
Chapter 6

Issues for the African Governments

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Technology development, technology transfer, and technical assistance each have an important function to perform if food production in Africa is to be increased. The primary responsibility for improving food production, however, lies with the African governments themselves. What is needed is a continuing, active commitment to food production—an ability to translate rhetoric into action.

This chapter examines the many, sometimes complicated, issues for which the African governments themselves are responsible. One critical issue facing African governments is their inadequate institutional foundation, which makes it difficult to plan and manage far-reaching development strategies. African governments also face increasing pressure to reform economic policies. An issue often neglected in the face of more visible or immediate problems is the status of the natural resource base; a firm commitment to sustain their natural resources is essential to long-term agricultural development in Africa.

Issue 15: The commitment of African governments to sustaining the natural resource base is critical to long-term agricultural development.

Preliminary Findings

- Research on soil erosion and conservation in Africa is weak or non-existent. Few countries have conservation programs capable of dealing with the magnitude of the problems they are facing.
- Conflicts exist at the national level between short-term objectives of meeting immediate needs and long-term objectives of maintaining natural resources.
- The combination of increased population pressure on the land and the degree of land degradation that continues to occur in many parts of Africa suggest that the resource base may no longer be able to support a continuation of many traditional agricultural practices.

- An urgent need exists in many countries to reduce the rate of land degradation, reclaim land already degraded, and introduce or adapt production methods that fit the constraints of the natural resource base.
- In examining strategies for reducing land degradation, an integrated approach should be taken that looks at the entire production system.
- For conservation programs to be effective, support and involvement are needed from the rural population. It is unlikely that simply legislating programs will work.
- Problems of environmental degradation in Africa are quite different from those in industrialized countries. In Africa, environmental problems stem predominantly from poverty. Development and industrialization are perceived as cures for, rather than causes of, environmental degradation.
- Environmental awareness by African governments is a relatively recent phenomenon and, unlike in most developed countries, it has been stimulated from outside the country. There is some suspicion and apprehension by many African governments that outside emphasis on environmental issues represents efforts to stem industrial development in Africa.

Discussion

The magnitude of problems facing most countries in sub-Saharan Africa is enormous. These problems are due not only to food shortages but also are a result of economic woes resulting from stagnant economic growth and an inability to generate adequate foreign exchange. In addition, several countries are facing civil strife or are engaged in war. In light of the immediacy of these problems, it is understandable why countries have been unable or reluctant to address the longer term questions of degradation of their natural resources.

Compounding the problem is the difficulty of the task at hand. Hudson (1983) takes the perspective of relating the problems facing Third World countries' efforts at soil conservation to those in the United States:

If you think you have problems in making soil conservation work in the United States, spare the thought for countries in the Third World, where the problems are much worse and the difficulties of applying solutions are much greater. [If] soil conservation cannot be made to work effectively in the United States, with all the advantages of research, extension, and conservation services, plus wealthy, educated farmers on good land with gentle climates—if with all these benefits conservation is not successful—then what hope is there for struggling countries that have few, if none, of these advantages.

Land degradation is caused by a variety of often interrelated processes: soil erosion, deforestation, overgrazing, waterlogging and salinization, damage by sedimentation, inefficient cultivation practices, shortened fallow periods, and spreading deserts (McPherson, 1984). In terms of its impact on Africa's agriculture, the implications are alarming. Estimates suggest that with the current rate of soil loss, Africa could experience a decline in its potential rain-fed crop production of about 15 percent during the next two decades (McPherson, 1984).

The problems stem largely from the poor quality of African soils. The continent did not experience the glaciation that created the more robust soils in other continents. In general, African soils tend to be highly weathered, with a low humus content (which is important for providing nutrients and retaining moisture) and are very susceptible to damaging processes such as erosion and leaching (Lofchie and Commins, 1984). Some soils that are rich in nutrients and capable of supporting relatively intensive agriculture do exist in the region, however, such as the volcanic soils of the Kenyan Highlands.

Ecological variability (fig. 10) presents problems in itself as it adds complexity to the task of formulating "environmentally conscious agricultural planning" (Lofchie and Commins, 1984). Adding further complexity is the variability of

social and cultural factors that play a large role in land use patterns.

In formulating strategies to combat land degradation, it is important to look at the full array of human activity that contributes to the problem in a given region. The diversity and interrelationships of these anthropogenic modifications of the environment were examined for the West African Sahel (National Research Council, 1984). Nine major activities were defined that contributed to the decline in the region's ability to support human populations: bush fires, trans-Saharan trade, site preferences for settlements, gum arabic trade, agricultural expansion, proliferation of cattle, introduction of advanced firearms, development of modern transportation networks, and urbanization.

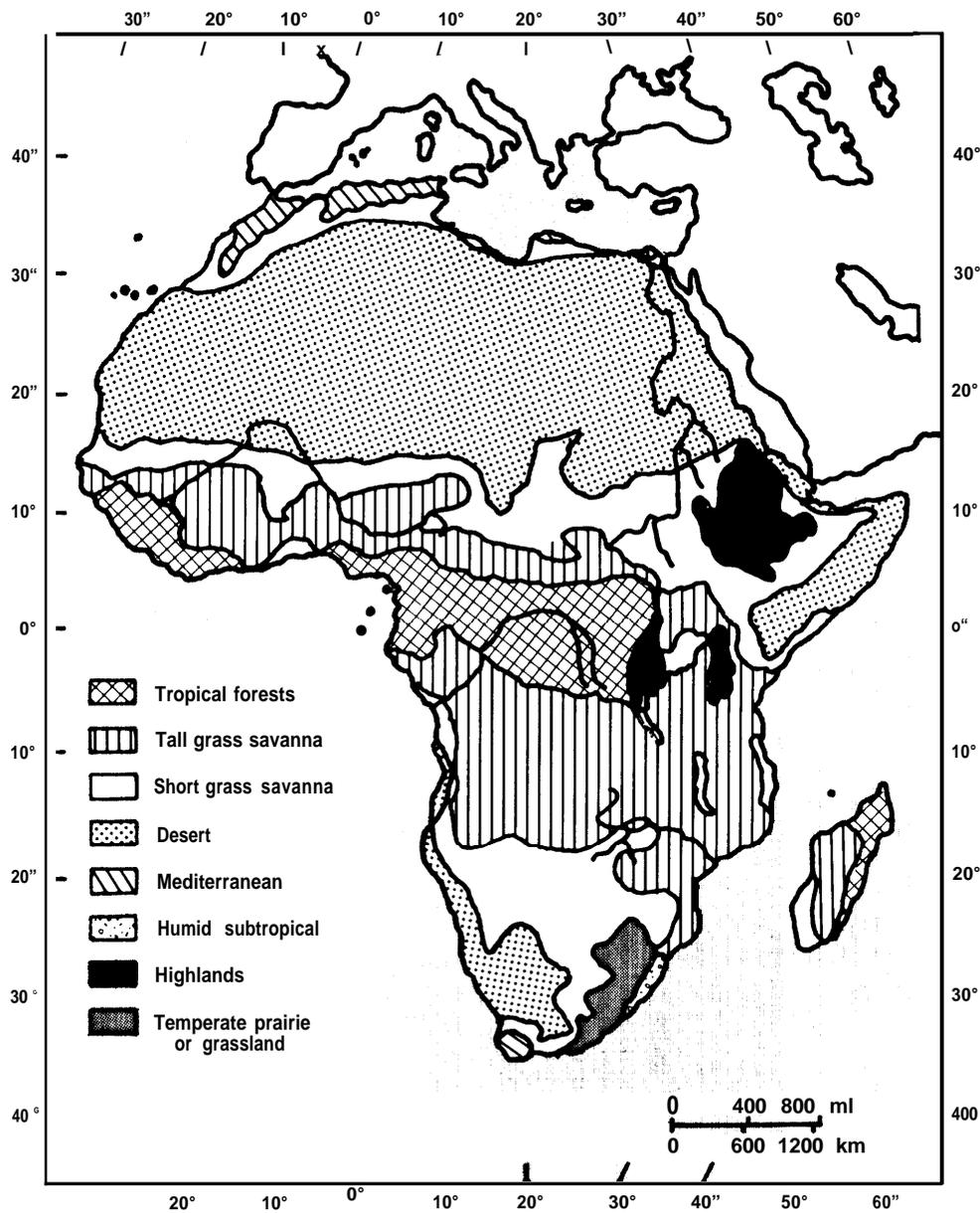
Most tropical forests in Africa also are severely threatened as a result of stress on the system. In Ivory Coast, for instance, timber cutting for export has resulted in a shrinking of the forest to one-third of its size only 25 years ago (Lofchie and Commins, 1984).

Most likely peasant farmers and pastoralists are aware that some of their activities damage their resources. But few alternatives exist because they are striving to meet the most basic needs (Hudson, 1983). This is particularly true regarding subsistence producers faced with the need to move into marginal lands (see Box D). The responsibility falls on the governments to address the problem.

In describing the solutions needed for one form of environmental degradation, Erik Eckholm wrote that "desertification is seldom a technical problem that can be solved with an injection of knowledge and money alone. It is a socio-economic and developmental problem linked to basic patterns of national life . . . (solutions) require difficult political, cultural and bureaucratic reform" (Cross, 1983). It is unlikely, however, that simply legislating programs of land use would be effective. To succeed, conservation efforts must have support "from below," as they will have to do the work. Full involvement of the rural sector is required (Hudson, 1983).

Research on soil erosion and conservation is weak or nonexistent in Africa. Some basic theory

Figure 10.— Ecological Areas of Africa



SOURCE Adapted from P. O'Meara and P. Martin (eds.), *Africa*, Indiana University Press, In: E. F. Moran (ed.), "Changing Agricultural Systems in Africa," *Studies in Third World Societies*, No. 8, July 1979.

can be applied generally but site specific data is required. Some regions can make use of international or national research centers, but many cannot. In addition, national research organizations have difficulty obtaining information. There are a limited number of experienced soil conservation

scientists, since this is not a priority field in most African countries (Hudson, 1983).

Fundamental differences exist in how environmental problems are viewed in Africa and in developed countries. In Africa, environmental prob-

Box D.—How Much Land, How Many People?

Africa is often portrayed as an underpopulated region with vast areas of unused land. It is true that its average population density is only about one-fifth of Asia's, and that its traditional farming practices in most of Africa's poor countries are limiting growth of food in the face of limited food production potential. This is one of the main findings of the FAO's recently completed project, *Land Resources for the Future*.

Of course, the goal of self-sufficiency in food production cannot be recommended for all countries. But those that do not manage it must depend on foreign sources of assistance to import food (or face the prospect of continuing dependence on food aid or rationing of staple foods). For many African countries, nonagricultural exports are unlikely to provide a viable long-term source of foreign exchange.

The Food and Agriculture Organization (FAO) compared potential population-carrying capacities—determined by soil and climatic conditions and levels of farm productivity—to actual and projected populations. The calculations for Africa as a whole confirm the common view that the continent is underpopulated (i.e., no land is available to produce food for the population and no conservation measures are needed). There is enough land to allow food production for a population 2.7 times larger than the actual population in 1975. When the figures are calculated by country, however, a much more complex picture emerges.

Of 40 sub-Saharan countries (excluding Djibouti and the high-altitude regions), 14 do not have enough land—assuming reasonable farm productivity—to support their 1975 populations as large as those already reached in 1975. These countries are: Benin, Botswana, Kenya, Lesotho, Malawi, Mauritania, Namibia, Niger, Nigeria, Sierra Leone, Somalia, and Zambia. As a group, they account for one-third of the total area of sub-Saharan Africa but only one-fifth of its 1975 population.

In some areas of these countries—parts of Kenya, Botswana, Lesotho, and much of Rwanda and Burundi—higher levels of farm productivity are being achieved. But these countries will face increasing difficulties in the future. In some of the smaller, landlocked countries such as Kenya and Lesotho, the pressure of population growth has led to more intensive farming methods based on higher inputs of fertilizer. But the remoteness of the countries and their areas make it expensive to use such inputs. In addition, they also limit agricultural and nonagricultural export opportunities and that limits their economic level. Low rainfall and remoteness also create considerable problems for Somalia, Mauritania, and Niger.

Nevertheless, there are vast areas of unused land in sub-Saharan Africa. According to the FAO study, the Sahel region of Africa (Nigeria is capable of supporting population growth of 100 percent, and the use of land in the case of Gabon, the multiple reaches almost 100 percent). The abundant lands of sub-Saharan Africa occupy about 30 percent of the region's land but support only one-fifth of its population.

As populations increase in the sub-Saharan countries of sub-Saharan Africa, the pressure for people to migrate to land-abundant countries will mount, particularly where they share a common border. Migration already brings mutual benefits to countries such as the Ivory Coast and Upper Volta. As pointed out in chapter 5 (World Bank, *World Development Report, 1984*), however, the opportunities for accommodating population growth through international migration do have limits. Political and social factors introduce uncertainty even where economic benefits could be great. The recent expulsion of Ghanaians from Nigeria provides an example.

Throughout Africa, traditional methods of farming require more land per capita than in regions such as Asia, where irrigation and double-cropping are more common. To avoid a fall in agricultural output per worker, land-scarce countries will require new technologies, fertilizers, improved seeds, and different farming techniques—supported by pricing policies to encourage production. But such mea-

ures alone might not be enough. According to FAO's calculations, seven sub-Saharan countries-Burundi, Kenya, Lesotho, Mauritania, Niger, Rwanda, and Somalia-would not achieve self-sufficiency in food in the year 2000 (when their combined population is expected to reach about 80 million) even if their agricultural techniques were to match those now found on commercial farms in Asia and Latin America.

SOURCE: World Bank, *World Development Report* (New York: Oxford University Press, July 1984), Box 8.4, pp. 164-165, appears with permission.



blems are predominantly related to poverty. In developed countries environmental problems are often related to industrialization. In Africa, therefore, development and industrialization are seen as cures, rather than causes, of environmental problems (Howard-Clinton, 1984).

A further problem exists in how certain African governments perceive developed countries' em-

phasis on African environmental problems. Some African governments view this concern as a means of retarding African industrialization. Howard-Clinton (1984) sees this related to the evolution of environmental awareness among African governments. Unlike the experience of most developed countries, concerns over environmental issues were addressed to governments from outside their borders (many starting with 1972, U.N. Con-

ference on the Human Environment in Stockholm), rather than by national scientists or environmentalists and the general public (Howard-Clinton, 1984). It is in this North-South context that this apprehension exists.

In examining the benefits of conservation efforts, a long time-frame is required. This presents serious problems for both African governments and African farmers and pastoralists.

. . . [T]he managers of . . . national land resources are also . . . political leaders. Their time scale seldom extends beyond the date of the next election. On the whole, they are not interested in long-term conservation. The farmer's [and herder's] economic cycle is even shorter. [They are] probably working on cash flows over 12 months, so it is unreasonable to expect [them] to pay now for preserving the land for posterity. That is a luxury [they] cannot afford (Hudson, 1983).

In examining who should pay for conservation programs, in wealthier countries it makes sense to have this cost borne by those who use or degrade resources. In developing countries, however, the poor farmers and herders simply cannot afford this; therefore, the burden falls on the government. A financial commitment of this level is a major undertaking for any government. United Nations figures suggest that to rehabilitate all damaged irrigated land, half the affected rangelands, and 70 percent of rain-fed farmland over the next 20 years would cost \$48 billion (Cross, 1983).

Some encouraging signs exist that some governments, supported by the rural sector, are taking action. Most notable is Kenya, which mobilized its national institution "Harambee" (meaning "self-help") and, with strong support from President Daniel Arap Moi, has developed a major soil conservation program. In addition, in 1982, FAO published a "world soil charter" as a means of encouraging government support for soil conservation efforts. Without such efforts, the charter predicts, productive capacity of land could decrease 20 percent by the end of the century (Cross, 1983).

While it is apparent that successful efforts to reduce land degradation will require firm commitments by national governments, there are

ways U.S. assistance could be effective. One is obviously through financial support, such as through World Bank conservation projects. In addition, the United States could take better account of the particular environmental constraints in assisting African governments plan agricultural development strategies. "The relationship between environmental deterioration and agricultural stagnation is still too often ignored in the formulation of strategies" (Lofchie and Commins, 1984). The United States could also assist African governments in compiling an inventory of resources and assist in the development of baseline data on resource degradation in order to identify areas most seriously affected.

An integrated approach to solving land degradation, and development problems in general, should be taken. There is a "need to look at the entire production system and to understand interrelationships between people and such components as food crops, livestock and feed supplies, trees, soil fertility, water quality and quantity, and housing supplies" (McPherson, 1984). Recent research efforts show promising results in addressing certain aspects of land degradation through strategies using an integration of crops, animals, and trees (Brumby, 1984).

Issue 16: Institutional and human resource development in Africa is inadequate, thus making improved indigenous management systems critical.

Preliminary Findings

- Institutions, especially those engaged in research and training, are less developed in Africa than in Latin America or Asia.
- Some government institutions face major problems trying to coordinate the large amounts of project aid supplied by many donors.
- Proliferation of donor projects allows little institutional continuity; few incentives exist for host countries to plan programs that they truly need.
- Many projects fail because of administrative weaknesses and incompetence.

- Indigenous institutions are subject to the same development shifts as donor agencies.
- Countries have different approaches to management, and Western models, based on industrial societies, may be inappropriate.
- Human resource development is inadequate. International and national training programs commonly are insufficient to fill the number of needed research and planning positions. National in-service training courses are usually weak in disseminating new information.
- Training Africans too often is done in the United States when local and third country locations may be more appropriate.
- African universities generally are undersupported and underused in research activities. Few have any or adequate graduate level programs.

Discussion

The successful transfer of technologies depends on the availability of institutions that can effectively manage development programs. Problems exist at different levels with African institutions that deal with both program and project development. Some of the problems are inherent in bureaucracies everywhere but some raise questions about the assumptions and structure of efficient African management systems. Some problems relate to individual human factors and some are due to inefficient levels of financial and human resources. Government institutions in most African countries have been inundated with donor project assistance for rural development. The proliferation of aid renders many ministries incapable of coordinating donors' projects and interests. The Ministry of Agriculture in Malawi, for example, reported 44 donor-financed projects in 1981 (Morss, 1984). Coordination of this number of projects requires inter- and intra-ministerial coordination that can strain existing staff levels. Coordination is also hampered by power struggles between various ministries. Delegation of responsibility is then transferred to local government units with few human and financial resources available to implement rural development projects (Morss and Morss, 1982).

Donors have attempted to strengthen institutions through infrastructural support and overseas training. Buildings have been constructed for schools, research stations, and ministry and local government office space. Staff members from central ministry levels have attended U.S. universities, but they usually obtain undergraduate and graduate degrees in technical areas. Technical staff sometimes acquire limited management and organizational skills through short courses on rural development and management planning given by organizations like the USDA graduate school. With this limited managerial training, technicians frequently become ineffective managers.

The options normally available to correct weak institutional development imply more donor assistance for graduate level technical and management training. There have been calls for additional funding from several sources (Lele, 1981; World Bank, 1981). However, an increasing number of people recognize that human resource development through overseas training may not improve management skills significantly. Organizational and social realities in Africa may necessitate alternative management strategies—ones that may not seem as efficient initially but which fit into the cultural setting. Until then, project implementation and technology transfer will continue to be difficult and non-replicable once donor agency representatives leave. African management systems share similarities that may be contrary to Western management ideals. Some of these are:

1. flexible attitudes that regard "contracts" as conditional based on the outcome of unspecified events.
2. policy that is not dependent on precedent. Decisions are spontaneous and usually have little institutional memory.
3. flexible attitude toward time management due to high levels of uncertainty in most African developing countries.
4. bureaucracies that are structurally overdeveloped and hierarchically complex.
5. limited opportunities for advancement creating competitive struggles. Therefore, few alternative policy suggestions are made for fear of alienating superiors (Moris, 1981; Hyden, 1983).

Management systems could develop according to African desires and expectations so that incentives exist for project implementation and maintenance. African governments could “identify new management training methods that enable managers to become more effective in the African environment” (Hyden, 1983). Donors, on the other hand, could relinquish some control over the use of their funds to ensure that recipient governments have some interest in maintaining and replicating beneficial projects. Donors could consider the possibility of providing program support instead of project support as a means of allowing governments more autonomy (Morss, 1984).

By far the most unquestionable though unquantifiable benefit of education to Africa would be that of learning by doing, which is now lost to that ever growing and changing expatriate community. It is ironic that most African countries do not have the capacity to propose alternative plans to those presented by donors for using donor funds to reflect their own long-term needs for higher education (Lele, 1981).

Issue 17: Though facing increasing external pressure to change, African governments maintain economic policies that generally favor urban consumers instead of providing incentives for low-resource producers.

Preliminary Findings

- Keeping the urban prices of food, goods, and services low is important to African governments.
- Agricultural policies in most African countries apparently provide little incentive for increasing smallholder production.
- Several African governments provide quasi-governmental marketing outlets for agricultural produce, which may set prices, supply inputs, and market produce.
- Official market grain prices are set artificially low to ensure subsidized food prices for the urban populace and thus political stability,
- Many feel that little indigenous pressure exists for agricultural policy reform; thus many external financial institutions and some donors

are taking measures to influence African policies by providing conditional assistance.

- International financial institutions and AID generally support a package of macroeconomic measures intended to stimulate export trade, reduce spending, and increase incentives for increased agricultural production.
- The International Monetary Fund (IMF) usually recommends devaluation of local currency to stimulate export trade. This measure, however, raises the cost of all imported farm inputs (e.g., fertilizer and implements) and imported food.
- Both of these internal economic adjustments affect the ability of the low-resource producers to invest in increased food production technologies and diminish the internal purchasing power of the poor.
- Numerous factors affect the productivity of food crops, and increases in production prices without other policy changes may not increase the production of food crops.
- Pressure for policy reforms is a very sensitive issue because it involves the question of national sovereignty.

Discussion

The long-term decline in food production in Africa has been blamed on many factors: lack of incentives for producers, lack of appropriate research on food crops, poorly developed extension and management systems, general insensitivity to cultural and environmental conditions, failure of governments to deliver physical and economic inputs on time, and inability to identify the problems facing low-resource producers. Another factor receiving major attention is the impact of macroeconomic policy upon agricultural production,

During the past two decades, African governments generally opted for economic policies that favor urban consumers. Up until 1979, prices paid to farmers in most countries were set below world market commodity levels so that urban food prices could be kept low (Christensen and Witucki, 1982). Trade policies and official currency

overvaluation also allowed the importation of relatively inexpensive food and consumer goods (Christensen, et al., 1984),

African governments now face several conflicting forces that threaten to undermine their own economic independence. During the early 1970s, the commercial banks offered relatively low-interest loans and because many African governments depend on external sources of capital for development, these loans were attractive. This borrowing, and that necessitated to meet late 1970s balance of payments deficits, left sub-Saharan Africa with projected average annual commercial amortization payments of \$8 billion, exclusive of International Monetary Fund (IMF) obligations of \$1.6 billion (Browne, 1984).

In response to growing debt, they have turned to the IMF to reschedule some of their loans. However, the IMF loans require the fulfillment of certain conditions including:

1. devaluation of local overvalued currencies to match internal rates of inflation;
2. limitations on the level of domestic spending, including wage ceiling levels and the elimination of subsidies on consumer goods;
3. elimination of unprofitable government enterprises (e.g., marketing parastatals);
4. relaxation of price controls;
5. increase in interest rates; and
6. expansion of exports and reduction of imports (Browne, 1984).

Several countries (e.g., Tanzania and Nigeria) have resisted the IMF measures and maintain that they are too severe, especially in the short run. Most developing countries rely on one or two major export crops (e.g., cocoa, coffee, tea, or cotton) for foreign currency, and devaluation of local currency theoretically makes exports more attractive to other countries. But levels of demand for the exports is fairly inelastic for many of these commodities because of consumer preferences within developed countries. Devaluation conversely causes increasing prices for imported consumer goods, and shifting demands affect the prices of other domestic goods. Therefore, to developing countries, raising the ceiling of price controls and devaluation of local currencies probably mean increasing costs for imported food to ur-

ban consumers, a restriction in the availability of basic goods and services, and increasing costs for imported agricultural inputs (especially fertilizers), while not necessarily increasing export revenue to compensate for the costs of such policy changes. In the short-run, African governments express concern over the possibility of political instability, substantial protests, or food riots.

The World Bank and AID, among others, also stress the importance of governments developing agricultural policies that encourage small producers to increase production of food and cash crops (World Bank 1981; U.S. AID, 1982). Although the World Bank argued that price incentives were most important in 1981, more recently they have suggested that improving the performance of the agricultural sector means more than "getting your prices right" (World Bank, 1984a). However, they appear to require that several conditions similar to those of the IMF be met to receive continued development assistance (Stokeld, 1982). Agricultural policy adjustment includes support for infrastructural research, extension, and human resource development but primarily stresses the need for macro- and micro-economic reforms. For example, AID considers an appropriate policy framework as one that:

. . . relies largely on free markets, the provision of production incentives [which] are affected by direct attempts by government to influence the prices of food or agricultural products and inputs, but in many countries macro-economic policies affecting exchange rates, interest and wage rates and tariffs and taxes have an even more powerful impact on incentives to produce, employ, consume, save, and invest (U.S. AID, 1982).

Increasing producer prices paid to agriculturalists and herders may exacerbate the problem for African governments. Without subsidies, the prices of domestic agricultural products will increase along with those of imported food stuffs. Evidence exists suggesting that increases in producer prices for a specific crop will stimulate more land to come under cultivation and higher total yields for that crop (Christensen and Witucki, 1982). But it is not clear who would benefit. With no new technologies available, production increases will require more inputs of fertilizers and purchased inputs. Therefore, the farmers most

likely to benefit are those who can afford to purchase the necessary inputs, not the overwhelming number of subsistence farmers who may not be engaged in agriculture as a full time occupation (Christensen, et al., 1984; Christensen and Witucki, 1982; Eicher and Baker, 1982).

Price incentives for one crop (e.g., maize) may also cause producers to shift their emphasis between crops, not increase production (Eicher and Baker, 1982). A number of non-price factors may instead affect the level of productivity substantially compared with the effects of producer price increases. Lack of reliable rainfall, timely delivery of agricultural inputs, seasonal labor, extension advice, suitable technologies, and marketing infrastructure remain serious constraints.

For the African herder, livestock may represent more than an economic good. The number of stock accumulated depends on many complex social, environmental, and political decisions in addition to economic responses. Increased prices will not necessarily bring more cattle into the marketplace (Horowitz, 1979).

The calls for more reasonable macroeconomic policies and appropriate incentives to rural producers seem valid. It appears that the rural sec-

tors of many African countries require some incentives and support for increasing production. However, the conditions for IMF loans and continuing multilateral and bilateral development assistance could be more palatable politically to African governments. Donors could do more to recognize the constraints that African governments face. A recent study indicates that only 20 percent of the African countries following the IMF economic adjustment programs met the proposed economic growth targets. In light of this, there are several ways that the IMF could assist African developing countries without stripping them of their autonomy. The IMF could show more flexibility in working with the African governments in working out longer term devaluation and cost reduction measures. Further, the political and economic realities of African countries have to be considered by the IMF when negotiating, for it continues to be the responsibility of the African governments themselves to readjust their economies (Mtei, 1984).

It should be understood that for any program to be successful, it must be supported by the people of the country implementing the program, and the atmosphere of peace and social stability must prevail (Mtei, 1984).