

AGRICULTURAL DEVELOPMENT: OPPORTUNITIES FOR THE 1990s*

BY JOHN W. MELLOR

It was only two years ago that we were faced with global food surpluses and overflowing stocks, many previously importing developing countries were exporting, and there were pressures from many directions to reduce expenditure on agricultural research and agricultural development generally. At that time, I indicated the complexity of the policy problems that had to be solved if those plentiful harvests were to be used effectively to foster economic growth of the type that would lift the mass of people out of poverty (see *Food Policy Statement No. 6*, December 1986). Since then, a number of developing countries have reverted to cereal imports, global stocks have been drawn down considerably, and substantial quantities of land in the United States have been returned to agriculture.

In the present context, I would like to remark once again on the central role of food and agriculture in a strategy of development that produces high rates of growth and broad participation in that growth. It is the implementation of steady agricultural develop-

The prospect of growth offers extraordinary opportunities for reducing hunger and poverty and reversing the current onslaught on the environment.

ment policies (in the face of fluctuating global supply-demand balances) that stimulates, directly or indirectly, rapid growth in effective demand for food on the part of low-income people. Effective pursuit of such policies typically results in demand for food increas-

* Adapted from a speech presented at International Centers Week, Washington, D.C., November 4, 1988. The author would like to thank Frank Z. Rely for assistance in preparing the text.

ing more rapidly than even an excellent record in food production, thereby creating growth in food markets for the surplus-food-producing countries. Thus the slowing of growth in the 1980s has been unfortunate not only for the poor in developing countries, but for developed country exporters as well.

At present, however, I would like to depart from the pessimism of the recent past and instead look ahead to a 1990s of grand opportunity. To do so, I must first be convincing that the 1960s and 1970s provide a clearer picture of what might occur in the 1990s than do the distorted, malfunctioning 1980s.

THE 1980s AS AN ABERRATION

The interacting effects of the second oil shock, the rapid growth in Third World debt, high real interest rates, unusually depressed primary commodity prices, increasingly distorted prices within many developing countries, and grossly unbalanced public budgets characterized the early to mid-1980s. The consequent essential, major restructuring of policies and economies was bound to temporarily slow growth in both developed and developing countries.

Slower growth in developed countries further reduced trade potentials for developing countries, with a consequent reduction in developing-country growth overall, much less progress in poverty reduction, and diminished growth in the demand for food. These circumstances, of course, provided an illusion of food self-sufficiency in many developing countries and added to surplus production capacity in developed countries. The consequences were most severe in Africa, where a poorly developed capacity for policy analysis and ill-considered foreign assistance policies compounded the underlying problems, and in Latin America, where the debt crisis took on particularly enormous proportions.

Current pessimism arises from two sources: observations of the distorted 1980s and a view that growth in developing countries is driven by import demand of the developed countries whose own growth is now permanently slowed by maturity. A different view arises if growth is seen as largely the product of technological development that

The 1990s can be a decade in which major strides are made in abolishing hunger . . .

raises factor productivity, which in turn is the product of growth of human capital and the institutions that mobilize that human capital for productive purposes. In this latter case, demand is driven much more by domestic forces than by foreign imports. Throughout the distorted 1980s, as in prior decades, human capital has been growing rapidly, even in Africa, and institutional structures have also been improving. Thus the underlying basis for growth is more developed as we enter the 1990s than it was in the late 1960s and 1970s. However, for that growth to be driven by domestic demand and for capital resources to be spread thinly over a large, growing labor force, requires, far more than in the past, a technologically advancing, cost-reducing development of the agricultural sector.

The prospect of growth offers extraordinary opportunities for reducing hunger and poverty and reversing the current onslaught on the environment. Success in those efforts will depend heavily on the availability of cost-reducing technological change for agriculture. It will also require open-trading regimes and direct action to confront the problem of increasing instability in global agriculture. If we are to meet the opportunities presented us in the 1990s, each of these issues must be confronted directly.

ABOLISHING HUNGER

The 1990s can be a decade in which major strides are made in abolishing hunger, strides that may clearly indicate its approaching end. For that to occur, a few key points must be central in our minds.

Hunger is a massive problem. We will enter the 1990s with at least 700 million hungry people by even the most minimal definition of food adequacy (Figure 1). A more humane definition would include a full one billion people.

Moreover, the poor are heavily concentrated in the rural areas of very-low-income countries, and many are in rural areas where the potential for response to improved agricultural technology is high (Figure 2). Two-thirds of the poor are in Africa and South Asia; three-quarters are in low-income developing countries, and only one-quarter are in the middle-income countries.

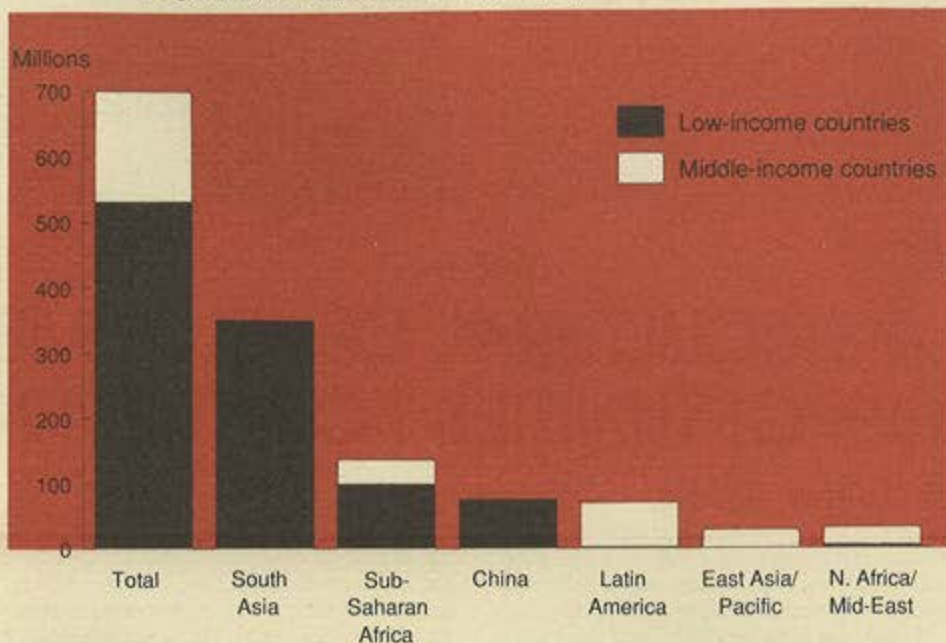
Because the problem of poverty is so massive and the poor are concentrated in the rural areas of low-income countries, it is difficult to envision eliminating the bulk of hunger through redistribution. Such redistribution would have to be substantially international and would have to grow enormously over time as the number of poor in the very poor, slow-growth countries continued to increase rapidly, as has been the case in the past. The reasons for this are twofold: poor countries have difficulty finding the resources to reduce poverty, and the proportion of their population that is poor is very large.

While radically reducing the numbers of poor purely through unending international redistribution seems unlikely, reducing their numbers through growth can be highly effective. Note that in the middle-income developing countries the absolute number of poor dropped nearly in half from 1970 to 1980, while in the low-income countries the numbers increased by more than half (Figure 3). In regional terms, it is the countries of Africa and South Asia in which poverty increased greatly in absolute numbers.

The reduction of poverty in the middle-income developing countries, such as in Latin America and East Asia, has been achieved largely in rural areas that are highly responsive to production-increasing agricultural technology, for which the employment multipliers are substantial both within agriculture and in the rural nonagricultural sector. In contrast, there are still some 250 million poor in the high-potential areas of low-income countries. Agricultural growth in those areas may be particularly effective in bringing about substantial reductions in poverty and hunger in low-income countries.

The technology for such growth is dynamic, requiring continuous effort; it is location-specific, requiring a large, dispersed effort; and it is complex, requiring effort on a wide front, from research to input supply. The quarter of a billion hungry people in high-potential areas still lack adequate research

Figure 1—Projected incidence of hunger, developing countries, various regions, 1990 (millions of people)

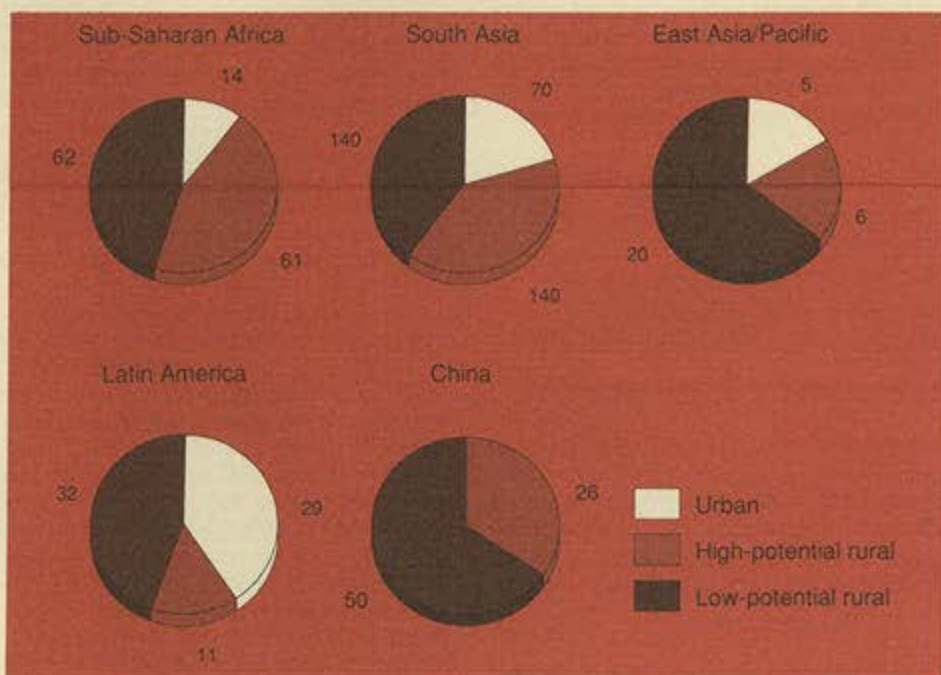


and technology support suited to their specific conditions and circumstances. That research gap is notable in the Gangetic and Brahmaputra Plains in Asia and in the higher-potential areas throughout Africa. The lack of appropriate, area-specific technology stalls poverty alleviation efforts throughout devel-

oping countries. Not only are food and employment growth in agriculture lost, but the large multipliers on the rest of the economy, derived from agricultural success, are lost as well.

To emphasize the areas with high agricultural potential is not to ignore the large

Figure 2—Distribution of poverty by location: urban, high agricultural potential rural, and low agricultural potential rural, developing countries, various regions, 1990 (millions of people)



Notes: All poverty in China is grouped under rural poverty as there is little malnutrition in urban areas and a lack of definite urban data on poverty. No urban/rural breakdown is available for North Africa/Middle East region.

numbers of poor in low-potential areas and cities. It is, however, to note that we now know what to do to rapidly eliminate hunger in the high-potential areas; that reducing hunger, and thereby the pressures of poverty, in urban areas—where more than a quarter of the poor reside—depends on vigorous growth in high-potential rural areas; and that the historical answer to problems of low-potential areas has always contained a major element of migration, which, in turn, depends on good performance in the high-potential areas and their urban enclaves. Of course, it is also desirable to do research focused on breakthroughs that will raise the productivity of low-potential areas. Such research will give relatively more emphasis to low-input innovation. However, because these are long-term, relatively high-risk investments, it is appropriate that foreign aid and international programs pay for a disproportionate share.

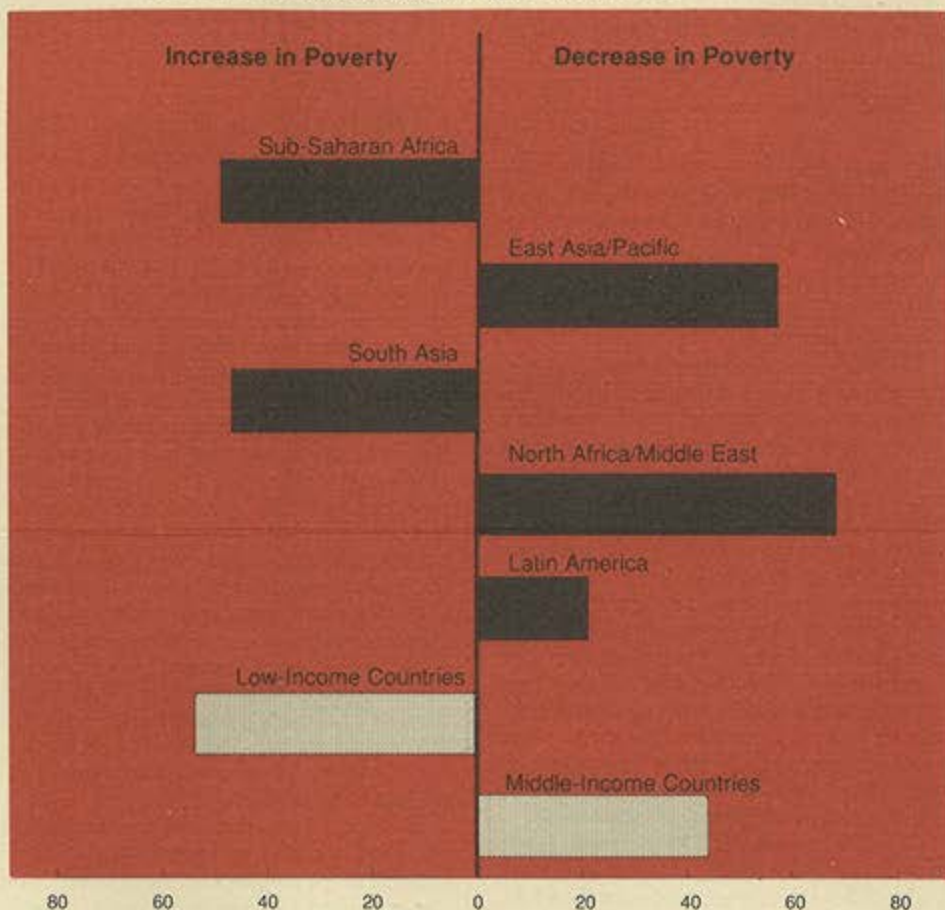
Improved rural infrastructure that allows technology to spread to all farmers and permits employment multipliers to make adequate jobs for the poor is another crucial element in poverty reduction. An IFPRI

In developed countries, environmental destruction is primarily a product of wealth, while in very poor countries it is primarily a product of poverty.

study in Bangladesh, for example, found that areas with good infrastructure used 4 percent more labor per hectare than areas with poor infrastructure and 92 percent more fertilizer. The multiplier effects of that growth produced a level of nonagricultural employment that was 30 percent higher than in the poor infrastructure areas and wage rates that were 12 percent higher.

Infrastructure investment also provides a vital link between the long-term, self-reliant removal of poverty, and short-term amelioration. Rural public works schemes to build infrastructure create immediate increases in employment and are clearly the most proven means of targeting food and income to the poor. Improved infrastructure, in conjunction with improved agricultural technology, can provide the employment multipliers that sustain income increases and access to food over the long term. The same study referred to above showed that good infrastructure is associated with a 40 percent decline in the number of people in absolute poverty. However, such efforts sustain development only if they are not so driven by immediate employment objectives that they fail to provide the larger permanent employment multipliers of which they are capable. For example, roads constructed on these projects must be all-weather roads, involving considerable nonlabor

Figure 3—Percent change in the number of people in developing countries in poverty, by region, 1970-80



Note: China not included.

Source: World Bank, *Poverty and Hunger: Issues and Options for Food Security in Developing Countries* (Washington, D.C.: World Bank, 1986).

expense, if they are to fulfill long-term development objectives. The budgets of these projects should not be so dominated by the food component for labor that resources are not available for materials to build permanent establishments.

PRESERVING THE ENVIRONMENT

The solutions to hunger and poverty are very much at the core of the solution to the environmental assault occurring in developing countries. Of course, environmental degradation occurs in both developing and developed countries. But a broad distinction can be made. In developed countries, environmental destruction is primarily a product of wealth, while in very poor countries it is primarily a product of poverty. The most serious environmental destruction in developing countries occurs as population pressure expands against a limited land resource base and pushes cultivation out onto more fragile resources, thereby rapidly destroying forests and grasslands.

Increased production on fragile land reduces agricultural productivity. In Nepal, for example, farmers are forced, by population pressure and lack of yield-increasing technology, to clear and crop the hillsides, exacerbating problems of soil erosion and causing flooding in lowland areas. In less than a decade, the destruction of forest resources in areas of Nepal covered by IFPRI studies has added more than one hour per day to the time required for women to collect firewood and forage. Deforestation also contributes to a decline in the nutritional status of children through the reduced time of women in the preparation of food and use of smaller quantities of higher-priced fuel.

There are two solutions to these environmental problems. First, increase the agricultural capacity of the less fragile land to help relieve the pressure in the more fragile areas. This will produce a synergism between environmental preservation and a major attack on poverty in the more responsive areas. Second, conduct research and provide infrastructure in the more fragile areas. The former to help find less destructive systems of farming, and the latter to relieve the environmental stress from hunger in years of

Development must be largely driven by growth in the domestic demand of developing countries . . .

poor production and lack of nonfarm jobs. Again, there is a synergism between hunger abatement through growth and environmental protection.

TRADE With few exceptions, development cannot be led by export growth because the bulk of the demand for increased output from a developing country will not come from abroad. Development must be largely driven by growth in the domestic demand of developing countries, growth that is achieved through cost-decreasing technological change in agriculture. Nevertheless, trade is extremely important to the development process. Most obviously we know that once countries accelerate their growth substantially, even their best efforts in their agricultural sector cannot keep up with the domestic growth in demand for food. Thus trade is needed to facilitate the imports of basic food staples, including cereals and vegetable oils, into developing countries.

Equally important, if developing countries are to grow rapidly, they must spread their own capital resources across a high proportion of their labor force. This means they cannot concentrate on capital-intensive industries like steel, petrochemicals, and fertilizer. They must import those capital-intensive goods and services.

Agriculture itself can play an important role in meeting export needs. The opportunities are particularly great in labor-intensive agricultural commodities like fruit, vegetables, and certain types of livestock commodities. The message for research is clear. While we are striving for new breakthroughs in the basic food staples, new efforts must be added in the labor-intensive agricultural commodities for which demand is still growing, even in developing countries.

Four lessons from the past can guide us in dealing with these important trade issues of the 1990s. First, developing countries are already increasing their share of the international market for labor-intensive agricultural commodities and command between a third and half of that market already. That potential needs to be developed further in a favorable trading environment. Second, even as countries move into middle-income status, agriculture dominates their trade, hence continued growth in exports requires growth in agricultural exports. Third, developing countries do best in labor-intensive agricultural exports when their own markets for those commodities are growing rapidly. Thus broad-based internal markets that derive from successful rural development streng-

then agricultural trade performance. Fourth, a strong research effort is needed both in production to reduce costs and in marketing if new export markets are to develop.

STABILITY World agricultural markets have experienced increasing production instability in recent years, accompanied by greater price instability. The biggest losers from instability in food supplies and prices are, of course, the poor. A given reduction in food supplies will result in a decrease in consumption by the bottom 20 percent of the income distribution in developing countries that is more than 10 times greater than that of the top 5 percent.

Dealing with instability by building stocks sufficient for a single poor year is a common practice by cultivators in low-income countries. However, the cost of providing for two bad years in a row through stocking policy is exorbitant and, hence, is rarely paid. A second successive bad crop year is most effectively dealt with through international trade. Often, however, poor countries face special financing problems that can limit imports in response to domestic shortages. This problem can effectively be dealt with through the IMF cereal facility. That facility should be strengthened, rather than gradually weakened and virtually eliminated as at present.

It is also important that the developed countries, as they try to restrain excessive growth in their production, keep in mind the growing need for food in developing countries during this intermediate period when agricultural growth is accelerating with technological change, but demand for food is growing even more rapidly. They should consider at least a minimal-level stocking policy in order to stabilize their own prices and consumption and to provide some basis for stability in international markets. Most important, they need to return idle land to production when stocks decline below generally agreed-upon levels.

CONCLUSION The 1990s can put us firmly on the path to eliminating the bulk of poverty and hunger in the world and, in so doing, to abating the seemingly relentless attacks on our environment. This is possible because of the vast investment in human capital and institutional structures that has been occurring for the past several decades. As the structural maladjustments of the 1980s are removed, the returns are beginning to flow—first in the richer countries of Asia and Latin America, then in the poorer countries in these regions, and finally in Africa.

To realize those opportunities, developing countries must concentrate on a development strategy that emphasizes growth in the smallholder, labor-intensive agricultural sector. The prospects for that growth

and for the alleviation of poverty will depend largely on the ability of developing countries to reduce costs and intensify agricultural production through technological innovation. That, in turn, will require increased investment in agricultural research and ancillary institutions of technological change to provide the basis for an accelerated increase in resource productivity in the high-population-density, high-production-potential areas, as well as in the more difficult environments. For all rural people to participate in these processes, rural infrastructure will need to be expanded greatly as will rural education. The costs are so great and the administration structure for such an approach so decentralized, that local government will have to be developed far more fully than is now the case in developing countries.

Technical assistance from developed countries toward the further expansion of human capital and necessary development institutions—most importantly, those that undertake scientific research in agriculture—is crucial to accelerate progress in developing countries. In addition,

Success in meeting the complex challenges and opportunities . . . in the 1990s can ensure a shared and widespread prosperity well beyond the next decade.

recognizing that rapidly rising incomes in developing countries generate a dynamic structure of demand and a consequent need to earn large amounts of foreign exchange through nontraditional agricultural exports, developed countries must open their markets to promote developing-country trade and take measures to ensure the stability of food supplies. Finally, food aid from the surplus-producing developed countries can play a major role in support of rural infrastructure and rural schooling—the former to provide wage goods for labor and the latter to attract poor children to school through school lunches, and both to provide immediate reduction of poverty.

Cooperation by developing and developed countries can help to eliminate hunger in the short-term and encourage the long-term growth processes in developing countries. It is essential that both groups cooperate. Success in meeting the complex challenges and opportunities confronting us in the 1990s can ensure a shared and widespread prosperity well beyond the next decade. Such effort will greatly facilitate accelerated growth and poverty alleviation in the 1990s and bring benefits to that decade that a more autarchical approach would postpone for several further decades.