

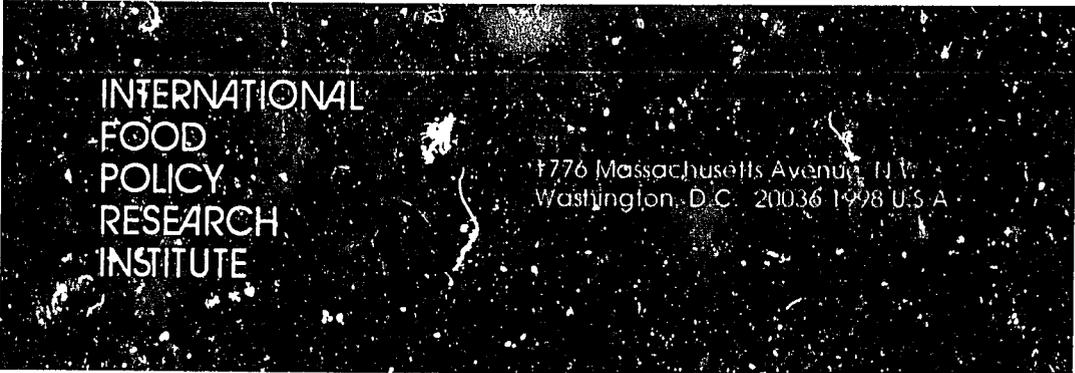
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USING U.S. FOOD SURPLUSES FOR DEVELOPMENT: INTERACTION OF FOOD AID WITH OTHER FORMS OF FOREIGN ASSISTANCE

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The current world food situation is dramatically different from that of a decade ago. In the mid-1970s, the world was beset by acute food shortages; today, it appears to be awash in food. Only a decade and a half ago it would have seemed naive to analyze food security as a distributional problem; the physical inadequacy of global food supplies was too readily apparent. However, in the late 1980s, it now seems reasonable to focus on food insecurity as the inability of poor countries, poor families, and poor individuals to purchase sufficient quantities of food from existing supplies.

Today's global food situation is one of acute structural imbalances. In the developed countries, supply is growing far more rapidly than demand, but in many developing countries the situation is reversed. In the near future, such imbalances are likely to continue, presenting a major opportunity for advancing food security through food aid.

In many ways, the present food security situation is far more complicated than scarcity amidst plenty. For most of Asia and Africa, and even for much of Latin America, improving food security requires both increasing the purchasing power of the poor and boosting overall food production. This is true because of the importance of food prices in determining the purchasing power of most low-income people, and because of the dominant role of agricultural production as a source of employment for the poor.

These factors suggest the following two-pronged strategy to promote food security: In the long run, raise the overall level of food production in the third world to increase the purchasing power of the poor. And in the short run, redistribute food supplies from the developed to the developing world to meet the immediate food needs of the poor.

AGRICULTURAL GROWTH AND ACCESS TO FOOD

In the developing world, agricultural production must be stimulated through cost-decreasing technological change. The small farm must be at the center of this effort. Food must be transferred from the food-surplus nations to the food-deficit nations through mechanisms which boost the purchasing power of the poor while also increasing the incentives to raise agricultural and food production over the long run. The gross instability of food availability and purchasing power of the poor must be reduced, without prejudicing long-run efforts to increase food supplies and purchasing power.

The comparative advantage of low-income countries lies in their ability to mobilize large, low productivity labor supplies for increased production. That labor supply is itself the product of two interacting markets—the labor market per se and the food market (Lele and Mellor, 1981). The high marginal propensity of the poor to spend on food requires more food to back up more employment. Thus, not just food security as a welfare objective, but food supplies as a productive input call attention to the present food imbalances between developed and developing countries.

For developing countries, optimal growth will be associated with high rates of employment growth which require greater supplies of food. The capacity of developed countries to ensure those food supplies is a very positive force for economic growth, equity, and food security in the third world. The important factor here is not the concessional terms of such food supplies, but their elastic supply. In most cases, abundant supplies of food aid can do much to accelerate employment growth.

In countries in which a high proportion of employment and income is generated in the rural section, an agriculture-based growth strategy provides the only possibility of broad-based participation by the poor. Many poor people in the third world work in agriculture. Raising their incomes generates a demand for labor-intensive goods and services which are typically produced in the countryside (Mellor and Lele, 1973; Mellor, 1976, see chap. 7). For example, small farmers in Bangladesh and Malaysia spend 35% and 40%, respectively, of their increments to income on locally-produced nonagricultural goods and services. Similarly, in Africa small farmers spend as much as 20% of their increments to income on locally-produced agricultural goods, such as vegetables and livestock (data on Bangladesh from Ahmed and Hossain, 1987; data on Africa and Malaysia from Hazell and Roell, 1984, table 6, pp. 28).

Such incremental expenditure by the peasantry creates demand that facilitates capital widening to a far greater extent than alternative techniques. This places a special emphasis on small farmer agricultural production. If a high concentration of land is held among wealthy farmers, increased profits will go largely to imports or highly capital-intensive goods, and will not induce the necessary multipliers and linkages from agriculture to promote employment in other sectors. Fortunately, the bulk of Asia and Africa have peasant farmer-dominated rural sectors.

This kind of rural-based growth—which provides increased income and employment opportunities to the poor—has two essential components. First, it is technologically based. Agricultural output is stimulated by applying new technology that increases output per unit of input. This is important because agriculture is a sector particularly subject to Ricardian diminishing returns. As attempts are made to stimulate production, the inelastic supply of land causes the productivity of other inputs to gradually decline. It is the rapid growth in real incomes of the farming classes that provides the effective demand for the labor of the poor, partly working to produce the enhanced agricultural output, but far more to produce consumer goods. Note that virtually all programs to increase productivity of the rural poor involve goods for which income elasticities are quite high (Mellor, 1978).

Throughout the third world, the poor spend between 50% and 80% of their increments to income on food (Pinstrup-Andersen, 1985, table 1, p. 9), so food price increases hurt their incomes. The vulnerability of the poor in Asia to rising food prices is well known. It is now clear that the poor in Africa are also generally net purchasers of food and hence, also vulnerable to rising food prices (Lele and Myers, 1987; Reardon et al., 1988). Since increasing food production by incentives such as higher prices hurts the poor, there is a special need for technological change which provides incentives to farmers—incentives which are both potentially greater than those provided by higher prices and which have no negative impact on the poor (Ranade et al., 1988). Cost-reducing technological change is pro-poor, pro-food security.

Second, an agriculture-based development strategy that enhances food security for rural poor requires massive investment in rural infrastructure. It is increasingly clear that reliable all-weather transport is essential to achieving a high level of intensity of farming, labor input per hectare, wage rates, and rate of growth in nonfarm employment. In Bangladesh, Ahmed and Hossain show that good infrastructure compared to poor infrastructure is associated with 92% more fertilizer use per hectare, 4% more labor per hectare in farming, 30% more nonfarm employment, and a 12%

higher wage rate (Ahmed and Hossain, 1987, chps. 4 and 5). Typically, one-third or more of the agricultural area of developing countries is so ill-served with infrastructure as to be left out of these processes (see, for example, Wanmali, forthcoming).

Investment in rural infrastructure must be quite large if agriculture is to become the centerpiece for any development strategy. Unfortunately, many developing countries neglect the countryside and concentrate the bulk of resources in a few major urban centers and in highly capital-intensive industries. This inevitably leads to a very small proportion of the labor force working at high productivity and wage rates, with the bulk of the labor force contributing precious little to the whole development process. Such suboptimal strategies of development are characterized by the import substitution strategies endemic in Latin America, the heavy industry strategy of India and China, and the capital-intensive consumer goods strategy of the Philippines.

Export-led growth typical of South Korea, if fed by massive capital inflows, can bring the mass of people to income levels that provide food security and may eventually pull the rural sector along. But the countries which have done well from the beginning in providing food security are the ones with broad-based agricultural strategies, e.g., Taiwan, Thailand, Malaysia, Kenya, and the Ivory Coast. Such agricultural growth strategies exploit low-income countries' comparative advantage, providing agricultural exports to pay for commercial imports of food as well capital-intensive intermediate products. That strategy varies sharply from one led by exports because initial demand is generated domestically, rather than overseas.

Recent experiences of Kenya and Tanzania illustrate this point. In the 1980s, Kenya's agricultural sector grew at an average annual rate of nearly 3% and was the primary force behind a slightly more rapid growth in gross domestic product (GDP) (World Bank, 1987, table 2). Tanzania, on the other hand, was unable to sustain a rate of growth about 1% for either its agricultural sector or in GDP (World Bank, 1987, table 2). Rapid growth in the incomes of Kenya's poor required large imports of food to sustain per capita consumption. Food imports grew at 6.5% per year in Kenya, compared to only 3% in Tanzania from 1970 to 1985 (Lele, 1988, p. 40). Kenya has been able to provide better food security to its people by promoting more rapid and more equitable growth through an emphasis on its agricultural sector.

REDISTRIBUTION OF FOOD

In a world with large food surpluses in wealthy nations, we should not shy from redistribution of food as a short-run ameliorative to food security. Marginal redistribution of income towards low-income people will not in itself achieve food security. Food, not just finances, is needed. Such redistribution efforts, however, face many problems.

To take a simple case within a developing country, say India, one rupee of purchasing power taken away from a person in the top 5% of the income distribution causes a reduction, in constant prices, of 0.03 rupee in foodgrain consumption (Mellor, 1978, tables 1 and 2, pp. 5-7). That same rupee provided to a person in the bottom 20% of the income distribution provides increased demand for 0.58 rupee of foodgrains. The one-to-one equality of financial transfers is matched by a 19-to-one inequality in material transfers. Thus, a marginal redistribution of income is profoundly inflationary in driving up food prices. In this case, what the left hand of society gives to the poor, the right hand of the market takes away.

Of course, the more prosperous reduce their consumption by the amount of the lost rupee. Most of this reduced consumption will be for labor-intensive goods and services, including vegetables and livestock. This produces reduced employment opportunities—and income—for the poor. The poor lose if the physical supply of food is not increased, either by lower incomes from reduced employment or from higher prices.

The same principles apply to transfers across nations. Financial transfers to poor nations will only serve to drive up the domestic price of food, unless these transfers are used to import food. Keep in mind that the short-run supply response of food production to price is slow and the long-run response is related more to complex institutional development.

All of this means that direct transfer of food to the poor represents a feasible and potentially efficient means of achieving food security by redistributing across international boundaries. But it is important that such food transfers actually reach the poor, or else prices will be depressed. Price decreases, of course, benefit the poor, but there is always the danger that such decreases will retard the process of technological change in agriculture (Mellor, 1978; Mellor, 1968).

The very elastic demand for food by the poor in developing countries offers an opportunity for price discrimination that is advantageous to both food producers and poor consumers. By selling at a lower price in the low-income market, increased consumption occurs that reduces supply in the high-income market

where demand is inelastic, resulting in a higher average price. It should be noted that given the supply schedule it is advantageous to all producers, not just food aid providers in developed countries. That is the theoretical basis for food aid from the point of view of exporters and producers.

Seeing the relationship between food, purchasing power, and food security allows us to understand the place of food security in the current state of structural adjustment programs, such as those popularized by the World Bank. These adjustment programs are, of course, reactions to unsustainable deficits in government budgets and large trade imbalances. Reducing transfer payments, such as food subsidies, and food imports helps deal with both problems. If subsidies to the poor are reduced, but the supply of food is maintained, then a significant part of the loss from reducing subsidies will be returned through lower prices. There will, of course, be a net loss to the poor, but not in full proportion to the subsidy reduction. The major damage occurs if both the purchasing power of the poor and the supply of food is reduced. Then the reduction in subsidy will not be offset by lower market prices.

Food subsidies and accompanying food imports are likely to represent a substantial part of the budget of those developing countries which have poor agricultural growth records. This is because of the importance of cheap food in maintaining political stability in the face of little income growth. Since the subsidies will tend to drive up prices if imports are not increased, there tends to be a commensurate increase in imports.

Because of the close interaction between incomes of the poor and purchase of food, the structural adjustment process may show itself in many guises, but with the same effect in each case. Policies of reduced government expenditure or tighter monetary policy are both likely to reduce the employment and purchasing power of the poor. This will reduce upward pressures on food prices and thus facilitate reduced imports, thereby closing the circle on food consumption by the poor. Note, that government budget imbalances and trade deficits tend to go hand in hand in the context of food security.

Structural adjustment programs are likely to create another food security problem for the poor. The very purpose of those programs is to accelerate growth. Such growth is likely to raise the incomes and purchasing power of laboring class people in the third through the sixth deciles of the income distribution, who have more human capital in terms of family nutrition, health, and education. As long as the economy is essentially in labor surplus, these people will earn more and put upward pressure on the price of food. If the bottom two deciles remain unemployed and underem-

ployed, they will have their real incomes reduced by the higher prices.

That scenario seems to be precisely what has happened with structural adjustment in Sri Lanka. The top 75% in the income distribution experienced increased incomes and food consumption, despite a drastic reduction in food subsidies; the bottom 20% suffered a lower level of food consumption (Edirisinghe, 1987, table 29, p. 48). Structural adjustment has all the appearances of working, but with a deleterious effect on the very poor, at least in the short run.

Lele argues that similar problems have plagued the process of structural adjustment in Malawi (Lele, 1987). She makes the further point that the pace of market liberalization in the structural adjustment process has often outpaced the capacity to build institutions and to remove constraints for increasing the employment of the poor. In such circumstances, special efforts are needed to ensure the food security of the poor.

In many cases, food aid from the developed countries can be effectively used to mitigate the unfavorable effects of structural adjustment on the poor. Here, the key is targeting such food aid to low-income people. Efficient targeting will maximize market expansion in response to food aid, gratifying producer groups in both developed and developing countries. Thus, the vital questions for food aid in support of structural adjustment are (1) How can it be targeted to the poor? and (2) How can it also contribute positively to the processes of broad-based growth?

The two principal means of targeting food aid to the poor are food-for-work and food subsidies. Food-for-work is usually highly effective at reaching the most poor, because the work is onerous and the pay is low. While food-for-work sometimes misses certain classes of the poor (such as women and the infirm), it is attractive because it helps create the physical infrastructure needed for broad-based growth. In that regard, it is especially attractive in rural areas where, in general, infrastructure is sorely lacking. In much of Africa, for example, the veritable lack of paved roads and complementary institutions presents one of the largest impediments to rural development.

In considering the use of food aid to support creation of such public works, it is well to remember that developing countries are rarely using food as a wage good to back up increased employment. So earmarking foreign assistance in the form of food aid is biasing expenditures and development allocations in a direction which theoretically may not be the most efficient, but it is effective and correct.

If food-for-work is to make an effective contribution to growth it

must be complemented by other resources such as materials for road surfacing and culverts. Ezekiel estimates that in Africa food comprises some 15% to 40% of the cost of public works (Ezekiel, 1988). Ahmed and Hossain show that without the complement of other resources, food aid is of little productive value. In Bangladesh, rural roads without a hard surface are of little value, but paved roads enjoy a high rate of return (Ahmed and Hossain, 1987, chp. 9).

Finding financing to complement food aid in rural public works or other labor-intensive projects is a matter of institutional convenience. One solution is to provide some additional food aid for sale in the market. Such sales must not, however, reduce prices below reasonable levels. A second solution would be to allocate counterpart funds from sales of food aid to such projects to cover nonfood costs (Ezekiel and Gandhi, 1987). A third solution would be to develop institutional ties between developing countries and the institutions which provide financial resources. This solution should be feasible with such multilateral organizations as the World Food Program and the World Bank.

Food subsidies are another means of targeting food towards the poor. They also have a production effect: they should lead to a somewhat more stable and lower-priced labor force. Food subsidies have the effect of distorting consumption patterns towards food—more food is consumed at a given income level when income comes from food subsidies than when it comes in other forms (see, for example, Kumar, 1979; Garcia and Pinstup-Andersen, 1987). Such distortions may or may not be desirable from the point of view of the poor, but are considered attractive by most donors.

Broad subsidy schemes, the most extreme of which exist in Egypt, have large costs and an immense impact on food security. In recent years, Egypt has spent up to 9% of its national income and 17% of its national budget on food subsidies (Alderman et al., 1982, table 3, p. 16). It has provided in any given year as much as 6.3 million tons of cereal for consumption (Alderman et al., 1982, table 30, p. 74). These subsidies have accounted for about 16% of the total incomes of the poorest quartile of the population (Alderman and von Braun, 1984, p. 41).

Food subsidies may be targeted to the poor by very general measures, such as choosing lower quality foods, or very specifically, by giving the poor food stamps or inviting them to field kitchens. Efforts at narrow targeting are more expensive in poor countries and those with fewer educated people to serve as administrators. It is all too easy for narrow targeting to become less efficient in delivering a given proportion of food to poor people than more generalized subsidies.

A good example of narrow targeting is the pilot scheme in the Philippines, which designated low-income areas and then focused subsidy programs in these areas (Garcia and Pinstup-Andersen, 1987). Yet in cases like the Philippines, as targeting efforts narrow, they exclude more and more of both the wealthy and the poor. In a sense, efficiency may rise, but deprivation is likely to increase as well.

Bangladesh is a good example of a country using food aid to back both food-for-work and food subsidies. In the mid-1980s, the average value of food aid in Bangladesh equalled 26% of annual development expenditure. That provided a substantial quantity of food and the financial means for the government to transfer purchasing power to the poor. It should be emphasized that governments cannot quickly turn income and food redistribution programs on and off. Once programs are introduced even with foreign aid, governments will do their best to maintain them—even at very high costs to long-term development. For example, an econometric analysis of public development expenditures in Bangladesh indicates that during the period 1976 to 1985, every dollar reduction in the supply of food aid was followed by a reduction in public expenditures on development of as much as 18 cents (Ahmed and Hossain, 1987; Ahmed and Bernard, 1987). Similar analysis for Egypt provides even more striking evidence of the extent to which governments will cut other expenditures in order to maintain food subsidies when foreign aid is reduced.

CONCLUSION

Food surpluses in developed countries can be used as a development tool to accelerate economic growth in developing countries. Food, as a wage good, is an important resource in mobilizing the abundant supplies of labor that are developing countries' comparative advantage. Shortages of food impede an agriculture- and employment-led growth strategy designed to exploit that labor supply.

Food aid from developed countries, as a complement to financial assistance, can be especially important in building the rural infrastructure that is so necessary to ensure the widespread impact of agricultural growth. However, efficient distribution of food aid and its coordination with financial assistance requires a large complex of institutional structures. It also requires a sustained commitment by both donors and recipients to agriculture- and employment-led growth in developing countries. In these days of moral concern about the concurrent existence of food surpluses

and hunger, food aid can bring about an immediate increase in food security.

ADDITIONAL INFORMATION

For a detailed discussion of the impact of agricultural growth on the poor, see Mellor, 1976.

A broad overview of various development strategies can be found in Mellor and Johnson, 1984.

A number of studies analyze the impact of food aid in developing countries. See, for example, Singer et al. (1987), Clay (1985a), Reutlinger (1983), Sen (1983), and Schultz (1980). Maxwell and Singer (1979) review a number of other studies as well.

The concept of food aid as a form of price discrimination is discussed in Mellor (1983) and Srinivasan (1987).

For further analysis of the relationship between food security and the purchasing power of the poor, see Sen (1981). In that context, Mellor and Gavian (1987) and Clay (1985b) analyze the importance of food production in the incomes of the poor.

For additional information on the impact of food subsidies in developing countries, see Ahmed (1979), Gavan and Chandrasekera (1979), George (1979), Gray (1982), Scobie (1983), Trairatvorakul (1984), and von Braun and de Haen (1983).

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