

# **Agricultural Development in the Third World: The Food, Development, Foreign Assistance, Trade Nexus**

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## Introduction

A half billion to one billion people in developing countries live in poverty so severe as to assault our ethical standards. This is particularly so, given the concurrence of the parlous state of food intake in the poor countries with large surpluses of food and food production capacity in the rich countries. If the poor of developing countries are to lead a healthy life with dignity, there must be greatly accelerated growth in food and agricultural production in those countries. The increased food needs are so great that over the long run they are unlikely to be met by imports from developed countries. But, far more important, the purchasing power of the massive numbers of rural poor can only be rapidly enhanced on a sustainable basis by development strategies that raise incomes where those people are -- largely in the agricultural regions of developing countries.

The issue of improved food consumption for the poor is far more complex and interactive than a simple moral orientation implies. A partnership of developed and developing countries can save considerable time in reaching the point at which the bulk of hunger is removed from developing countries. That partnership would specifically include elements of trade liberalization, food aid, transfer of scientific capacity, and various food security arrangements -- all to be facilitated by both bilateral and multilateral institutions.

## Development Strategy, Poverty, and Nutrition

It is, of course, widely understood that the proximate cause of hunger is lack of purchasing power on the part of the poor and, hence, that elimination of hunger requires raising the incomes of the poor. What is not so widely recognized is that through its direct and indirect effects, increasing food production -- and agricultural production more generally -- is itself the principal and perhaps the only means by which the incomes of the poor can be raised on a widespread basis in developing countries.

The bulk of the poor in developing countries are widely scattered throughout the rural areas and are largely occupied in agriculture or related occupations. For years to come, lack of capital will make it impossible to absorb more than a small portion of these people outside the rural sector. Fortunately, a rural-area, agriculture-based, employment-oriented strategy of development is not only possible but optimal as well. When food production is increased through efficiency-increasing technological change, incomes are raised in the countryside. As a result, there is substantially more employment in food production. But, more important, the increased incomes of the peasant farming classes are largely spent (60 percent or more) on locally produced, employment-intensive goods and services. These include labor-intensive agricultural products such as livestock and horticultural products as well as nonagricultural goods and services.

One of the major problems of development is marshaling capital adequate to provide the massive number of productive jobs required by rapid population growth and initial underemployment of labor. Making

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capital go further, by using it largely in types of jobs that require little capital, is essential to poverty reduction. For that purpose the demand structure that rises from expenditures by prospering farmers is crucial. Those large multipliers and linkages between the agricultural and rural nonagricultural sectors are the principal means by which the incomes of the poor are raised so that they can purchase the increased food production.

If it were not for massive food surpluses in the developed countries, we would also emphasize that if increased purchasing power is put in the hands of the poor, they will attempt to spend the bulk of that income on food, and if the supply of food is not increased, the higher incomes will drive up the price of food. Thus a simple transfer of one monetary unit of income from a rich person to a poor person represents a financial balance, but from that monetary unit the poor will attempt to spend 30 times as much on food as the rich will cease to consume. Thus a financial balance is marked by a major imbalance in the food supply. Food surpluses from developed countries can be used to redress that imbalance rather than allowing it to constrain employment through rising food prices -- a position to which we will return. But, even with the food problem solved by food aid, the income or purchasing problem requires agricultural growth if it is to be sustainable.

Thus the problem of decreasing poverty and improving the nutritional status of the poor must be seen as one of bringing about broad-based development with agriculture as the leading edge. Any efforts to mitigate short-run poverty and low nutritional status through food aid and other transfers from rich countries must be done in the context of a broad-based agricultural development strategy. We now know well the broad outlines of such a strategy. There are three key elements.

The first element is a well-operating market system. An agriculture-led, employment-oriented strategy requires myriad small farmers and small entrepreneurs to invest and make decisions in an environment too complex and dynamic for governments to regulate. Government has a critical role to play in providing facilitative services and facilities as indicated below. Indeed, those positive functions will surely change the capacity of governments to marshal resources, personnel, and institutional capacity. Foreign technical and financial assistance can facilitate these processes.

The second element is an indigenous agricultural research system. That system must apply modern science to bring to the agricultural sector productivity-increasing innovations that are adapted to the specific conditions of each subregion of the country. Because of the adaptive requirements, such technology cannot be simply transferred from other countries. It is the net addition to national income from improved technology in the dominant agricultural sector that is the basic engine of growth in early stages of economic development. Thus the key is developing the human capital and the institutional structure for accomplishing this research. Foreign assistance can be

invaluable in that process. The International Agricultural Research Centers play a key role in doing the research and in facilitating the growth of the national systems. But the bilateral donors have a major role in mobilizing their national research and education capabilities to accelerate growth in the necessary human and institutional resources of the developing countries. These activities represent the most productive contributions of foreign aid to sustainable development.

The third element encompasses many subelements, but its base is massive investment in physical rural infrastructure, particularly roads. Agricultural development requires purchased inputs to accompany the new technology, and attractive, purchased, consumer goods are the most important driving force of price incentives. Complex institutional structures with trained personnel are needed to forward these processes, and those trained people who must live in rural areas demand urban amenities. Thus rural development requires roads, electric power, and other communications. Such an infrastructure is also essential to food security.

Rural people naturally store crops to provide for one bad year. But the cost to them in storage losses, income foregone, and interest is so high for storing longer than one year that they virtually universally fail to do so. That is why the effect of a second successive bad crop year is so disastrous. A good road infrastructure is essential to meeting that food security need, as we know all too well from the recent unfortunate experiences in Africa. We know that lesson also from the very positive experiences in India, where a considerable amount of transport infrastructure is in place and was crucial to averting famine in Bihar's great drought in 1966-68 and in Maharashtra on several subsequent occasions.

We also know empirically that poverty is most effectively combated by infrastructure investment. In Bangladesh, comparing villages with good infrastructure and poor infrastructure, poverty by absolute measures is 40 percent lower, calorie intake of the poorest is 7.5 percent higher, wage rates 12 percent higher, per hectare employment in agriculture 4 percent higher, and employment in non-agriculture 30 percent higher in the villages with good infrastructure.

The critical role of massive investment in rural infrastructure emphasizes an important interaction among food, development, and poverty alleviation, and offers an extraordinary opportunity to use the massive surplus food production capacity in the developed countries. The most important input for building rural infrastructure is labor. If labor is employed for that purpose, it is provided with purchasing power that is used to improve nutritional status and thereby reduces poverty. The building of the infrastructure will bring about a very substantial increase in food production, but not immediately. Thus there is an extraordinary opportunity for use of large quantities of food aid to relieve poverty and poor nutrition immediately and to provide the basis for increasing domestic produc-

tion in the long run. If food aid is used for this purpose, it increases the demand for food pari passu with the increased food supply. When demand goes up along with supply, there is not the disincentive effect of depressed prices. An agriculture-led, employment-oriented strategy of growth has substantial political implications. It brings to the development process a widely disbursed group of rural people including small farmers, landless laborers, and petty entrepreneurs. It is necessarily a decentralized process of development -- decentralized in decisionmaking geographically and individually to a myriad of small entrepreneurs and farmers. The geographic dispersion requires flexibility in decisions according to differences in agroclimatic and cultural conditions. Developing agriculture and spreading capital thinly over a large labor force requires, virtually by definition, vast numbers of small-scale units.

Thus, highly centralized political systems based in urban areas are not likely to be effective in implementing such a strategy. It follows that such a strategy lends itself well to decentralized, democratic process, including a market orientation. Given the complex coalitions needed to make a democratic system work and the many interests to be served, governments need substantial policy analysis capability so that decisions can be taken with knowledge of those consequences. Foreign technical assistance can greatly accelerate the building of such national capacity.

#### The Food Supply-Demand Interaction

Increasing demand for food requires an increased supply if the needs of the poor are to be met; conversely, increasing the supply of food tends to initiate processes that increase the demand for food. Mathematical economists can show that in the context of a closed economy with no trade, increased food production from technological change will by itself bring about a gradual decrease in food prices. This means that the supply of food increases at least a little more rapidly than the demand. In the far more complex real world, what is the empirical record?

Countries that accelerate the growth rate in their food sector, and of course of the agricultural sector more broadly, tend to increase their food imports massively and without a decline in relative food prices. In practice, success in agriculture does not bring a reduction in agricultural imports but rather brings an increase. This is, of course, good news to the surplus agricultural producers in the developed countries, who face a major structural problem of continual increase in the productivity of their agricultural resources and little or no increase in domestic demand.

Why does this peculiar relationship -- of success in food production being associated with increasing food imports -- prevail in developing countries? Agricultural production tends to create the bulk of its own demand, although, of course, not all of it, because of the labor intensity of agricultural production, the multiplier effects on employment in other sectors of the economy, and the high propensity

of the poor to spend increased income on food. When one combines with that some additional growth initiated outside of agriculture, one finds that employment, and hence demand for food, grows rapidly enough under the natural circumstance of development of a poor country to move ahead even of a rapid growth in the domestic supply of food. The key is that, while in developed countries increased incomes hardly increase food consumption at all, in developing countries they translate almost entirely into increased demand for food. Several important lessons derive from this.

First, developing countries that follow effective development strategies will need to import food. That is, of course, good for the farmers in developed countries, but it is exceedingly good for the poor of the developing countries. It means that even in the face of a good record in their domestic food production, they are able to increase the purchasing power of their poor enough to move ahead of that supply. The corollary is that with effective policies and appropriate strategy, developing countries tend to increase employment and the incomes of the poor more rapidly than their best agricultural production record can sustain.

In that context, it is fortunate that there is a surplus situation in the developed countries that will allow the poor to increase their food consumption even more rapidly than domestic supplies will allow. One must keep in mind that it is difficult, because of diminishing returns caused by limited land area, to increase productivity in agriculture by more than 2 percent a year and to increase basic land using crop production by more than 3 to 3.5 percent a year.

Of course, to take advantage of such opportunity increases the interdependency of nations. Clearly, however, autarchy for basic food supplies in the context of high-employment strategies can only be achieved by holding down the real incomes of the poorest elements of society. Surprisingly, a policy of self-sufficiency in food consumption is built on the backs of the poor.

Second, we must recognize that an employment-oriented strategy of development led by agriculture has substantial risks for developing countries. It means that large portions of their population are brought into the development process, consuming more food. That, of course, is highly desirable. There is a risk, however, that the resultant increasing dependence on imported food supplies will, given the instability of food supplies and prices in the world, create stress for the country in years of poor global, or even domestic, crops. Thus if developing countries are to be encouraged in this direction, the world needs to turn its attention, much more than it has, to how to ensure stability in food supplies. It is notable that task is made more difficult by the fact that in recent decades instability has increased greatly with respect to both food production and food prices.

Food aid could be used as a stabilizing force, and certainly the World Food Programme as an international body should attempt to play

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such a role, but food aid generally is notoriously unstable for both political and commercial reasons. Thus the burden of stabilization must effectively fall on expansion and improvement of the International Monetary Fund's Cereal Facility. The facility finances food imports for poor countries when they have domestic crop failure or when prices soar in international markets. Lack of separation of the Cereal Facility from broader functions of the IMF and excessively stringent operating rules have greatly limited the role of the Cereal Facility in reorienting development strategy in a more agriculture-based, employment-oriented direction.

### Food Surpluses and Development Strategy

Exposition of an agriculture-led, employment-oriented strategy of development shows a major potential to use the surplus food production capacity of developed countries to foster development and that such use is an efficient means of alleviating poverty. In the longer run, commercial imports are important. In the short run, food aid can be effective.

However, for imported food to play an effective developmental role, it must be reliable and it must be increased gradually over time because of the complex institutional structures required for its effective use. The two points are interrelated. To use imported food effectively, complex institutional structures -- both public and private -- must be developed. That takes time and commitment. The needed steps are unlikely to be taken if the supplies are not reliable, particularly given the emotional impact of food shortage.

Finally, it is notable that given the intense poverty in developing countries, there are a number of ways in which food aid can be used to insulate the poor from the rigors of the essential structural adjustment toward more market orientation and more nearly balanced budgets. In this context, food aid can bring about an immediate reduction in poverty.

### The Role of Food Trade and GATT

The GATT negotiations are of vital concern to developing countries. Agriculture bulks far larger in their production, consumption, and trade than is the case for developed countries. That they may not act as though that were the case and that they are pessimistic about the opportunities for influence in the GATT negotiations should not detract from the importance of the negotiations. Five basic sets of principles underlie the agricultural trade needs of developing countries.

First, virtually all developing countries are large and growing net importers of basic food staples or, more specifically, cereals. Second, they are immense exporters of tropical agricultural commodities. Third, they have large potentials for increased exports of labor-intensive agricultural commodities. Fourth, an agriculture-based, employment-oriented strategy of development requires deployment

of capital to create employment, and consequently, capital-intensive inputs such as fertilizer must be imported and typically paid for in substantial part by agricultural exports. Finally, while producers of basic food staples in developed countries have much to gain from such development, they must take a statesmanlike view of trade. Virtually all developing countries that are increasing their net imports of food staples will have some commodities for which they have a comparative advantage in exporting, and in a free trade regime those specific exports will grow.

Basic food staples are a scarce resource in developing countries because of the potential for rapid growth in demand and because of the limitations of land area. There are only two developing countries that are significant net exporters of basic food staples. Argentina and Thailand together encompass 85 percent of developing country net exports of these commodities. They are unusual because of the richness of their land resource, and in the case of Argentina, because of the relatively high initial incomes and hence slow growth in effective domestic demand for basic food staples.

It is notable that the developing countries with the fastest growth rates in production of basic food staples have nearly quadrupled the imports of those commodities during the past few decades. For reasons shown above, growth in agriculture is associated with net growth in food imports.

If developing countries are to provide the rapid growth in food markets implied by an agriculture-oriented, high-employment strategy, food must be available on an increasing and reliable basis. It is in the interest of the developed country exporters to ensure those conditions, even though all their adjustment problems cannot be solved by growing demand of developing countries. The GATT negotiations should give attention to stable growth in exports of basic food staples. Fair GATT rules would also protect the interests of the few developing countries that are net exporters of basic food staples, as well as recognizing the desirable role of allowing the free play of comparative advantage for those countries that are net importers but have an advantage in export of a specific commodity that is competitive with developed countries.

In the context of inexpensive food, so desirable to the poor of developing countries, one must provide farmer incentive by cost-reducing techniques and by stabilization schemes. If developing countries are to be able to purchase food, the GATT negotiations must free the trade regimes of the developed countries so that they will import more of the relatively labor-intensive commodities that help increase the demand for food and incomes of the poor. As part of this, it must be recognized that the exports of low-income developing countries are dominated by agriculture. These exports consist largely of commodities not directly competitive with temperate-latitude commodities. However, as institutional structures develop, it is very much to the comparative advantage of developing countries to rapidly increase their production and exports of labor-intensive agricultural

commodities such as horticultural products and certain types of livestock products. It is important to the effective growth of the developing countries, to the increase in incomes or entitlements of the poor, and to agricultural development generally that the GATT negotiations provide at a minimum most-favored-nation treatment to developing countries in this critical area.

### Conclusion

We now have an extraordinary opportunity to largely end hunger and poverty in developing countries by pursuit of an agriculture-led, employment-oriented growth strategy. Such a strategy will generate demand for food even more rapidly than the supply can be created in the developing countries. Concurrently, the surplus production capacity for food in the developed countries can facilitate meeting this growing effective demand.

In the face of this simple need for transfers of food, we find that the real world brings very complex problems. Trained people, institutional structures, and an appropriate strategy are necessary if the surpluses in one part of the world are to be put together with the deficits of another. The focus of that strategy is the effective development of agriculture in developing countries, which requires technological assistance from the developed countries and massive use of food aid for building infrastructure. On the trade front, it means open-trading regimes that make room for labor-intensive agricultural imports from developing countries so that they can increase their imports of basic food staples, which are land-using commodities, and of capital-intensive intermediate products.

The most valuable elements of foreign assistance and trade for developing countries are a trading regime that ensures ready access to growing imports of basic food staples; stabilization of access to food imports; most-favored-nation treatment of their exports of labor-intensive agricultural commodities and value added; nondiscriminatory treatment of tropical agricultural exports; rapid growth in food aid as institutional structures are built to use this assistance for employment-creating purposes, particularly including rural infrastructure; rapid expansion of the capacity of developing countries to create the institutions of agricultural research and to promote technological innovation by small farmers through the use of the scientific and higher education capacities of the developed countries; similarly, assistance to growth in the policy-analysis capability of developing countries; and finally, large financial flows to allow imports to grow more rapidly than exports to facilitate employment growth and to assist changes in policies to more decentralized, rural-based, employment-oriented strategies of growth.