exchange makes it possible to finance a higher rate of economic growth, and demand pressures will be created for labor in the nonfarm sector.

To summarize, the introduction of the new production technology sets loose a dynamic process for the sector that affects households throughout the economy. The decline in the price of the staple goods is equivalent to an increase in per capita incomes for those who consume those staples. Moreover, a process of disequilibrium is created as the technology diffuses through the sector. Thus, agriculture—and the economy as a whole—begins to break out of the low-level equilibrium trap and to experience economic growth and development. These effects can be pervasive in the economy, for the true importance of agriculture is rooted not in the share of GDP accounted for by agriculture or the share of employment accounted for by agriculture, but in the fact that everybody consumes food. Moreover, given that low-income consumers tend to spend a larger share of their budget on food than do middle and upper income groups, the poor tend to benefit in a relative sense.

We thus see that the modernization of agriculture is a powerful source of economic growth. There is no other sector of the economy that contributes so pervasively to the growth process, and so much in favor of the poor. Moreover, the broad-based increases in per capita incomes eventually induce succeeding rounds of development because of the increases in demand they generate for other consumer goods and services.

Viewed in a long-run perspective, what we see is a process in which agriculture does indeed become a smaller share of the economy as a whole. In the process, labor and capital are released from the sector for the expansion of the nonfarm sector. Labor, and the households from which it comes, bear a major share of the adjustment burden in the development and expansion of the economy.

Dynamics at the Household Level

Let's now focus on the household and see what happens there. It might be useful to briefly consider what forms human capital can take more generally and what forms are important at the household level. In economic development, the important forms of human capital include the genetic endowment of the population, the culture of the society, institutional arrangements in the society, knowledge, technology, education, vocational skills, and health and nutrition.

Some of these are fixed or predetermined for the household, especially in the short term. These include genetic endowment, culture—except as influenced by education—the institutional arrangements for society, and within limits, the state of knowledge and technology for society. Others can be changed at the household level by the proper investments and thus become the basis of increasing household incomes at that level. These include health care and nutrition, education (schooling), and vocational training.

The key to understanding what happens as economic development proceeds is to understand the household and the activities that take place in it. We can gain this understanding by recognizing that the household is a production unit, just like the farm or any other firm. It can therefore be understood by means of the modern theory of the firm or by what is now referred to as the new household economics. From this perspective, the household is viewed as acquiring some inputs from the market economy and combining them with labor provided by the members of the household to produce goods and services that are consumed by the family or supplied to the economy as a whole.

The importance of the household as the focal point for economic development policy derives from the fact that it produces an important share of the human capital for the nation's economy. For example, it produces a large share of the health of the family, it produces the nutritional status of the family, it does a lot of the education and vocational training of the children, and it produces children. Unfortunately, it turns out that little of what gets produced in the household is included when we measure the output of goods and services in the economy. That output of goods and services from the household is not measured as part of the national accounts, which probably explains why the activities of the household have until recently been largely ignored by development economists and policy makers. But our failure to measure these important outputs makes them no less important.

A number of things are important in understanding the household. First, the woman produces most of the goods and services of the household. Second, some of the most important goods and services produced in the household are labor-intensive. That is, they require a lot of labor relative to capital and operating inputs. Third, the labor in the household tends to be nonremunerated. Ultimately, the price of that labor is determined by its opportunity cost—by what it can earn in the out-of-household labor market.

Let's now think about this household as the process of economic development begins. To keep things simple, we will take economic development to be an increase in per capita incomes in the economy as a whole. That means there will be an increase in the demand for labor in the labor market, which will ultimately increase the opportunity cost for labor in the household.

One important issue is what happens to the demand for children when this occurs. What we know about this process is that as per capita incomes rise, the demand for children or children's services increases. Children are a normal good. However, that increased demand tends to be reflected in an increase in the *quality* of the children rather than in an increase in the number of children. Under rather general conditions, given the fact that higher quality children tend to be labor-intensive, the demand for quality will swamp the demand for numbers. The well-known result is that the number of children per family tends to decline over time as per capita incomes rise. This process tends to be driven by the increase in the opportunity costs of the woman's time.

The next issue is just what we mean when we speak of the quality of children. We can consider it generally by taking it to be an increase in the investment in the child. This can be in the form of improved nutrition, improved health of the child, and increased education and augmented vocational skills. All of these investments contribute to the potential income-earning capacity of the child in the future, either for the household into which the child was born or for the new household the child eventually creates. The increased income is the result of an increase in productivity, either from augmented cognitive skills or increased strength and agility.

Let's now be more specific to the rural household in Africa. Members of the rural household will typically be involved in some form of farm production. They will also typically be engaged in some off-farm labor market activities. What we see at early stages of development in Africa is that the male in the household often tends to be drawn into nonfarm activities, in some cases at long distances from the household. The result is that the women are drawn into the production activities on the farm. They thus have two demands on their time—the production of goods and services *within* the household and the production of commodities on the farm.

If a process of modernization is taking place in the household's agricultural activities, there will be an additional increase in the demand for labor from the farm activities. This is because the new technology tends to be more labor-intensive than traditional techniques of production. The modern technology tends to involve the adoption of improved varieties, the application of fertilizers and pesticides, the use of more labor-intensive agricultural practices due to the need to be more careful with such things as spacing, and in many cases the use of irrigation to capitalize on the new technology. If highly productive, the new technology will also result in an increase in output, which will also require more labor to harvest.

The cumulative effects of these increased demands for labor can create a labor constraint on the activities of both the household and those of the farm. This constraint can be alleviated by hiring labor for farm activities, and that is often what occurs. However, inefficient or nonexisting capital markets may prevent this from happening if the household should need to borrow money to hire the labor. In those cases, the labor constraint may become effective.

It is important to recognize that this labor constraint can preclude the adoption of the new technology on the farm unit. This was the case in Plan Pueblo in Mexico, an intensive agricultural development project that involved the introduction of new production technology on small farms. A study conducted some years ago showed that those farms in which the head of the household was working in off-farm activities did not adopt the technology. Those in which the head of the household did not work off-farm adopted the technology.

This same labor constraint can inhibit investments in the household that would increase the stock of human capital. The demand for labor on the farm unit can be such that the woman cannot dedicate time to teaching the children, to improving their health and nutrition, and so on. Thus, the very activities that would raise the productivity of members of the household are limited by a labor constraint.

The common solution to labor constraints in *farm* activities is to mechanize those activities. That is, the solution is to develop new technology that facilitates substituting capital for labor. Thus, we know that as labor leaves agriculture in response to expansion of the nonfarm sector, agriculture becomes more mechanized, which increases the productivity of labor.

Unfortunately, the importance of new

technology for the household is not given the same attention, or at least the attention it deserves. There are probably two reasons for this. Perhaps most important is the failure to recognize that it is a labor constraint that often limits the adoption of new, high productivity technology on the farm unit. The second is the failure to recognize the household for what it is—a production unit not unlike a firm that demands labor to undertake the production activities in the household.

Ultimately, the solution to many of these problems is the introduction of new technology in the *household*, not just in farm activities. The opportunities for the introduction of new production technologies into household activities are numerous. They include such things as modern stoves that do not require the fetching of firewood, water systems that bring water to the household or pumps that bring the water from underground aquifers, and mills to grind grain and other commodities into meal for easy cooking. Such new technologies not only eliminate the need for the time-intensive activities noted above, they release the time of the woman, and in some cases the time of children and other members of the household, for more productive activities both within the household and in the farm activities.

To conclude, consider the dynamic processes that take place in the household as economic development proceeds. The critical feature of economic development from this perspective is an increase in per capita incomes. Given that time is limited by the length of the day and the number of days in the year, an increase in per capita incomes is equivalent to an increase in the value of time. This increase in the value of time causes families to demand higher quality children. With budget constraints at the household level, this leads to a decline in the demand for numbers of children and the well-known tendency for the size of the family to decline as economic development proceeds.

Within the household itself, labor constraints may become binding unless some means of alleviating those constraints is made available. The demand for labor from economic remunerative activities will draw labor away from household activities. Unless new household technology is made available, investments in those activities that make labor more productive—both in the short and long term—will not be undertaken at socially profitable levels. Poor families will continue to be poor or at best will experience increases in per capita incomes at slower rates than they otherwise could.

Policies for Poverty Alleviation

Important components of economic development policy include the production of new technology for the agricultural sector, the development of institutional arrangements for a modern economy, and the undertaking of social investments at the proper level. The first requires the development of a capacity for agricultural research. The second requires the development of marketing institutions for a modern economy, not the least of which is the development of true financial intermediaries and a modern educational system. The third involves the proper level of public investments in such things as agricultural research, education, health care, and the physical infrastructure.

In this section I address the policies that ensure that the proper investments are made at the household level, where much of the human capital needed for a modern economy is produced. Recall that my main thesis is that policies devoted to promoting economic development should give as much attention to households as they do to firms in the market economy.

Education and schooling is a useful place to start. Two kinds of constraints are especially important at early stages of development. Both of them involve the opportunity costs of time. It is now recognized that the main component of the costs of going to school is the opportunity cost of the time spent in educational activities. This constraint is reflected at low levels of family income by the inability to send children to school. In rural families the children are needed work on the farm to sustain the family. In the cities, they engage in begging on the streets and other activities.

What experience shows, especially in poor rural areas, is that the first child seldom is able to go to school; the second has an increased chance of going to school; and the third is almost certain to go. This is because the demand for the child to work in farm activities declines with each additional child.

This problem can be alleviated by paying the family to send their children to school. The amount of payment would have to be tailored to the size of the opportunity costs, and conditioned on the family sending the child to school. The use of food aid for this purpose would be give this form of economic assistance a high payoff. Not only would the children go to school, with its inherent social and private return, but the family would have an improved health and nutritional status.

Use of food aid in this way should be contrasted with the common practice today of monetizing the food by selling it into the economy. This not only fails to focus the benefits of the aid on specific development purposes, it also generates counterproductive disincentive effects for the agricultural sector.

The second opportunity cost issue arises as individuals become older. At this level, paying the individual might also have an important role to play, although the budget costs might be prohibitive. The more likely solution is to offer the educational and training programs at times when the opportunity costs are low—at night, on the weekends, or in seasons when agricultural activities are low. Vocational training is seldom offered out in the countryside; Making it available there would reduce the need to migrate to urban centers for training and help to keep the labor in the local community.

A special educational need is to give greater attention to girls and women. A growing body of research shows that such investments have a high social rate of return. After all, it is the woman who is responsible for the formation of much of the human capital in the household. Increasing women's education not only gives them more knowledge to transmit to their children, it raises their productivity in the production of all forms of human capital.

Health care is another issue. In the past, public interventions to provide health care services have been based primarily on the need to stop the spread of disease and other pests. That explains in part why health services tend to be concentrated in urban areas, with their large concentrations of people. However, Vernon Ruttan and others have found that poor health is a severe constraint to the modernization of agriculture. People who are sick or infected with parasites have little energy and a low state of mental alertness. This finding puts the issue of health care in a somewhat different perspective. Improved health alleviates the labor constraint on agricultural production and can result in a higher rate of agricultural development.

The policy recommendation is to make additional health care services available to rural people, with special emphasis on preventive medicine. In addition to reducing the spread of sickness and pestilence, this will also increase the growth rate for the agricultural sector itself.

Third, new technology for the household is a much-neglected issue. The development and diffusion of labor-saving technology for the household should receive high priority in most areas of sub-Saharan Africa. This technology, some of which has been identified above, will not only make it easier to release members of the household to engage in remunerative activities, both on the farm and in the nonfarm labor market, it will also enable the family to increase its inputs into the production of human capital in the household. These investments are the key to breaking out of the low-level equilibrium trap.

Finally, it is useful to come back to the modernization of agriculture itself. As I argued earlier, the modernization of agriculture results in widely distributed increases in per capita income, skewed in favor of the poor. These increases in per capita income provide the incentives for families to invest more in the quality of their children and to reduce the number of children they demand. Thus we see that the modernization of agriculture by the introduction of new production technology starts the process by which family size declines over time and by which larger investments are made in the human capital in society. If this new production technology for agricultural activities is complemented by the availability of new production technology in the household, a sustainable process of economic development will have been started.

Concluding Comments

I would like to conclude by emphasizing a point that is much neglected by development economists and policy makers alike. That is that investment in human capital, which should now be at the center of economic development policy, has resulted in an enormous increase in life expectancy. That increase in life expectancy is an enormous increase in human welfare. It is another one of those contributions and benefits that is not measured and whose value was recognized by T. W. Schultz and Rati Ram some time ago.

As recently as 150 years ago, life expectancy in the now-developed countries was only 27 years. Currently, it is over 70 in many of those countries. The economics of the household and family were surely different back then than they are now. By the same token, the economics of the household in today's world differs from one country to another, depending on the level of development. It will also continue to change as different countries experience different rates of economic development. That is why understanding the dynamics of the household is such a critical aspect of developing a rational development policy. Unfortunately, we know all too little about the economics of the household. This issue should have high priority on our research agenda.

Comments on Rural Household Dynamics

T. Paul Schultz

I have worked in various parts of the low-income world, but my knowledge of Africa is quite limited. I should say that it has only started to grow at a noticeably faster rate in the last few years when a few large African labor force surveys became available for researchers. With such surveys it has become possible to document empirically the dynamics of household behavior that is central to Ed Schuh's paper; not only the dynamics of farm production, for which there are already many good household farm production surveys, but also the dynamics that affect the household's demography—fertility, mortality, health—and impact on the critical areas of human capital accumulation, which we are talking about today.

I fear that I am not an ideal critic for his contribution here because I'm in agreement with all of Professor Schuh's main arguments. So, I will restate a few of them at the outset, and then elaborate on some issues that I think are relatively neglected in his paper. This is a field where much intensive research has recently occurred, and we're struggling with very complex relationships in the African context that involve both the household-family and a larger kinship system performing many economic functions.

Professor Schuh indicates that changes in the production technology and the ability of people to use new inputs in agricultural systems will determine the rate and character of development in Africa. The gains from technical change may be distributed differently between rural producers and urban consumers depending on the market for agricultural outputs. It is important to distinguish whether the technology changes increase the output of staple subsistence food crops or raise the productivity of tradable cash crops. There's a long history of debate on the benefits and costs of technological changes in these two settings. But, from an economic point of view, the implications are quite different, and the paper traces these out clearly.

In the food crop area, we expect to face inelastic local demands for output in agriculture. Some of these productivity gains will be transferred or passed through to the consumer—disproportionately to poor consumers rather than rich—but still to the consumers in the form of lower food prices. The agricultural sector will not capture in its profits much of the benefits of technical change. They will be shared very broadly and eventually, as he stress-

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es, this will require an exodus from the agricultural sector of labor and capital to other activities, perhaps outside of agriculture or, at least, in the production of other crops.

On the other hand, if the technical change increases the output of a cash crop, much of which is exported onto the world market, we assume demand for the output is more elastic in the world, relative to what is expected for a local subsistence crop. Then, the profits will be largely captured by the farm producing unit because output prices will not need to fall as factor productivity increases and local output increases. I would add, however, that because these tradable commodities, particularly in Africa, have been so readily controlled and taxed by the government before they were exported, this area of technical change may have received more than its efficient share of resources and investments in research and development.

Professor Schuh then emphasizes the reproducible skills of the population, as the critical factors raising labor productivity. But, he neglects one form of human capital—although it is very much implicit—it is that of labor mobility. I will return to that issue because I think in Africa it is a complex political/economic issue that should be discussed here.

Mr. Schuh then suggests that per capita income growth raises the demand for child quality and that such elements of quality as we can monitor—the most simple is schooling—appear to involve a trade-off for parents with their fertility. Richer people want more child quality—more schooling of their children—and this will reduce the number of children that they demand.

That is a widely observed empirical regularity. It has been emphasized in the work of Gary Becker. But, in the early work of Becker and in the work of household economists studying microeconomic data from household surveys, a somewhat more complex story emerges from our theory of household behavior. This is an unusual example where empirical and theoretical studies have converged to clarify the causes for this fundamental change in reproductive behavior associated with the demographic transition. It is not only the growth of income, it is the source of the income growth in the household that triggers the decline in child mortality and fertility. The household income that comes from the woman's productive capacities is central to this process, as was alluded to by Ed Schuh in his presentation. It is the woman's value of time in the labor market, which is enhanced by her education and her health and her access to credit, which predicts declines in child mortality and fertility and the slowing of population growth. This is the critical variable, which stands out in survey after survey in Africa, and in other parts of the world. The woman's education exerts the largest negative effect on child mortality and on fertility.

I would not portray the story quite as President Carter did, saying that development that results from these two changes must necessarily be to slow population growth. But, if this decline in child mortality is precipitated by increased woman's education, then decline in mortality tends to be associated with slower population growth. In other words, the decline of fertility outweighs the increase in child survival. Consequently, the source of income growth in economic development has marked implications for the rate of population growth.

Last week I was in Kuwait talking with labor economists. A problem in that country is that when income is generated from state-controlled natural resources (i.e., oil) that are redistributed to members of society, regardless of their work, the income does not necessarily increase the opportunity cost of children. Women are not encouraged to work in the labor force and if women become educated it does not necessarily sharply raise the value of their time in the home. Fertility is therefore continuing at a high level in Kuwait despite its wealth. Libya is another anomaly in any cross-country comparison, having much higher fertility than you would expect for its per capita income level.

The point is that human capital modifies the household allocation process by raising the opportunity price of the household's numbers of children, and this encourages further quality investments in children. Fertility is especially sensitive to changes in women's education relative to men's. Household income, when you can measure it reasonably well, is not always negatively associated with fertility and is often weakly related to child mortality. In Côte d'Ivoire, for example, when you hold constant for a mother's and father's education, income is not negatively associated with fertility. In Ghana, only in the urban areas do you see income negatively partially correlated with fertility. It is the education that we are providing women that is the strongest predictor of this demographic transition. This is an important modification to Professor Schuh's argument. As income rises, women's schooling rises, and that is what appears to lead to the fertility and mortality declines that we associate with a demographic transition. Africa is therefore the last continent in the world in which demographic vital rates have substantially declined from high mortality and high fertility to lower ones that are eventually associated with slower population growth.

Female education is *the* critical ingredient to this demographic transition that moves the household toward a more productive equilibrium in reproducing people and in investing in the human capital. For this reason, I am pleased with the results of the 1994 Cairo Conference on Population and Development. The population-family planning community has for several decades been disseminating a very important message, namely, that better birth control technology should be available to all of the world's people, including the disadvantaged and poor people. But, it is not sufficient to just extend the technology to slow population growth. The next step requires giving women economic opportunities, education, health, and labor-market opportunities to strengthen the private demands for birth control. And, only when those demands are present will it be cost effective to promote publicly the spread of birth control technologies to the poor. In agricultural extension, as in family-planning extension, successful programs are built around new beneficial technologies that, once they are understood, will be demanded widely in the population. Without household demands for this technology, supply provided through extension programs will have little effect on adoption.

Professor Schuh moves then to his conclusions and policy insights. They are all ones that I subscribe to. So let me turn to the one factor—migration—that I think he has somewhat neglected. I also think that when it comes to migration we can find areas of disagreement. One role of a discussant is to crystallize such areas of disagreement.

Labor mobility, across regions, across sectors, across industries and occupations, is a major investment activity contributing to what we call modern economic growth. It doesn't occur costlessly. People have to put their resources into movement and searching for a new match between their skills and a new job. Simon Kuznets, one of the first Nobel laureates in economics, observed this pattern in the 1950s in the United States and Western Europe—that modern economic growth is closely related to the extent of labor mobility in a society. Mobility has steadily increased in the United States, as documented each decade in the census. Americans would like to stay at home. We do not really want to move to a new location. But something about the modern economic growth process creates new poles of growth, new opportunities, new specializations. As we invest more in human capital, these investments appear to require of us increased mobility to reap the rewards of a more productive labor force, new capital, and changing technologies.

This mobility doesn't quite fit our usual image of human capital. Good health and longevity are "goods," we all want them. Education, most of us want, although there may be some residual feeling that Western-oriented education may displace too much of non-Western traditions. But when it comes to "mobility" it is not obviously a "good." It is something that is a vehicle for realizing greater productivity. It could even be seen as a cost to many standard cultural conventions of family and community. When we turn to the problem before us, that of encouraging agricultural development, it is essential to permit people to leave agriculture as productivity rises and demands for output are relatively price inelastic.

This is not a universally popular topic among agricultural economists! They do not want to eliminate their field of study. It is an unpopular topic for most politicians! They want to attract capital and new inputs and new projects into their political region, typically through subsidizing capital. Bring them the means for growth, but do not tell them that they have to export their people, for that is their political capital. Consequently, there is often no political constituency to help migration. I do not have to tell you, living in an urban growth center, it is very hard to be enthusiastic about welcoming the immigrants who come with apparently low levels of skill to live in shanty towns and create costs for urban residents who must pay the taxes for immigrant housing, social services, sanitation, education, and health. Nowhere in the world is there a natural confluence of political-economic forces to represent the interests of the society in promoting movement of people to where they find better working and consuming opportunities.

Many microeconomic studies in the last decade have shown that the economic returns to migration are very large. A dozen studies of wages of migrants in Latin America in the last 30 years show that the migrants catch up to the city dwellers within a few years, given their age and education. In the United States they catch up after 10 years if they come from abroad, given their education, sex, age, and other productive characteristics. I would suspect the same is true for internal migration within Africa, although we don't have enough data now to speak authoritatively.

Consequently, when I obtained access to the Côte d'Ivoire and Ghana living standards measurement surveys collected at the end of the 1980s, I looked at how wages differ for men and women by their migrant status. Holding constant for all of the information we know about their tribal group, their birthplace, their language, how old they are, the season and climate conditions of their locality, I found migration, or having moved out of your birthplace region, is associated with a roughly 50 percent higher wage for men or for women. In Côte d'Ivoire, the wage effect of migration is somewhat larger, 60 to 90 percent. In Ghana, which has experienced much slower growth in the decades preceding these surveys, migration is associated with wages being 30 to 45 percent higher.

Of course, there are many possible reasons why these migrants receive substantially higher wages. We all know migrants are better educated than those who stay behind. They tend to be more industrious. They are probably healthier than nonmigrants. Controls are then added to test these explanations for migrant differential productivity. We can hold constant for height, which is a key characteristic of childhood nutrition. These data show height is rising at 1 centimeter a decade across both the populations of Ghana and Côte d'Ivoire, and each centimeter in height is related to wages being 6 to 10 percent higher. Weight-for-height, another indicator of current adult health, is strongly associated with wages. Each unit increase in this body-mass index is associated with 6 to 10 percent higher wages, particularly in Ghana, which is a more malnourished population. Schooling exerts also significant effects on wages, with returns to schooling higher in Côte d'Ivoire than in Ghana. But these other forms of human capital, when they are held constant, do not greatly reduce the apparent payoff to migration. Migration still predicts 30 to 80 percent higher wage returns at all ages. Just moving once from where you were born, just getting to the next labor market, is associated with these enormous advances in wages. And migration is not associated with higher unemployment over the life cycle. Indeed migrants are on average reporting lower unemployment.

These data refer to only two countries. We need 10 or 15 studies before we are justified in drawing generalizations about Africa. Your experiences are with these terribly poor migrant communities in your own cities that do not appear to contain fully employed or productive workers. The same casual arguments were used in Latin America to block rural-urban migration several decades ago. The empirical evidence from censuses and surveys contradicted this casual empirical argument in Latin America. Often many of the individuals in those very poor, marginal communities had only recently arrived in the city and within 5 years they had moved into a middle-class urban community, to be replaced by more recent immigrants.

If there are interregional productivity gains to migration, economists should consider how to realize them with fewer social costs rather than cooperate in the design of measures that inhibit migration. There is much talk about how governments can keep rural people from going to the urban sector, and thereby resolve social problems and reduce infrastructure costs. We should reconsider such strategies and see if migration might not help to reduce income inequality while promoting growth. Does migration facilitate homogenization, politically and economically, in many countries and reduce ethnic enclaves? The countries of Africa often contain very diverse ethnic backgrounds—partly due the way colonial authorities drew national boundaries, with little regard for cultural and language groups. The creation of nation-states and the unequal opportunities of the growth process create pressures on people to move for economic gains, while traditional cultural pressures work to keep them at home with others of the same tribal group. If this movement of labor is resisted, many of the benefits of human capital formation that are beginning to accumulate in Africa will be lost. This is a major challenge for political leaders and economists.In conclusion, Professor Schuh's paper has pointed the way, I think, toward what we are attempting to achieve in human capital investments and modern technology. First we have to create an improved technology and then extend it to people so they can adopt it and use it efficiently. Very important, very neglected, is the nutrition and health area. Research based on anthropometric measures of health has justified our analysis of height and weight across samples as indicators of nutritional status and productivity. I was unconvinced 5 years ago, when I started studies of health, that these were satisfactory indicators of health human capital. But I have recently read studies that show we can accurately predict per capita GNP series in Italy, France, and other European countries throughout the 19th century and into the 20th century by just tracking the height of each birth cohort as it reaches maturity, allowing for the implicit biological lags.

That may not convince you that you want to dispense with the GNP accounts, but it does suggest that we can readily augment our measurement system and use these anthropometric indicators to evaluate the success of our long-term interventions in the health area.

Education and, I would argue, mobility are key ingredients for Africa in this period. But women's education is the critical factor for accelerating the pace of the demographic transition. If we have good information on women's height over the recent decades, women's height and nutritional status might also be trending upward in those populations where women are obtaining more schooling. These anthropometric variations should help to explain some of the gender productivity differences observed in Africa.

The gender gap in height is not likely to close substantially. The gender gap in body-mass-index is much smaller and may often favor women, at least in Côte d'Ivoire and Ghana.

The topic I hope you would discuss further is how African societies could facilitate the internal movement of people to narrow the regional wage gaps. I imagine that some of the barriers to mobility due to regionalism in Africa could be eroded, and possibly a more stable political environment would also be engendered. Interregional inequalities are not independent on ethnic groups. Your region may not realize the benefits from growth in your country, which may now be highly concentrated in certain urban areas, say in Abidjan or in Accra. You may feel left out if you were born in the north of Ghana or Côte d'Ivoire. Nor is it clear that growth will come to you in the future, if you are patient and wait at home. If you are going to become educated and realize the material benefits of education, you may have to move to these expanding areas. On the other hand, there are many subsidies sustaining those high wages in Accra or Abidjan that could possibly be removed and improve efficiency. In addition, these regional wage inequalities could be mitigated by the migration process itself. A challenge I put before you is to consider the evidence for suboptimal migration in Africa, and if that is confirmed, to consider what governments can do to foster more efficient levels of migration, while absorbing more of the social costs that this migration will impose on growing regions and helping in the adjustments required of the more slowly growing hinterlands.

Working Group Reports: Identifying Strategic Decisions

Each working group was asked to identify high-priority actions to accelerate the process of rural development and poverty reduction.

Group 1

There was a surprising consensus on what needs to be done to develop the rural economy. Among the major points were the necessity for Africans at every level to take ownership of the development process and the urgent need to develop marketing institutions and infrastructure at the national and regional level. It was accepted that while women are central to the development economy, there are structural impediments to their access to productive resources and assets. The challenge is to find ways to overcome those obstacles without upsetting the country's socio-cultural system. This will be particularly hard if impediments involve economic power asymmetries and imbalances in the households.

Government Commitment to Rural Development: Priority Decisions

- Substantially increase investments in the rural economy (the agricultural and nonagricultural sector) with emphasis on infrastructure, particularly roads.
- Significantly decentralize the decision making process to guarantee correct identification of needs and priorities and thus reduce response time to local development priorities and create a sense of ownership of the development process by the community. Insist on decentralization and flexibility by donor agencies to allow local offices a reasonable level of autonomy in their decision making.
- Strongly ascertain ownership and leadership in the development process; that is, it must be up to African governments, rather than donors, to decide on how, when, and where to spend resources. The critical implication of African ownership of the development process is the necessity to refuse funds from donors and lenders if the terms are inconsistent with the expressed priorities of the recipient country.
- The role played by women in African agriculture is so critical that no development efforts can have sustained and significant impact without their inclusion. At the same time they face a variety of obstacles to their participation in the development process. Governments must urgently identify socio-cultural barriers that hamper women's access to productive resources, including education, and they should work with communities and families to overcome those obstacles. Governments should not hesitate to legislate in order to overcome structural barriers that prevent women's access to and control of productive resources and assets and that limit their participation in development activities.
- African governments must, without delay, get the international community to redirect resources towards human capacity building. This means more attention must be paid to education and use of local human resources to do what is

currently done by expatriates in development activities.

Speeding up Rural Development: Priority Decisions

The most important component of the rural economy is the agricultural sector (crops and livestock) whose productivity is significantly affected by education and health care.

Agriculture must be the focus of rural development initiatives. Within the agricultural sector, the strengthening of agricultural research and extension as well as resource management must be the top priorities. It must be understood that increased use of inorganic fertilizer is critical to develop African agriculture. Ways must be found to make this input available at the right time, in the right place, at the right price, and in the right formulation.Women contribute a major share of agricultural output and dominate agricultural processing and marketing activities. They also produce most of the household goods such as nutrition, health, and human capital through their child-care activities. However, they face severe time constraints. It is important for governments to seek ways to alleviate this constraint through investments in household technology research and extension and by facilitating access to those labor-saving technologies. Yet labor savings come at a cost: the capital intensity of those technologies requires women to have access to credit.

The focus on increasing the agricultural production capacity alone could be self defeating if marketing is neglected. Thus, developing agriculture demands more investments in marketing infrastructure. In the short to medium term, governments should invest in physical infrastructure, particularly rural roads and storage. Usually, the extension services of most African countries have focused on production extension and given less attention to marketing education of farmers. Governments must correct this imbalance by finding mechanisms and resources to provide market information and to train extension agents in marketing extension. The initiatives on marketing must also include the removal of barriers to inter-regional trade in agricultural products, particularly among countries in the same economic integration schemes (such as ECOWAS, PTA, SADCC, East African Economic community).

Education must be the second important priority for developing the rural economy. Emphasis must be on primary education, expanding enrollments of girls, and retaining those already enrolled. This will require more teachers and more schools. To overcome some of the obstacles faced by girls, particularly distance to school and family economic losses originating from the girls' school attendance, countries may find it useful to experiment with education incentives. In these pilot projects, families would get some compensation for sending their female children to school. This may be one creative use of food aid to build human capital in the rural economy. Functional literacy programs could also be used to enhance women's human capital.

The third important set of investments in the rural economy is health care. Emphasis should be placed on primary and preventive health care, child immunization, malaria control, and AIDS education. Where effective, use of traditional health care practices (such as use of herbal medicine) should be encouraged and supported. There should be a greater use of midwives. Resources should also be allocated to more paramedical training.

In nonfarm activities, the primary objective must be to remove regulations that limit and discriminate against investments in the rural economy.

Financing Mechanisms

African governments must increase budget allocations to the rural economy. This allocation should reflect the contribution of this sector to the GNP.

To strengthen the sense of ownership of the development process and increase the probability of success of development initiatives, governments and communities must build financing partnerships. The contribution of the community may be made in kind or in its cash equivalent, e.g., the government may incur the expense of building a rural road while the communities assume the maintenance charges.

African governments should strive to maintain resources in the rural economy by removing policies that tax or discriminate against the rural sector—Fidele Ndayisenga, *rapporteur*

Group 2

We had five broad conclusions.

1. There is a whole set of activities that can be begun right now, even though in some cases the implementation might be over a period of time: government ownership, farmer ownership, stakeholder ownership, trust, and participation. There's no reason why governments should not take ownership of the importance of rural development. Government should in fact involve the farmers and rural communities in participatory activities to start planning rural development.

2. Extension of appropriate technology is close to a magic bullet. The challenge is not to look for more technology. The technology is available. The challenge is for various people in various places in rural areas and in various countries to put together the packages that are going to work for different environments in different countries under different circumstances. That really is an important, immediate activity and that would really have an impact.

Who is the extension directed at? It is directed at the major cultivators, the major producers, and women. In addition, there needs to be a supply of inputs—extension must be carried out with inputs. Clearly, that's an important factor that is probably not worth stressing too much. But, the next item speaks to that question of inputs. It is again a sort of complex of activities and it starts with efficient markets. In a number of countries such as Uganda and Tanzania, markets have been liberalized, but there are still some things that can be done to make markets more efficient, more liberal, more accessible to the rural poor. So that's the sine qua non, to have efficient markets.

But we also need efficient financial institutions. In some countries there is a long way to go before we have financial to provide credit for the rural poor. And these credit systems, we all agreed, should be efficient and effective and for small-scale producers. Also, the credit should be for marketing arrangements. Those people who buy things also need credit. It may be much easier at the outset to provide credit for those people who are involved in marketing, in other words, buying the crops and buying output, and providing inputs. And, related to that is the important issue of savings. There's no point in talking just about credit, financial institutions involve savings as well. It is a two-way street. So a mature financial institutional structure should have savings as well as credit. There should be incentives for those savings. And, again, that goes back to macroeconomic policy and interest rates.

3. The next complex of activities—information about markets, information about prices, but also information about options for rural development—is a broader issue, but there are many opportunities for learning from successes. There ought to be much more information about the successes and the options that are available for rural development. With the technological revolution that's taking place, it is possible for African countries to leapfrog technology stages that other countries have gone through. There are many opportunities for using electronic networks and sophisticated information systems relatively cheaply in the future. And there's no reason why rural development activity shouldn't take advantage of that.

4. It is important to have "rural friendly" public expenditures patterns. That is, there needs to be adequate allocations of public expenditures for rural areas—water supply, communications, and so forth. The issue for the government is making decisions about the appropriate allocation of public expenditures between rural and urban areas and also between poorer and not so poor areas. These are tough decisions, but they can be made in the short term to improve the prospects for rural development.

5. The population issue is a long-term concern. But there are some things that can be done in the short term to reduce the overall population growth: family planning programs that could be introduced, the education of girls, and improved child survival.—Jack van Holst Pellekaan, *rapporteur*

Group 3

Our group settled on five main issues.

1. *Research and extension.* There is a need to reform, revitalize, and rationalize research and extension for the generation and transfer of systems of technologies in agriculture and processing in the household.

2. *Education.* Governments should endorse compulsory basic or primary education. The focus on education of girls, functional education, vocational education, remains important. Also the government should provide measures that give adequate incentives to households, teachers, and other rural workers so that they can stay in the rural areas.

3. *Infrastructure* Governments and donors should put more priority on rural infrastructure, including clinics, schools, roads,

markets. Priorities should be determined by local or community participation. In addition, self-help efforts by local communities should be encouraged. There should also be a mechanism for continued maintenance of infrastructure because the maintenance aspect is often forgotten after the initial investment in infrastructure.

4. *Policy issues*. Government should address policy barriers that result in high transport and marketing costs. A corollary is that government should promote off-farm income-generating activities.

5. *Health*. There should be an effort to double access of households to clean water, sanitation, and other preventive health services.—Tareke Berhe, *rapporteur*

Group 4

The priorities established by the group were as follows:

1. The formation of private organizations, such as peasant associations or farmers' associations, should be encouraged. These organizations increase the capacity of men and women to take charge and to receive education, training, and information.

2. Reinforce the synergy between the government, the people, professional organizations, firms, companies, NGOs, and our partners in development through scale economies. Also each country in isolation does not have much power, but taken together regionally or subregionally, they become a real force capable of making changes.

3. Some people said that Africa failed to enter three important revolutions of the century: the genetic revolution, chemical revolution, and the mechanical revolution. In West Africa, hybrids are not in use, why? Why are soils in West Africa, with all of its phosphate mines, so poor in phosphates? To do better, we have to have more open access to the means of production. Similarly we need more access to technologies from other countries and other continents.

4. All income-producing activities in rural areas, not just agricultural activities, should be supported with improved access to credit and other means. There should be better access to markets internally and across borders. The emergence of small industry in rural areas should be encouraged.

5. Agreements should be made to reconvert debt to finance rural development and for the protection of the environment. If the debt is converted, performance tests should be applied to ensure that it has good results.—Marcel Galiba, *rapporteur*

Rural Development and Poverty Reduction: Summing Up

Edward V. K. Jaycox

My view is that there is a consensus. I don't think it can be exactly described yet. but it is clear that this group is focused primarily on production. We have come to the conclusion that if we don't get production, we don't get anything else. We don't get poverty reduction. We don't get strong institutions. We don't get women empowered. We don't get anything. A lot of these are chickens and eggs, of course. What comes first is an issue. But, production is the centerpiece, of everything we've talked about. That's a breakthrough, in my view. For years we've been talking about how to spend the money that we haven't yet earned. We need to get out there and get that production up, and then we're going to have the wherewithal to deal with these problems.

Agricultural Research and Extension

The other thing that has become very clear is that focusing on production in the rural areas primarily means agriculture, and we've identified extension and research as essential. Extension is the first order of business because there is quite a bit of technology available, but research is necessary to make that a sustainable process, because once you use today's technology, you'll still be poor. That is, you double the per capita income on the farm, and you're still poor. We must go much further. That means that research has to continue to generate more and more productive technology at every stage.

Women Farmers

Another thing we've identified is that the cultivators out there, the ones that have to use this technology, to adapt it and apply it, are by and large women. The reason food production has been left to women is it is unproductive. Indeed, once it becomes more productive, there's going to be a better balance in cultivators. There will be probably a lot more men on the farms because this will be a major source of family income, instead of a sideline, and a survival technique. So, all of this is in transition. This is a very important moment. But, we have to recognize, and I think we have, that women are a key element in this that has been generally neglected.

Public Investment

I think we've agreed that the budget for these government expenditures of has to shift—and this must come before private investment will move; it must come before private savings will be in fact applied. I think we've agreed that there has to be an end to the urban bias. As much as possible, we have to shift the bias toward the rural areas where a major part of the GNP is generated and where the poverty can be most effectively eliminated through success. This shift covers issues

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like health, education, and marketing infrastructure. These require public expenditure and management to ensure that the underpinnings of the rural economy are strengthened. And you can monitor that. There are still some governments that don't publish their budgets, but I think the public will demand that the budgets be published. There should be an out-turn at the end of the year that shows, in fact, how the money was spent. That would be tremendously important information for all concerned.

Education and Population

In the field of education we've identified that girls' education is part of the larger picture of empowering women and slowing the rate of population growth. The issue in Africa is not the size of the population. We all know that the population is small, but it is growing too fast. We can't get ahead of the problem. Basically, it is a 100-year proposition, about whether Africa fills up with people 100 years earlier than it would otherwise. And that 100 years is crucial. If you don't generate the surpluses, the educated people, the jobs, and so forth in that 100 years, because you have too many people growing too fast, then everybody will be poor. I think that inevitability has sunk home in this meeting. This is a very sensitive issue, and how to mobilize this activity, directly and indirectly, has to be researched.

Ownership

The fundamental thing is that we need African strategies. They have to be national. They have to be yours, and you have to insist that they be followed. We cannot have donors coming to a country with their own ideas, capturing major chunks of existing capacity—managers, policy people, analysts, local currency budgets, without conforming with the political decision on the strategies of the country. And, to the extent that these strategies don't exist, you've just created a vacuum that anybody can come along and do what they want. And that's what's happened in many countries for a long time. And I think the results are very clear.

I realize I may have given the impression that everything was going wrong in Africa. I don't believe that for a minute. I am worried about rural development because it still is not getting the attention it should. But my view is that Africa is now making two extremely important transitions simultaneously. The amount of courage and political guts that have been put on the line in Africa to reform the economy and make a political transition simultaneously is remarkable. I know the leadership is not all angels. There's a new spirit in Africa. My view is that if you don't capture this now, you will regret it. It is there. It is tangible. I think you're going to have plenty of support for this from the outside, and the quality of that support can be greatly improved if the governments do their job properly. So, I'm bullish about Africa.

Achieving a Green Revolution in Africa

Yohei Sasakawa

Four years ago when we held the first workshop at Airlie House, the SG 2000 agricultural program included only five countries—Ghana, Tanzania, Benin, Togo, and Nigeria. Today, the number of SG 2000 project countries has grown to 12, with the addition of Ethiopia, Mozambique, Uganda, Guinea, Burkina Faso, Mali, and Eritrea. Most of these countries are represented here by delegations representing their agriculture, rural development, and finance ministries. Also present are leaders from major bilateral and multilateral development assistance agencies.

I think we can proudly say that through the discussions here, a full range of African opinions have been aired and advanced on major issues of poverty reduction. Looking back on the candid discussions that have taken place, five points struck me as being most important.

1. The need has been amply demonstrated for a broadly focused effort to overcome rural poverty. Most essential, however, will be the need for agriculture improvement and modernization, especially of the smallholder sector. If economic growth is to be hastened and the natural resource base protected in sub-Saharan Africa, clearly the diffusion of modern crop production technologies must be at the center of agricultural growth strategies.

2. There is a growing consensus in the fundamental effectiveness of Dr. Borlaug's crop enhancement methodology. Working over the past 10 years through ministries of agriculture and with more than 600,000 small-scale farmers, we have witnessed that the resources and technology do exist in Africa to double and even triple food crop yields. We know that small-scale farmers are readily willing to take up this higher yield technology. We at SG 2000 feel a deep responsibility to advance the interest of these farmers and to work in their behalf.

3. The industrialized nations, through their bilateral programs and the multilateral agencies they support, must devise more effective ways to provide the finances needed to meet Africa's development challenge. Without alleviation of the continent's heavy debt burden, I do not see how Africa will be able to reverse its present economic and environmental decline. Those of us in economically privileged countries must give serious consideration to schemes for relieving the debt burden of African countries.

Yohei Sasakawa *is president of the Nippon Foundation, Tokyo.*

4. To reduce poverty, improve the people's well-being, and protect the environment, the most important determinant will be a strong commitment by African leaders and decision makers to give top priority to agriculture and rural development strategies.

5. International cooperation will be essential in the campaign to overcome poverty in Africa. At this meeting 4 years ago, I made an appeal to all of the organizations present to join forces in an effort to accelerate agricultural improvement. Out of that call emerged our collaboration with the World Bank. Working together, we can generate a benefit far greater than the sum of our independent efforts. Creating this sort of partnership to promote national capacity building has been one of the most rewarding aspects of our work in this program over these 10 years. I look forward to seeing cooperation with even more organizations in the future. When I look at the tasks before us, I sometimes feel frustrated with our limited progress to date and impatient to forge ahead. This is not to discount the success we have scored. Ghana, for example, has doubled its maize production over the past 10 years and has increased its overall agricultural yield by more than 30 percent.

During this meeting we have had a very encouraging report that dramatic changes are taking place in cereal production in Ethiopia and that food subsistence is now in sight. I know that we should not be overly optimistic until we see the program results and prove their sustainability. The international community should make every effort to help Ethiopians sustain these production changes and take care not to do anything that might undermine its effort.

This year is a special one for the Nippon Foundation because it marks the tenth anniversary since we started the SG 2000 program. I am pleased to report that the Nippon Foundation is continuing to work for hunger and poverty alleviation through the SG 2000 program. We are thrilled that our small contribution is helping to make dramatic improvements in many places in Africa. I believe this is what my father envisioned when he established the SG 2000 program, together with Dr. Borlaug and President Carter.

In closing, may I repeat that achieving a green revolution in Africa is squarely on the shoulders of African leaders and specialists. The farmers themselves have demonstrated that they are able, willing, and eager to modernize their food production systems. I am both honored and proud the Nippon Foundation can be a participant in your collective effort and be able to help in realizing the goal of food security in Africa. I encourage you all in your important work and thank you again for this opportunity to be a part of it.

Linking Technology and Policy

Norman Borlaug

I would like to give you a feel for our philosophy in the SG 2000 program and what we think the implications are for Africa for the next 10 years. But, I hope it happens in 5 years because at my 82 years of age, I won't be here in 10 years, and I want to see it happen.

The Genesis of SG 2000

First, let me give a brief insight on how this unfolded. In 1984, after the drought and the civil strife in East Africa, Ryoichi Sasakawa called me at Texas A&M University where I was teaching for one semester. He said, "I've given a large sum of money to the United Nations organizations for emergency relief for the starving peoples of East Africa. But, I want to know from you, why something isn't being done to change production in those areas of Africa, south of the Sahara, as happened when you moved the Mexican wheat technology into India and Pakistan in the 1960s." I said, "I'm sorry, Mr. Sasakawa, but I know nothing about agriculture south of the Sahara. I've retired. I'm too old to start now." And I hung up the receiver feeling sad that was the situation. The next morning he called back and he told me, "I'm 15 years older than you are. We should have started yesterday, so let's start tomorrow."

Norman Borlaug *is president of the Sasakawa Africa Association.*

The first workshop was held in Geneva, Switzerland, thanks to Jean Freymond. It was a seminar to look at what was known about Africa south of the Sahara, but reflecting on what had happened to change South Asian food production in the 1960s. So, Bob Havener, as director of CIMMYT, happened to be present, also the director of ICRISAT. I put my 2 cents into the mix as to what I thought were the important ingredients that changed agricultural production in India and Pakistan, which spread out from there with both wheat and rice into many South Asian and East Asian countries and into parts of Latin America. At the end, the late Mr. Sasakawa said he would finance a small program to see what we could do in 5 years' time.

Extension as a Focus

So, in the early days of 1985 as Mr. Sasakawa, President Carter, and I explored what countries to visit, I was thinking research, as was everyone else. But we visited five countries and, to my amazement, we found that a lot of information had been generated by the national research programs, sometimes with the assistance of the international agricultural research institutes under the CGIAR. But, nothing was happening. It wasn't moving out to the farms. I had seen that before in many other places.

So, instead of starting a research program, with our modest organizational structure, we decided to work in extension. And, as you people in government know, the linkages between higher education, between the research institutions and the research scientists, and between the extension organization and the farmer are weak. As a matter of fact, they do not exist in many places. The universities and the research scientists are much better educated; the extension people generally have certificates or diplomas. There's no communication. If there's no communication for new technology between them, how do you expect satisfactory communication with the farmer? And that's what we found, and that's what we've been trying to change.

It so happens that SG 2000 is a very small group. The staff all came out of research. They can communicate with the researchers. They're respected by the researchers of your various countries, but they can also communicate with the extension service. Our whole philosophy is to build up the effectiveness of the extension services. This has been difficult because of this no man's land of understanding and training between the two. But, we have it going.

Scarce Land

Let me point out some of the obstacles along the way and, also, some of the things that bear on whether these improved technologies can be put into practice to change food production. Let me remind you that the world is running out of the original way of solving food problems to meet growing population: most of the good land in most countries has already been cultivated. That means that in the short term, at least, we will have to produce more of the increase in food production by raising yield or productivity on the land already under cultivation or else move into areas that are very fragile, where we will have all kinds of complications with erosion and destruction of wildlife habitats and other natural resources that we would like preserve for future generations.

There are, however, a few regions where research is correcting vast tracts of land in what we call the *cerrado* in South America. These are areas where the soils are completely leached and very low productivity, growing unpalatable grasses and brushy and scrubby plants, worthless despite the fact that they are in heavy rainfall areas. Who did this? They've never been farmed. Mother Nature did it. She parked these tectonic plates under areas where there has been heavy rainfall for millions of years. It has leached out the nutrients. But, in the last 15 years, especially in Brazil, we found how to make them productive through liming; restoration of all of the nutrients that are limiting; minimum tillage, leaving the organic matter on the surface to reduce runoff, to increase percolation, and to increase organic matter; and, developing varieties that are tolerant to the soluble aluminum in the subsoil. Although there are big areas now coming into production in Brazil, there are some of these same soils in the Orinoco drainage of Columbia and Venezuela, southeast China, and Southeast Asia, especially in Indonesia.

Demonstrating Improved Technology

But, in most countries, we do not have that situation. So, we must take technology and put it together. Take the case of maize. There are good varieties available. What is needed is to restore the fertility of different kinds of soils in different countries. But, restore soil fertility and you will have tremendous problems with competition from weeds. You have to put that whole package together, and we need a few integrators who understand, from the farmer's vantage point, all of these different disciplines, and how to fit them together. We have many specialists in all of these disciplines in the world. We need them, but we also need some integrators, and they are very rare. We aren't training them. We should be able to identify those that have that broad interest and broad curiosity early in those careers.

Then, you have to take this package of practices. You have to demonstrate and find out what the potential is of that package of practices, properly applied, to increase yield and productivity under the various soil and climatic conditions of the country in which you are working. And this has to be done in a big enough plot. I'm not tied to any super area, but I do not want a plot of 3 x 5 meters, where you measure in grams and you try to translate to the small farmer who doesn't know what a gram is. The plot has to be large enough so that he can see yields in sacks. I do not care if the plot is a tenth of a hectare or if it is a quarter of a hectare, but it has to be a unit that he can understand.

Finally, all of this has to be tied to economic policy that permits that technology to be adopted by the farmer, and that whole package has to be economically viable, if it is going to go. If it cannot increase the yield on low productivity land by more than 10 percent, forget about it, send it back to the research scientist and tell him to get to work and produce some technology that is economically valuable.

My good friend Yohei Sasakawa has mentioned that hundreds of thousands of plots have been put out, many of them with maize, but also with sorghum, a few with rice and cassava, and with wheat in the high country.

The plots introduce farmers to new technology and the yields that are possible. But before that can be adopted, we have to have the availability at the right time of the production inputs. That means the high-yielding varieties of seed, which are available on your experiment stations. Very often they are not multiplied. And in the same way, fertilizer to restore soil fertility is needed. Remember that fertilizer—irrespective of whether it is organic or so-called synthetic—is like food for children or adults. Fertilizer is food for plants. It is that simple. But somehow, especially in the affluent nations, we have to re-educate the urban public, which is 98 percent of the total public, about the complexities of agriculture. It looks so simple. And, therein, lies one of the problems. If it is that complicated in the USA or in western European countries, then why should we be surprised that it seems complicated in an African country.

Sustaining Greater Food Output

When we see those factors put together,

there's no doubt that there's one tremendous potential for food production south of the Sahara. If we put technology together, as we have already demonstrated in many cases, there's more research in the pipelines coming out. It has to have stimulation from your own national agricultural research people to find the modifications to fit it into your own climate and soil. But there are good international connections that did not exist before the CGIAR institutes came into being.

When I started in international agriculture 52 years ago, there was no previous program. We had to build it. And from that first Mexican government-Rockefeller Foundation program came the spin-off of the international institutes and the linkages with FAO, which moved the green revolution in wheat production into South Asia when millions were starving.

I encounter the same enthusiasm among farmers in the African countries where we have worked that I found in India, in Pakistan, in China, in Latin American countries. There's no difference. I'm convinced that there's a tremendous potential for food production, but you can't eat potential! It is not digestible. And you can't eat paper plans. Make plans, yes, in a general way, but they have to be flexible. You move up to what you think is a good plan and suddenly the door opens in another direction and you had better be flexible follow that ray of light, rather than hit your head on a door that does not open. And that depends on the leadership and the creativity and the imagination of those who are leading your programs.

And, finally, the world is not being poisoned out of existence. The world is living a longer, better life than ever before, including those privileged nations that are doing all this smog-raising about the toxicity of agricultural chemicals. The greatest confusion that comes there is because of the sensitivities of analytical procedures. When I was a young agricultural scientist, if we could measure one part per 250,000 that was good analytical chemistry. Now, it is a fraction of a part per billion or a part per trillion. Foods that are eaten regularly, like those nice little mushrooms that are very often eaten in the gravy with beef, often include carcinogens. But, they are present at such low dosages that they apparently do us no damage. But, you would think we are all being poisoned out of existence. It just isn't so. Any place where there are decent records, the population, in general, is living longer than ever before. But we have lots of confusion in the ether waves of communication.

The Right Technology in the Right Place

Remember also, from my point of view, high-yield technology should be applied on the soils and in the climate that are well-suited for agriculture, leaving the more fragile ecological systems for other purposes: for grazing, for forestry, for watershed production, indirect uses. I would like to cite a few cases to illustrate where that has been done, because the world forgets.

In 1940 the total production of the 17 most important food, feed, and fiber crops grown in the USA was 252 million tonnes. By 1980, that had gone up to 600 million tonnes on 19 million fewer hectares. Had they tried to produce those 600 million tonnes with the technology of 1940, it would have required 177 million hectares more land of the same quality. The U.S. did not have it. In attempting to do that, they would have had to cut down 65 percent of all the forest or plow up 73 percent of all of the pasture and rangeland. Then what would have been the effect on the environment from an erosional standpoint? What would have happened to the destruction of wildlife? What would have happened to flood control? What would have happened to opportunities for outdoor recreation? Yet, we have a vociferous anti-science and anti-technology minority groups that get the air and the big lens of television. Therein lies one of the problems that we all have to continue to confront if we are going to prevent misinformation from disorganizing all of our programs on food and agricultural production.

I should mention the technology that has been used in India to produce all of the cereals. Critics in my own country said, "This guy Borlaug is a nut to think he's going over there in India and try to do something. You have to let that population sink by starvation until it comes in balance with the ability of the world to produce food." But look at what happened. India became self-sufficient in wheat in 1972 and rice and other cereals in 1975, and they're still self-sufficient, despite the fact that the population has doubled since then. Had they tried to achieve the production of this past year with the technology of that previous time, they would have had to cultivate twice the area of the same quality. They did not have it.

China, with its great production jump, would have had to cultivate three times the area. So you see, high-yield technology, applied in ecosystems that are suitable for agriculture, saves other land for other purposes.

Then Ghana: this is one case that I'm really proud of. And I have to live about 3 more years to see this because here SG 2000 picked high-protein quality maize out of the garbage can. This is a kind of maize that has much higher nutritional value. It was abandoned about 9 years ago, even after the research scientists had shown that there need be no difference in yield between the best hybrids or open-pollinated varieties of normal maize, and its high nutritive value had been demonstrated. Children dying from kwashiorkor recovered rapidly if they were fed gruel of this type of maize. We took the stuff that was in storage and put it in production in Ghana. It covers at least 25 percent of the total maize area, according to Wayne Haag, who is very conservative on those estimates. I say it probably covers 40 percent of the maize area in Ghana for this next cycle. And the implications for child nutrition, for human nutrition, are very great. This kind of maize is now going into large-scale production in Brazil, in the northern China, and South Africa. It will soon spread to other countries in Africa, which will be a big step forward on something that was discarded.

Prospect for Africa

In closing, let me say this. Africa, south of the Sahara, has a tremendous food production potential. It has to be put together. You governments leaders each have your own problems that are most urgent on different crops. But there's information and technology available, in most cases, to help greatly change that production picture. But the technology alone will not make these changes. It has to be married to economic policy, availability of inputs, the credit, the pricing. If the market functions, good and well, or if it is choking because of government regulations, you have to remove them so that the economic part of this picture can come into bearing. And, on certain things, this has to be done by policy. I've been involved in food production all of my life, but I've found that plants and animals are apolitical. We have to learn to produce more food, but the wheat plant or the rice plant or that cow does not know that product should be distributed equitably. That's got to be done by policy makers, not by agricultural scientists.

So, a few people can make a big difference. I want all of you leaders from African countries to help install a will to win in all of your research scientists and your extension people and, also, in your academic universities so that they come down from cloud nine once in a while and step on the firm earth where the decisions are made to produce the food that will keep your population well fed.

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Accelerating Rural Development in Africa: Forging a Political Commitment to Break the Cycle of Poverty, Airlie House, Airlie, Virginia, September 22–24, 1996.

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