

A/D/C

FOOD AID and DEVELOPMENT



AGRICULTURAL DEVELOPMENT CORP.
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**FOOD AID
AND
DEVELOPMENT**

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Chapter 1

IMPROVING THE EFFECTIVENESS OF FOOD AID: A REPORT OF THE SEMINAR

Gordon O. Nelson

Food aid offers an important potential mechanism for transferring real resources. In recent years food aid has become an increasingly scarce resource, largely because world commercial demand for foodgrains has increased more rapidly than the agricultural surpluses produced by developed countries. And the absolute volume of food aid has diminished since its heyday in the 1960s. Nevertheless, food aid continues to play a significant role in total foreign aid, especially in several large, food deficit countries, and it is likely to remain an important element in the development assistance arena for some time.

Experience has shown that food aid can be used extensively to promote social and economic development. However, as most observers point out, the full potential of this resource has rarely been realized. The central question is, How can food aid best be used as an instrument for development? A number of related questions also come to mind: What are the links between food aid and development? What, within the overall goal of economic and social development, are the varying objectives that different countries, with different environments, hold? What sorts of policies might successfully achieve these objectives? And what are the requirements for the effective implementation and management of food aid programs?

Recognizing the importance of these issues and following up on its earlier seminar on food aid, the Agricultural Development Council's Research and Training Network organized and sponsored a seminar on "Improving the Develop-

mental Effectiveness of Food Aid," which met in Colombo, Sri Lanka, August 18–20, 1980.¹ The overall purpose of the seminar was to enable experts whose experience with food aid covered a wide range of issues and activities to explore the kinds of policies that might increase the effectiveness of food aid in promoting development. Holding the seminar in Asia also reflected an RTN concern to make use of Asian countries' long experience with food aid programs and to include as participants a number of experts from countries currently receiving food aid. Thus seminar participants represented recipient-country government agencies charged with food programming as well as departments of the United States government that administer food aid programs, universities and volunteer agencies in several countries, and international organizations.

This chapter does not propose to summarize the proceedings of the conference. Rather, it is an interpretive account of the discussions generated by the five major presentations, four of which appear as Chapters 2–5 of this monograph on, respectively, the relationship of food aid to general economic and development strategy, the nature of food aid resources and their effects on an economy, food aid as an instrument of human capital formation, and decision making and implementation of food aid programs within a recipient country. The fifth paper, presented orally, offered ideas for future research that are discussed in the last section of the present chapter. The agenda for the seminar and a list of participants appear as appendices to the monograph.

This chapter attempts to highlight the major issues of the seminar and to give the reader an idea of the areas in which participants reached general agreement and of those in which they differed. The chapter also reviews some important issues that were discussed briefly during the seminar but that will require further consideration.

MAJOR ISSUES

Food aid issues are highly interrelated. Inevitably, discus-

¹The RTN seminar on "Implementation of United States Food Aid—Title III," was held at Princeton, January 15–16, 1979.

sions about food aid touch on most of the major development and welfare issues facing developing countries. Although the seminar discussions generally followed the varying themes of the five presentations, the sections of this report redefine these themes somewhat in order to consolidate the account.

Production-Consumption Reconciliation

In most recipient countries, food aid affects the entire food system through supply and demand shifts which, in turn, affect market prices. The traditional conflict between the farmer's wish for higher prices as an incentive to increase production and the consumer's wish for lower prices that will make it possible to increase or protect consumption poses a clear problem for those who are attempting to fit food aid programs into general welfare and development strategies.

Until recently, analysis of food aid policies and programs has focused on the production effects of such aid, particularly its price disincentive effect. Increasingly, however, it is being recognized that lowered production incentives need not necessarily be the result of food aid imports. For example, price disincentive effects for producers can be modified by using food aid, in a variety of ways, to increase demand. And food aid can be used directly to increase agricultural productivity, as through public works (e.g., food-for-work) projects. Moreover, although price incentives may be necessary they are rarely sufficient to increase production; technological change in the form of modern agricultural inputs is crucial to increasing production in most developing countries.

From the consumption perspective, lowered food prices as a result of food aid imports can be extremely helpful to consumers in food deficit developing countries. As Engel's Law implies, the poor—here the marginal farmer and the landless worker—are particularly sensitive to food prices. The higher prices that encourage production will discourage consumption among poor people and will significantly lower their real incomes. Thus in most developing countries, higher food prices do have legitimate welfare implications. And this

is true not only in urban areas, for many—in some countries, most—farmers are net purchasers of food.

There are a number of ways of alleviating the problems of both consumers and producers, but most tend to be costly. Food aid can be targeted to poorer groups, for example, but in the experience of most seminar participants the very poorest people are difficult, if not impossible, to reach. In the view of several participants, the magnitude of the poverty problem in many countries precludes targeting food aid on a meaningful scale. And producers can be offered price incentives through guaranteed procurement plans but only at considerable expense.

One of the central points of discussion in the seminar, and one on which the participants generally agreed, was the potential usefulness of food aid as a means of bridging the gap between short-run (between six months and six years) consumption requirements and long-run increases in agricultural productivity. To quote one participant, “Food aid resources can be used to increase the degrees of freedom available to policymakers in food deficit countries” who confront this fundamental production–consumption dilemma. One strategy, for example is to use tradeoffs between commodities—such as between wheat and rice—to serve both consumers’ and producers’ needs better. The strategy of using food aid as a short-run measure requires detailed analysis and understanding of a particular country’s food system and a real commitment to developing that country’s agriculture.

Finally, participants repeatedly voiced their concern about the knowledge gap on the consumption side of the equation. They expressed a strong plea for more analytic work in this area, pointing out our need for answers to such questions as, What are the dynamics of food aid vis-à-vis consumption and incomes? How are the benefits and costs of various food aid programs distributed across income groups? What are the limits of our current analytic techniques in exploring these questions?

Human Capital Investment

The use of food aid in the development of human capital is a topic that was touched on at the 1979 RTN food aid seminar but discussed in depth only at the present meeting. Traditionally, we have tended to view food aid as a welfare instrument, not an investment resource. In fact, however, as one participant pointed out, using food aid to improve nutrition and health and to increase participation in education can be viewed as a real investment expenditure that increases long-term labor productivity, especially when combined with investments in capital and land.

The human capital approach to food aid attempts, through targeting programs of various types, to channel food-aid resource transfers to those groups that make up the most vulnerable segment of the population. The income transfer from targeted programs such as those for food stamps, maternal-child health support, and school lunches not only increases real incomes of recipients and thus total demand but enhances the general quality of life and leads eventually to economic efficiency and growth.

The objectives and logic of the human capital approach to food aid are compelling, and as stated, they met with little resistance from seminar participants. A number of people, however, did raise some pertinent issues regarding the practicability of the approach and the lack of empirical support for it. In fact, an issue that was raised repeatedly throughout the seminar was the proverbial question of equity versus growth. The proponents of the human capital approach argued that this traditional dichotomy is a false one; much experience from the field, however, suggests otherwise.

With respect to practicality, one obvious issue is that of cost. Targeted programs cost literally two, three, and four times the CIF cost of the food aid commodities they use, according to one participant. What then is the opportunity cost of the extra development resources required for targeted programs? A second issue is the scale of food aid required in a given country to implement the human capital approach. One participant, attempting to estimate the amount of food aid needed to establish a meaningful, broad-based school

lunch program in Bangladesh, concluded that the amount was roughly double the already large quantity of current foodgrain imports. A third issue centers on logistic and leakage problems of targeted programs. Several participants from volunteer and donor agencies noted that commodities may sometimes be “lost” or may be misdirected so that the intended beneficiaries never receive them. Finally, participants raised the question of what the experience has been of countries that have followed an equitable, broad-based food distribution strategy, particularly vis-à-vis productivity. In the case of Sri Lanka and Kerala, for example, the connection between social services and economic growth does not appear to be strong. Perhaps it is too soon to make inferences.

The real question is, Why has the improvement in quality of life not yet led to increased productivity and growth? In the absence of a dynamic, efficient economy, using food aid primarily as an instrument for human capital development seems simply to spin a country’s economic wheels. Some participants suggested that because in many countries the poorest of society’s groups live persistently below subsistence level, targeted food aid programs can only help to prevent deterioration of the stock of human capital—they cannot add to it. Thus a catching-up phase may be required before targeted food programs can begin to affect productivity and growth.

Implementation and Management

The operational aspect of food aid programs is often just as important as the overall policy and planning aspect. A certain technical competence—apart from that needed in policy making analysis—is required to monitor, adjust, and evaluate day-to-day operations. And the problems encountered in such operations can be truly enormous: for example, complicated negotiations and ordering, international transport lags and bottlenecks, pressures on limited domestic infrastructure capacity, and stock management difficulties. Thus food aid programs require a high level of technical and managerial competence in order to operate smoothly and to meet

desired objectives. This requirement is particularly strong now, when world foodgrain markets are fluctuating; in fact, however, food aid flows will continue to be irregular because of their nature as well as the market.

Clearly, to undertake such heavy analytic and decision making responsibilities, recipient countries must further develop the capacities of personnel charged with these responsibilities. In general, analytic and managerial capabilities tend to be scarce in developing countries; in particular, personnel trained in food policy analysis are rare. The problem, however, is not one-sided. Although seminar participants from food-aid receiving countries strongly emphasized such countries' needs in this area, participants also noted that many donors face a serious shortage of analysts who are trained in food policy issues related to their food aid program responsibilities.

The demand for food policy analysts and for analysis of food issues is likely to continue to outrun supply for some time even if, in the near future, donors make greater commitments to training, fellowships, and research. Two new international agencies—the World Food Council and the International Food Policy Research Institute—have begun analytic work on food aid issues.

Another major problem for recipient countries in implementing food aid programs is the lack of coordination between domestic agencies and between these agencies and foreign donors. Most of the seminar participants recognized the desirability of great coordination at all levels, but no suggestions as to how to proceed were forthcoming. The problem is not unique to food aid programming; it affects aid programs in general.

Micro Training—Macro Issues

Many economists who deal with food aid have been trained more in micro than in macro economics, yet many key food aid issues are macro in nature: for example, taxation (direct and indirect); investment; employment; and, particularly, wage policy. The traditional starting point for food aid analysis—partial analysis of a system's components—carries a

bias in favor of compartmentalization. But food aid works through recipient economies in a variety of complicated, interrelated ways that affect the system as a whole.

A recurrent theme at the seminar was the importance of the link—fundamental in most developing country economies—between food policy and wage policy. Consumption decisions and labor-use decisions are two key factors that are linked at the micro level and that are necessary precursors to macro-level policy making. Economists, however, are only just beginning to include wage rate and wage policy factors in their analyses of food aid. Clearly the knowledge gap is wide. But, according to one seminar participant, food aid as a wage good is likely to become an increasingly important, perhaps the dominant, question in future.

AREAS OF CONSENSUS

Seminar participants found themselves in agreement on a number of issues—issues that centered around important factors in the programming of food aid for development. Perhaps even more important than consensus on any one issue, however, was the realization that just a few years ago, agreement on some of these matters would probably not have been achieved.

- Food aid is a real resource that can be used in a variety of ways to promote development. Food aid resources are likely to be part of the aid picture for a long time; however, because they are becoming scarcer, efforts should be made to allocate them as efficiently as possible.
- Food aid is only a small fraction of general aid, which in turn is a small portion of the total resources required for development in food deficit countries. Thus although important at the margin, food aid is not a panacea.
- We need a balanced perspective on the issue of the price disincentive effect. It is generally recognized now that this effect may be moderated in a number of ways.

- Food aid and food policy issues are complex: through interrelationships at different levels, food aid generally affects a recipient country's entire economy. Of particular significance are the macro-micro interrelationships and the production-consumption policy dilemma.
- We lack the data bases and analytic techniques necessary for sorting out many of the important food policy issues confronting recipient countries. And among both recipients and donors, analytical skills are in critically short supply.
- Many food aid issues are country-specific: developing countries vary widely in experience, environment, and needs.

MAJOR CONTROVERSY

The major controversy of the seminar centered around the market versus nonmarket interventional use of food aid for development. Participants who gave more weight to the role of price emphasized the significance of the production-consumption dilemma and the sheer magnitude of the food problem faced by many food deficit countries. In these participants' experience, the nonmarket, or targeting, approach has not begun to fill the consumption gap and has had little effect on raising agricultural productivity. Thus these participants felt that targeting cannot effect a long-term solution to the food problem. They did not suggest, however, that targeting is useless. They felt that for vulnerable groups with extremely limited purchasing power (often seasonal), targeting may be the only way of protecting incomes and ensuring minimal nutritional levels.

Advocates of targeting intervention emphasized the short-run needs for selective redistribution of income as well as the long-run benefits of the enhancement of human capital. They felt that targeted food programs should be thought of in terms of investment, not simply welfare.

Whether we view targeting as investment or welfare, we still face the task, crucial to the targeting approach, of iden-

tifying the specific populations most in need of income or food redistribution. In practice, “means” tests have not been very satisfactory, and there is some suggestion that the poorest groups may, in fact, benefit more from market, or price, approaches than from targeting methods.

Food-aid receiving countries commonly use food aid resources in a variety of ways simultaneously: for example, market-price defense, rationing, and targeted distribution programs. And donor categories for food aid reflect such various distribution modes; see, for example, USAID’s Titles I, II, and III. The appropriate mix of programs or modes is very country-specific, and it may well be, as one participant suggested, that the difference of opinion on the market–nonmarket intervention issue stems largely from participants’ varying experience and geographical orientations.

UNRESOLVED ISSUES: A RESEARCH AGENDA

Although the issue of food security and the related matters of domestic reserve schemes and world grain trade were touched on several times during the seminar, they were barely discussed. Clearly, food security is of great importance to food deficit countries, particularly in view of fluctuating world markets in foodgrains and energy and the vulnerability of domestic production to changing weather conditions. The relation of food aid to food security issues must be explored comprehensively. The potential returns to analysis in this area are very high.

The other potentially high-payoff subject for research in food and food policy issues is the methodology itself. New frameworks for analysis are needed to tackle the complex problems explored at the seminar. One such problem is the production–consumption interface and the importance to it of wage rates; another is the whole set of issues involving the evaluation of alternative food aid programs—costs and benefits, distribution of benefits, and cost effectiveness.

In addition to these two major foci of potential research, participants listed a number of topics that need research emphasis. Although individuals’ rank orderings differed

somewhat, there was little disagreement about the identity of topics requiring attention. Among the most important of these were the following:

- Design of procedures for implementing simple “means” tests
- Identification of food sector linkages
- Identification of the links between food aid and agricultural productivity
- Analytic evaluation of food delivery systems
- Analysis of consumption patterns in recipient countries
- Exploration into the dynamics of poverty

COMMENTS BY V. S. VYAS

Nelson’s report is faithful to the seminar discussions and highlights the main points. I have only two comments to make.

The first comment relates to an area that, though relevant, we did not discuss. In simple terms, we ought to have raised the question of what role food aid will play in Asia in the light of recent developments in some Asian countries. In some areas—for example, Bangladesh—agricultural development seems to be occurring more rapidly than had been predicted a few years ago. Also, there seems to be a breakthrough in rice production, as there has been in wheat production, although no similar advances seem to be occurring in pulses or millets. Most food aid is, of course, wheat. The production–consumption issue that Nelson refers to should perhaps be expanded to include the changing mix in the commodity basket and the lag in adjustment of consumer demand to domestically available foodgrains.

My second comment refers to the issue of how food aid is replaced in the system. This is a topic that we did discuss, but I feel it is not adequately covered in Nelson’s report. Some participants pointed out that food aid could be (a) used to bring down the general price level in a situation of food scarcity or (b) released in a manner such that a targeted group is “immunized” against high foodgrain prices. In the

context of alternative *b* there was some discussion of the food-for-work program. Nelson's report refers to this discussion but, in my view, does not highlight it sufficiently. Alternative *a*, or the open-market operation, should be underlined, and the huge quantities of food necessary to meet the objective of price stabilization should be emphasized.

Chapter 2

FOOD AID AND DEVELOPMENT POLICY

C. Peter Timmer and Matthew Guerreiro*

The intent of this essay is to outline the elements of a policy framework for equitable economic growth. The potential role of food aid is examined as a vehicle for increasing the degrees of freedom for policymakers to create an appropriate development policy. The paper focuses on the dilemmas inherent in the development process that force policymakers to make politically difficult choices between legitimate short-run welfare concerns and long-run growth prospects. In some circumstances food aid can be a bridge across this dilemma; in others its presence is a barrier to building and crossing this bridge.

The argument can be summarized as follows: policymakers partially control the four basic macroprices in any economy—foreign exchange rates, interest rates, wage rates, and the urban–rural terms of trade. The goal is to create a decision making environment for both public and private decisionmakers in the economy that will lead to appropriate technology in the broad sense of appropriate products, production techniques, and distribution mechanisms that include an equitable share for the urban and rural poor. The four macroprices must be set to reflect long-run scarcity values to the economy. However, these scarcity values simultaneously imply a “bad” short-run distribution of income and reduced absolute welfare for many poorer people. In the absence of neutral fiscal transfers or asset redistributions, short-run programs that provide a temporary, minimum subsistence floor for the poor are essential because they make possible the implemen-

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tation of what is otherwise an extremely unpopular development policy.

From the perspective of a recipient country, food aid has many roles, from famine relief and the provisioning of local feeding programs for school children or vulnerable groups to macroeconomic support in the form of foreign exchange or budget revenues. Research that will yield an understanding of the circumstances under which these potential contributions can be realized is a matter of high priority, but it cannot be conducted as a sequence of unconnected topics. It is the complementarities among these various roles, realized through complicated linkages within the food system and to the rest of the economy, that provide the framework for the understanding that is needed. This perspective is developed in three sections: 1) an appropriate development policy with respect to the four macroprices; 2) the potential to use disaggregated food price policy as a short-run vehicle to permit longer-run incentive price policies to be implemented; and 3) the potential of food aid to assist in implementing such an approach, with a hypothetical but plausible Sri Lankan example.¹

APPROPRIATE DEVELOPMENT POLICY

An appropriate development policy seeks to improve employment prospects and foster higher productivity and income growth for the urban and rural poor. Economic policy influences four basic macroprices—interest rates, wage rates, foreign exchange rates, and the urban–rural terms of trade (i.e., food prices).

No government is able to set these macroprices arbitrarily. The national and international economies that provide the

¹Each of the three sections draws on a larger body of work. The perspective on the nature of an appropriate development policy draws on relevant parts of Timmer (July 1980). The role of disaggregated food policy draws on methodological and empirical work over the past five years. Summary statements are found in Timmer (August 1980) and Timmer (forthcoming). The potential contribution of food aid is mostly speculative, but the early origins of the ideas are in Timmer (1978) and Timmer (1979). The Sri Lankan example grows out of a Harvard Institute for International Development (HIID) project with the Ministry of Finance and Planning under the direction of Dr. W. M. Tilakaratne.

policy environment strongly condition the wage rate that can be chosen and set by national fiat and yet be widely applicable as the prevailing wage rate throughout the economy. The same is true of interest rates, exchange rates, and food prices. These macroprices are meant to reflect to the economy and to international trading partners the relative scarcities of these goods and factors. To a large extent, the levels and relative values of the macroprices will be dictated by the economy and not to the economy by domestic policymakers.

What then is the role of policy? Economic policy attempts to change the environment in which basic economic decisions are made in both the public and private sectors. To be effective, a policy requires (1) a sensitive understanding of the macroprice equilibrium likely to be produced by the real economy in the absence of a particular intervention; (2) an understanding of the ability of government activity to alter the real economy directly, e.g., by funding projects that raise the demand for labor or increase the supply of food or foreign exchange; and (3) an understanding of the limited, but still positive, ability to nudge the macroprices in a desired direction either directly (by fiat, as in announcing a new interest rate) or indirectly (by banning the export of food and hence lowering its domestic price and moving the urban-rural terms of trade in favor of cities). The degrees of freedom for economic policy depend on how these three factors relate to each other, but all countries have significant potential to alter the environment in which choice of technology and resource allocation decisions are made.

Policies that encourage macroprice levels conducive to long-run economic growth, however, are frequently unpopular for their short-term effects. High interest rates that discourage capital intensity, low real wages that encourage labor absorption, high foreign exchange costs that discourage imports of consumer luxuries and encourage the export of labor-intensive products, and high food prices that pump real purchasing power into rural areas encompass a package of economic policies that is patently unpopular in most countries. If such policies become suddenly necessary as auster-

ity measures to bring policies closer to what the real conditions of the economy can actually support, the short-run welfare implications can be exceedingly severe. While such phrasing may sound neutral, these “welfare implications” in poor countries usually mean a rapid rise in infant mortality rates due to acute malnutrition, subclinical hunger that affects worker and student productivity, and excess short-run scarcity profits to the owners of capital and foreign exchange and to speculators who hold large food inventories.

Facing this dilemma over the “right” macro policies and the resulting short-run welfare costs is the heart of modern political economics. Resolving the dilemma requires attention to the need to 1) establish a subsistence floor, 2) exploit policy reinforcing feedback linkages, and 3) disaggregate welfare problems by economic function and income class of the people affected.

A minimum subsistence floor, unconnected to the marginal productivity of labor (as reflected in market wages for unskilled labor) separates survival from economic policy. The Chinese use of workpoints in rural areas largely divorces marginal productivity from labor income, which is calculated as a per capita grain distribution (on welfare grounds), valued and paid for in workpoints, plus the average (not marginal) value of workpoints times total workpoints earned (labor time or task, corrected for quality difference). The Chinese system is analytically similar to the shared income of some peasant households, where the performance of tasks with low marginal productivity still makes sense when the average labor product is significantly higher.

Prices based on real scarcities, especially capital and labor prices, mean badly skewed income distributions in labor-surplus, capital-poor countries. In these environments, protecting the consumption of the very poor through ration shops, food stamps, or direct food deliveries, will be essential in the macroprice environment is to be used to foster appropriate economic choices.

The second consideration is the extent to which feedback linkages reinforce both “right” and “wrong” policy choices with respect to macroprices. A somewhat overvalued foreign

exchange rate that is even further overvalued as a deliberate act of policy will set in motion forces that tend to make even greater overvaluation necessary. Some of these forces are economic. The protection afforded by an overvalued exchange rate to domestic industry using imported inputs tends to make such industries less efficient, with little incentive for cost control. When domestic production costs rise faster than international costs, foreign competition again becomes a threat, and further protection in the form of tariffs or revaluation is needed. Many of the forces are social and political. Protected domestic industry develops a patron-client relationship with the government policymakers who provide the protection; the workers in the protected industry enjoy the high wages made possible by the protection and lobby (in the streets if necessary) for its maintenance and extension.

The dynamics in the opposite direction are not nearly so strong nor as well documented empirically because of the limited number of success stories. Taiwan, South Korea and Hong Kong hardly provide the basis for generalization. But the dynamics do seem to exist. The rigors of scarcity values for macroprices induce an efficiency and flexibility in production and trade that seem to energize labor-absorbing investment. Such policies tap the latent dynamism in rural sectors, which have frequently suffered from decades of discrimination and neglect. A dynamic rural sector is essential to the equitable and rapid economic transformation of a poor society. The role of appropriate macroprices, particularly food prices, in generating such rural dynamism is still a subject of some controversy, but most agricultural development specialists are now in the price incentive camp.

Macroprices carry with their allocative properties (drawn from scarcity values) some important distributional properties due to their role as direct or indirect factor payments. In the short run, owners of capital benefit from scarcity prices for capital and owners of land benefit from high food prices. Laborers' incomes are determined by their wages. Changes in foreign exchange prices can have important (though difficult to predict a priori) income distribution consequences even in the short run.

The policy dilemma is the short-run trade-off between allocative and distributional goals for significant parts of society. Some macroprice environments are so bad that *both* allocative and distributional goals are served by change, but in many societies appropriate program and project design is needed to protect the poor from the full brunt of the distributional consequences of an allocatively efficient macroprice set. The alternative, a project strategy designed to attenuate the allocative effects of a macroprice set designed primarily for distributional goals, seems to founder on the inability of public enterprises and government regulators to gather and process information in a sufficiently rapid and sensitive fashion to avoid strangling the dynamics of both public and private economic decisionmaking.

DISAGGREGATION AND FOOD PRICE POLICY

Designing policies that promote economic growth but protect the poor requires some understanding of how the poor respond to price and income change. Aggregate supply and demand parameters mask the welfare costs of allocatively efficient macroprice policies. Food consumption analysis, by income class, yields policy options (including the use of food aid) that may prove effective in bridging the short-run welfare costs incurred in long-term growth.

Empirical evidence of the sort now available for Indonesia, Thailand, and Brazil is demonstrating that the poor are quite sensitive to calorie prices in determining how much food they consume. This is not surprising in light of the large share of their budgets devoted to purchasing (or growing) food. The notion that much hunger and malnutrition is attributable to inefficient allocation of household resources is probably not generally true for the very poor. However, two areas do exist where, without substantial increments in household financial resources, improved household decision making could lead to improved nutritional status.

First, as incomes increase, the poor may increase calorie intake, but they also tend to purchase higher quality (i.e., higher priced) calories. The nutritional (and social) value of

such higher quality energy sources may be higher—rice rather than cassava, wheat rather than millet. If energy intakes, however, remain relatively less adequate than protein intakes, which is typically the case, then nutritional status will not improve as rapidly per unit of increased income as it would if the original food patterns were merely extended in quantity. The role for nutrition education is obvious. But what should be conveyed is that the composition of poor people's diets is nutritionally adequate, and that emphasis within the household and within the planning agency should be on enlarging the quantities consumed by the poor. Where such diets contain low status foods such as roots and coarse grains, this advice runs counter to deeply held prejudices in both the nutrition and planning community.

The second source of inefficient household decision making is in the distribution of foods within a household. Diverting food from children to feed working adults is undesirable from a social point of view. Any educational input into households with serious constraints on food availability should be aimed at redirecting some food resources to pregnant and lactating mothers and to weaning-age and toddler children.

Poverty-linked hunger and malnutrition are not just a function of low average per capita incomes in a country, nor are they likely to disappear in the course of economic growth in the absence of substantial structural and policy changes that would drastically alter employment and incomes of the poor. Since most countries are reluctant or unable to make such substantial changes, the search for ways to eliminate malnutrition must focus on the cause of the wide variation observed in nutritional status among quite poor countries (and regions). The result is a scramble to understand how Kerala, Sri Lanka, China, Cuba, Taiwan, South Korea and a few others have managed to achieve low rates of infant mortality and high life expectancy (proxies for good nutritional status among the poor) at low per capita income levels.

Two general patterns emerge. In both, a relatively equitable pattern of income distribution exists. In the first pattern, such incomes are rising rapidly, and access to food is maintained by careful supply management of macro food markets

with little effort made to make food a public rather than a private good. Well-distributed and rapidly rising incomes, plus attention to the macro food situation, seem sufficient to eliminate most hunger and malnutrition, as the cases of Taiwan and South Korea indicate.

In the second pattern, incomes are also relatively evenly distributed, but they are not growing rapidly. In this situation it has been necessary for the governments to manage food distribution in a much more activist fashion, converting food into a near-public good. Programs take the form of free or subsidized direct distribution (Sri Lanka) or differential access to ration shops where basic foods are highly subsidized for the poor (Kerala, Cuba). China seems to be an intermediate case, where urban rationing in recent years serves more to control mobility and provide control of macro food supplies than to serve the poor directly.¹

These two patterns demonstrate the dilemma of eliminating malnutrition without major structural and policy changes in a society. For those societies (of which Korea and Taiwan are examples) where the incomes of the poor will grow rapidly and where competent supply management is undertaken, the problem will take care of itself. But very few such countries exist. For those countries where growth has been slow or where the poor are excluded from the benefits of the growth process (or will participate at no more than the average rate), activist food policies and distribution programs will be required. But the evidence so far is that these programs are quite expensive, are difficult to manage and administer, and may divert sufficient resources and distort farm incentives so that the growth process is seriously impaired. The dilemma posed by subsidizing food consumption for the poor while attempting to maintain adequate private incentives for food producers is especially difficult in a single-staple food economy attempting efficient budgetary management. The temptation to use imports—especially if available

¹Although relatively little research has been directed to the nutritional impact of these different food price subsidy schemes, a start has been made, primarily at IFPRI and the World Bank. Some sources that deal with the question at least indirectly are Ahmed (1979), Gavan (1977), Gavan and Chandrasekera (1979), George (1979), Kumar (1979), Swamy (1979), and Timmer (1976).

on concessionary terms—to cover shortages and to use low farm prices as a means of controlling budgetary costs is frequently irresistible. In such a context food aid can actually have a significantly negative impact on the development process.

It is here that a poverty-oriented food policy perspective may reveal greater degrees of freedom for policy intervention by focusing on actual food consumption patterns of the poor. In nearly all poor countries that are not significant grain exporters, the poor consume different staple foods than those consumed by the middle class and the rich. Attention to biological research, production, and marketing of these staples may offer the opportunity for self-targeting food programs that reach primarily the poor at little enforcement cost.

Even where this is true, however, subsidies may still be essential if the poor are to increase their food intake significantly. Reducing enforcement costs by using self-targeting foodstuffs addresses only half the problem of targeted deliveries to the poor. The other half of the problem is the sheer lack of purchasing power that requires consumer price subsidies if the goods and services are to reach the truly poor in sufficient quantities to have a meaningful welfare impact. Clearly, by subsidizing commodities only the poor wish to consume, the overall fiscal burden will be smaller than if more popular commodities are chosen and are freely available at the subsidized price. But correspondingly, the political base of support for such a program will also be substantially narrowed. Keeping rice prices cheap in Indonesia is enormously popular, and it does help the poor. Subsidizing corn and cassava prices while allowing rice prices to rise substantially will not be popular among the politically powerful social groups even if it does help the poor more.

Cross-subsidy programs can probably work effectively in the food area. Because of substantially different income and price elasticities by income class for important foodstuffs and different qualities of those foodstuffs, the opportunity exists to subsidize, for example, low quality broken rice while exacting a premium on higher quality rice or on preferred varieties. Similarly, retail sales of wheat flour might

be subsidized while commercial products such as bread are not. The same cross-subsidy could also be used across food-stuffs, e.g., by subsidizing cassava from proceeds of high-priced wheat or rice. It must be emphasized, however, that there is very little positive concrete country experience from which to learn in this area of food price subsidies. The existing record is not encouraging. Subsidies typically accrue primarily to urban middle classes; low urban prices are enforced uniformly at the expense of adequate farm incentives. The real social costs to a cheap food policy can be significant if the poor do not participate adequately in the benefits of increased consumption. If they do, then redesigning the food policy to ensure both adequate producer incentives and adequate food intake is a complicated undertaking not to be rushed under the flag of "getting prices right".

Food prices are an unwieldy instrument to improve food intake. When food prices work against the objective of greater food consumption by the poor, sectoral programs and targeted delivery schemes are likely to be ineffective or costly in their implementation. Similarly, the more precise instruments are likely to gain measurably in effectiveness and efficiency in the context of a conducive price policy. As a matter of strategy, food price policy interventions should be coordinated with planned interventions at other levels of the problem. The strategic discussions must deal with four basic requirements for a successful intervention to improve nutritional status: (1) demand, (2) supply, (3) delivery, and (4) sustainability. Intersecting these four program requirements are four levels of strategic design:

1. Structural changes leading to significant asset redistribution and to more equitable functional income distribution, thus providing the poor with better access to food because of long-term improvements in real purchasing power
2. Policy changes in the macro environment that affect the rate of economic growth, the benefits to the poor in that growth, and further improvements in their real purchasing power
3. Sectoral interventions designed specifically to improve

the access of the poor to basic goods and services (such as a well-designed and managed rural health program or agricultural development program designed for small farmers)

4. Targeted delivery systems for either single commodities or integrated basic needs packages focused on the needs of the poor

A package approach alone is widely seen as a purely palliative attempt to help the poor without disturbing any of the basic mechanisms that cause poverty in the first place. However, in many situations palliatives are the best that can be achieved, and the alternative is not more effective structural or policy reforms but doing nothing at all for the poor. Efficient palliatives in the form of well-designed and delivered packages of basic food and health services can be justified on welfare grounds alone, but the sustainability issue is serious if satisfying the needs of the poor does not have a longer-run productivity effect through the creation of human capital.

This productivity effect depends critically on the policy (and possibly on the structural) context of the sectoral and package programs that supply basic needs to the poor. In the right macro policy environment, investment by society (and by the poor themselves) in human capital of the poor will be repaid by productive opportunities for remunerative employment. With the wrong macro policy environment, not only will the labor power of the poor be largely redundant in a remunerative sense but so also will their new skills and productivity potential. In such a context the long-run sustainability of the simple palliative approach is highly dubious.

If public delivery of food to the poor is to be expanded, major efforts will be needed to build a new direction and mission into the public institutions charged with this responsibility. Reaching the poor has not been the strong suit of many third world public agencies (or of their supporting donors), and institution building with a focus on reaching the poor will not be easy (and will almost certainly not be achieved by legislative mandate).

To the extent that private markets will be used as the most

efficient vehicles for channeling food subsidies and distributing food to the poor, the primary public responsibility will be to ensure careful supply management on the macro side. Here the longer-run planning potential of Title III PL-480 might be extremely helpful. Both short-run and long-run planning of food supplies in the market place will be essential if direct public food deliveries to the poor are not contemplated. Such reliance on the private market for distribution will also mean a public responsibility for micro demand management, which obviously implies an effective government concern for generating basic purchasing power for the poor. The obvious link between the macro planning needed on the supply side and the micro effective demand management will determine the prices of the various food commodities.

Balancing the need for price incentives against impact on demand by the poor may require price subsidies. Subsidy schemes for consumption goods have a justifiably bad reputation for not reaching the poor, with most benefits going to the urban middle class. Using public subsidies to meet the food needs of the poor will require either much more carefully targeted distribution schemes, with their attendant high enforcement and administration costs, or more careful choice of what will be subsidized.

This choice has three major components: (1) What products should be subsidized to the poor, what should be their "quality", and what standards of acceptability should be used to make the choice? (2) How should the products be produced, processed, and distributed? and (3) What kinds of institutions will be needed to implement strategies that contain both appropriate products for the poor and appropriate techniques for production?

The appropriate technology movement has focused on these issues as the essence of the bias against reaching the poor inherent in most current development efforts. Enormous biases undoubtedly exist both in third world planning agencies and in the donor community that work against both products the poor consume and the labor-intensive techniques that are likely to be the most appropriate way to produce them. Enforcing middle class or elite standards of

acceptance on the foods, health care, shelter, education, and sanitation standards “permissible” for the poor to consume in greater quantities is perhaps the single greatest factor in preventing the poor from enlarging their consumption bundle.

Breaking out of this pattern will require much more sensitive attention to the actual consumption patterns of the poor and to their degree of change when the causal variables—incomes, prices, knowledge, household location—change. In addition to understanding in greater detail what the poor consume, it will be important to determine the sources of their incomes in functional terms. It is likely that much of the income the poor earn will be from activities that are highly vulnerable to displacement by less labor-intensive techniques or products. Lack of attention to which techniques or products the society will produce, even as basic needs for the poor themselves, can easily undo from the income generation side all the good being done on the supply management side.

THE ROLE OF FOOD AID

The argument so far is that food aid can have a productive impact on development policy on the context of an understanding of how the food system links to the general economy and how the poor participate in both. If that perspective is accepted and the research to generate such understanding is underway, what then is the role of food aid? How can it help? When might it hurt?

First, in the context of an appropriate development strategy, outside resources, whether food or cash, can speed the rate of growth. Here the macroeconomic support offered by food aid that is discussed in Chapter 3 of this monograph can be a significant factor in making an economy grow fast enough for the lives of the poor to be dramatically affected.

Similarly, food aid used to provision specific projects directed at feeding vulnerable groups is easily justified by its direct impact on the welfare of those reached. There are fairly obvious bureaucratic limitations to how widely such an impact can be felt. But in those circumstances where the

food does reach the poor and helps build their longer-run productive potential, food aid is again an appropriate aid vehicle.

But a larger issue must be raised. How can the availability of food aid, and the food aid itself, contribute to the evolution of a development policy that creates an environment for equitable economic growth? This is obviously not an econometric question, nor even one of growth accounting, where food aid might help fill one of the "gaps" in the development plan. As has been emphasized throughout the paper, this issue is primarily one of political economy, of how to bridge the tradeoffs between short-run welfare costs to long-run development policies. For a certain category of developing countries, food aid can provide the critical supports for that bridge. The most obvious candidates are food-importing countries with at least two significant food staples, with one clearly perceived as the preferred food by the society. In such circumstances the flexibility created by a disaggregated food policy is greatest.

Indonesia and Bangladesh fall in this category of countries that can use food aid effectively; Sri Lanka is perhaps the best example of such a country. It imports all of its wheat and a significant share of its rice. Sri Lanka has a long history of genuine policy concern for the poor and a substantial and skilled bureaucracy able to implement targeted programs with reasonable efficiency. At the same time, the fiscal burden of Sri Lanka's equity-oriented policies, along with a gradual erosion of the economic surplus from the state-run sector that paid for such policies, have forced the equity-efficiency tradeoffs into prominence. Thus Sri Lanka has the objective conditions that make effective use of concessional food imports possible and the political conditions necessary to adopt a poverty-oriented food policy. The policy issue, then, is how can Sri Lanka achieve rapid and efficient economic growth without losing the very real welfare gains that have been achieved over the past several decades, even with low per capita incomes?

Sri Lanka has already made a commitment to rapid economic growth as the solution to its structural problems. Its new development policy entails major liberalization of the

economy, with the consequent necessity to use the basic macroprices to signal relative economic scarcity rather than primarily as vehicles for the distribution of incomes. Food prices are rising very dramatically as domestic prices begin to approach world prices, valued at a free exchange rate. The dilemma this raises for the poor in the short run is quite obvious, as the free and subsidized food rations disappear. So far the answer has been an attempt to implement a food stamp program for the truly poor, in order to reduce significantly the fiscal burden of overall food subsidies. But lacking an effective means test, distributions of food stamps have quickly surpassed budget estimates, and the old dilemma has reasserted itself.

An alternative approach might involve a large increase in PL-480 financed wheat flour imports simultaneously with increases in the domestic price of rice, for both producers and consumers, to the likely long-run world price trend. Wheat flour would be heavily subsidized in retail markets for small quantities aimed at household units, say, one-pound or five-pound bags. Preliminary econometric evidence suggests that wheat flour actually has a negative income elasticity in the rural and estate sectors and is only slightly positive in urban areas (see Alderman and Timmer, 1981). Its price elasticity is not reliably estimated from the available aggregated data, but it seems likely to be about -1.0 on average, and it should be substantially larger in absolute terms for the poor. Thus wheat flour, if heavily subsidized, appears to be an excellent vehicle for reaching the poor with a high-quality calorie source. Since no wheat is grown domestically, the rural sector suffers no direct disincentive, and indeed, if rice prices are held at long-run world levels through this multi-commodity food strategy, additional rural production incentives should be forthcoming. The empirical parameters of such a strategy obviously depend on cross-elasticities of demand and producer responses to incentives. But with rice imports still a significant factor in total Sri Lankan rice supplies, some logistical cushion exists before facing the difficult problems of domestic rice surpluses as a long-run issue.

Price disincentives are likely to be felt in a number of secondary crops that have traditionally been undervalued in

Sri Lankan agriculture—sorghum, millet, maize, and perhaps cassava. Heavily subsidized wheat flour will tend to replace these items in the diets of the poor, even in most rural areas, and little incentive will exist to produce them unless a specific purchase scheme is adopted with incentive prices. An emerging commercial livestock sector, especially in dairying and poultry, might be a logical end use for such coarse grains purchased under an incentive scheme. But subsidizing the feeding of such grains to reduce the cost of livestock products probably does not carry substantial welfare benefits on the demand side. The great bulk of such a subsidy would end up in middle and upper income households. However, this may be a desirable price to pay because such subsidies might produce program support and, more important, because they might be necessary in order to implement the incentive scheme in the first place. Since most coarse grains appear to be produced by small farmers on marginal lands, getting additional financial resources to them in return for higher productivity should have high priority.

The aid-financed wheat flour would also help with some needed short-run macroeconomic bridges, especially with respect to foreign exchange and domestic budgetary resources. Part of the budget resources would be needed to fund the price subsidy, but a net contribution is likely if all wheat flour were aid-financed. In addition, the higher rice prices should reduce rice consumption, perhaps dramatically (the econometric estimates suggest an average price elasticity of -0.3), sharply reducing the need for rice imports and the foreign exchange to pay for them.

The obvious and extremely important question that arises with such a strategy is how to assure both food aid donors and recipients that the program will last only five to ten years, not indefinitely. The gross distortions of relative prices implied by the strategy are likely to cause serious biases in the domestic agricultural sector eventually, even though no wheat is grown domestically. With a large enough subsidy, wheat flour could no doubt replace rice as the major staple of Sri Lanka. With a little imagination there is probably some way to feed it to chickens. Such distortions are inevitable if

the subsidy scheme becomes a permanent fixture of Sri Lanka's food system. But that is not how it is intended. The subsidy is designed to cushion the impact on Sri Lanka's poorest consumers while new jobs yielding higher incomes are created and filled. A subsidy strategy would have to contain a built-in ending mechanism to provide strong incentives to the policymakers not to treat the food aid as a continuing resource but as a device to permit the growth strategy to be implemented and take hold.

The example is not intended as advice but as an illustration of how food aid can serve a significant role in alleviating the suffering of poor people caught in the dilemma imposed by appropriate macroprices. The scarcity values are real and will be ameliorated over time only by changing the degree of scarcity, that is, by real economic growth that is highly labor absorptive. Such growth does not happen if the basic macroprices are sending contrary signals. Food aid can be used to help move those macroprices to appropriate levels without making the poor pay the entire price of the early stages of economic development.

REFERENCES

- Ahmed, Raisuddin. *Foodgrain supply, distribution and consumption policies within a dual pricing mechanism: A case study of Bangladesh*. IFPRI Research Report No. 8. Washington, D.C.: International Food Policy Research Institute, May 1979.
- Alderman, Harold & C. Peter Timmer. *Consumption parameters for Sri Lankan food policy analysis*. *Sri Lankan Journal of Agrarian Studies*, January 1981.
- Gavan, James. *The calorie energy gap in Bangladesh and strategies for reducing it*. Paper read at the Conference on Nutrition-Oriented Food Policies and Programs, Bellagio, Italy, August 1977.

- Gavan, James & I. S. Chandrasekera. *The impact of public foodgrain distribution on food consumption and welfare in Sri Lanka*. IFPRI Research Report No. 13. Washington, D.C.: International Food Policy Research Institute, December 1979.
- George, P. S. *Public distribution of foodgrains in Kerala—Income distribution implications and effectiveness*. IFPRI Research Report No. 7. Washington, D.C.: International Food Policy Research Institute, March 1979.
- Kumar, Shubh K. *Impact of subsidized rice on food consumption and nutrition in Kerala*. IFPRI Research Report No. 5. Washington, D.C.: International Food Policy Research Institute, January 1979.
- Swamy, Gurushri. *Public food distribution in India*. AGREP Division Working Paper. Washington, D.C.: International Bank for Reconstruction and Development, July 1979.
- Timmer, C. P. Food policy in China. *Food Research Institute Studies*, 1976, 16, 1.
- Food aid and malnutrition. In *International Food Policy: A Proceedings*. Foreign Agricultural Economic Report No. 143. Washington, D.C.: U. S. Department of Agriculture, 1978.
- *Food aid and development: Some issues*. Paper presented at A/D/C-RTN Seminar on Food Aid, Princeton, January 1979.
- *Public policy for improving technology choice*. Rev. draft. Harvard Business School. July 1980.
- Food prices and food policy analysis in LDCs. *Food Policy*, August 1980.
- Food prices as a nutrition policy instrument. In *Interface problems between nutrition policy and its implementation*. Cambridge, Mass.: MIT Press, forthcoming.

Chapter 3

MACROECONOMIC DIMENSIONS OF FOOD AID

Gordon O. Nelson

Food aid as a resource transfer mechanism remains highly controversial. The controversy stems in part from the fact that researchers have failed to examine the total record. More fundamentally, it results from their having focused on too narrow a range of issues.

Admittedly, the record is mixed. Some countries have made effective use of food aid as a development resource in agricultural and other sectors; others have used such aid only at the expense of their own agricultural development and fiscal reform (Maxwell & Singer, 1979; Schuh, 1979; Witt & Eicher, 1964). The fact that the use of food aid has, in some instances, led to economic growth underlines the potential of such aid to affect development positively. Unfortunately, the literature has tended to focus on the experience of countries whose performance under food aid programs has been considered questionable or poor. As a result, the discussion about food aid has become polarized, with a few critics holding that, except in conditions of grave natural disaster, food aid is inherently and unequivocally bad (Lappé & Collins, 1979).

Many questions surround the subject of food aid, but researchers have chosen to limit themselves largely to the question of economic efficiency and, in particular, the matter of disincentives. There are two basic and well-known arguments: (1) that food aid dampens both short-run and long-run price incentives to producers; and (2) that, over time, continued reliance on food aid weakens a recipient government's resolve to aim policy and investment toward developing domestic agriculture. It is argued that these price and

policy distortions lead to a misallocation of scarce resources. However, although such distortions may occur in many developing countries, neither the specific role that food aid plays in the process nor the extent to which the distortions affect production is clear.

Although there is an increasing awareness of the important and interrelated question of economic equity—the effects of food aid on the consumption and incomes of low income people—we have comparatively little evidence on this question so far (see, e.g., IFPRI, 1979; Isenman & Singer, 1977; Rogers, Srivastava, & Heady, 1972). Many economists continue to ignore the consumption potential and focus on production issues (Schultz, 1978), which are important but, taken alone, oversimplify the food problem faced by many or most developing countries today.

Another important group of questions excluded from much of the food aid literature centers around the fiscal and monetary implications of food aid. Because food aid directly increases the supply of the primary wage-good, food, it eases a major constraint on monetary and fiscal expansion in food-deficit, developing countries. And the budgetary-resource gain from food aid—“saved” foreign exchange or local currency generation—can be used directly to support expansionary development policies. Although critics often point out the potential risk of becoming dependent on budgetary resources from food aid rather than mobilizing additional local resources through tax reform, the positive aspects of such resources are seldom emphasized, much less quantified. (Exceptions can be found in Ahluwalia, 1979; Isenman & Singer, 1977.)

This chapter will attempt to clear up some of the food aid controversy by reviewing the basic macroeconomic mechanisms by which food aid can affect and move through recipient country economies. The chapter will provide a perspective on the complex interrelationships among the variables in the food aid issue and will suggest priorities for future research.

ADDITIONALITY

Because food aid is often tied to product and source and restricted in its use, it is considered inferior to untied financial aid, which can in theory be used more flexibly and efficiently for the same purposes. However, if food aid is partially additional to total aid, there is an important tradeoff to be made between economic efficiency and a larger total aid package. In practice, many low income developing countries will choose the larger aid package, even with tied elements.

Food aid was probably more additional to total aid during the 1950s and 1960s, when developed countries had large surpluses, than in the mid-1970s, when world grain markets changed abruptly and surplus stocks were depleted. But surpluses have now reappeared—farm policies of developed countries continue to support excess capacity in their agricultural sectors—and in the medium term, legislatures will probably continue to find it easier to appropriate food aid than financial aid.

Food aid was originally designed to be additional in another sense: it was not to interfere with ordinary trade patterns but to supplement “normal” imports (FAO, 1956; cf. USDA’s “usual marketing” requirement: PL 480, 1954, p. 1). However, there is evidence to suggest that, in the aggregate and even on a country-by-country basis, this principle has not been closely followed. Low income, food deficit countries have a strong tendency to import food supplies, although their ability to do so is often constrained, and they usually pursue any opportunity to substitute concessional for commercial imports quite vigorously. Moreover, it is very difficult to define “normal” imports.

Estimating the degree to which food aid has displaced commercial imports is basically an *ex post* counterfactual in political economics and thus far from precise. Nevertheless, a number of empirical studies that have used varying methodologies have suggested quite consistently that in many countries the substitution of food aid for commercial food imports is high. One survey, using mid-1960s data, calculates average rates of substitution in the 0.7–0.8 range for most countries sampled; India was the major exception (Pin-

strup-Andersen & Tweeten, 1971). Three other studies of the same countries reported similar findings (Ginor, 1963; Hall, 1980; Rath & Patvardhan, 1967). And a more recent study presents econometric evidence of a one-to-one substitution in many countries, again with India as an exception (Sarris, Abbott, & Taylor, 1977, quoted in Taylor, 1977).

BALANCE OF PAYMENTS SUPPORT

When food aid displaces commercial imports on a one-to-one basis, it does not per se increase aggregate supply and thus does not depress food prices. However, it does “save” foreign exchange, which is equivalent to balance of payments support. If such savings or revenues are then invested or transferred to consumers, aggregate demand will rise and the net result may be higher prices.

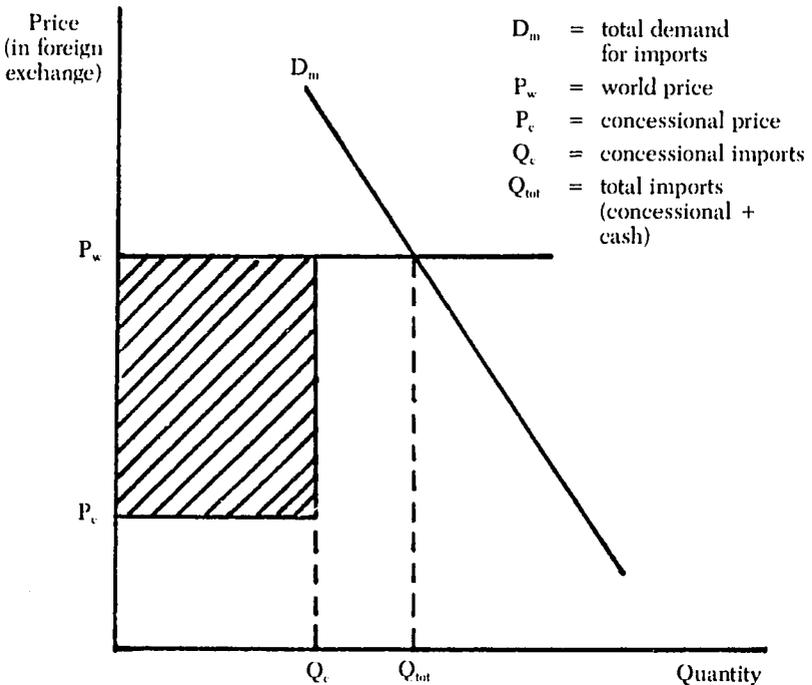


Figure 1. Relationship between total demand for food imports and concessional portion of food aid. Shaded area represents foreign exchange “saving,” or the grant element of food aid.

Food aid is rarely totally free. Thus when it displaces commercial food imports, it cannot free foreign exchange equal to the full value of those imports. The real foreign exchange cost of food aid varies according to the terms of the grant or loan—such as “price,” transport, and loan specifications—and the discount rate that is applied. Nevertheless, the “saving” can be significant, especially for recipient countries whose foreign exchange earnings are limited and whose currencies are overvalued and nonconvertible. Figure 1 illustrates the concessional portion of food aid in relation to total food import demand.

As an indirect balance of payments support, food aid has a potentially important and positive impact on a country’s overall development effort. This impact depends, however, on the use of the freed foreign exchange, which in practice is a function of general development strategy and policy.

If food aid programs continue over time, they can have a negative impact on the same strategy and policy. Timmer (1978), citing the Stanford Project on the Political Economy of Rice in Asia (see also Timmer, 1975), suggests that

the long run availability of food aid reduces the financial and political pressures to invest in domestic food production capability even though the short run price effect on food production may be neutral. The Stanford Project . . . has generated fairly strong evidence that this long run investment decision is as important as the short run price response. The important role for food aid in this broader context is in the manner in which it alters short run and long run constraints (p. 33).

This weakening of a country’s resolve to address the basic structural problems of a lagging agricultural sector is probably the most serious risk of the use of food aid. Yet the empirical record is equivocal: all we can really say is that this potential risk exists.

DOMESTIC BUDGETARY SUPPORT

Since developing countries generally import food, both commercial and concessional, on government account, the revenue generated by sales of such food goes to the exchequer. The revenue that accrues from the concessional por-

tion of food aid that does not substitute for commercial imports represents a net budgetary gain. This revenue, together with the increased supply of the primary wage-good, food, can provide the basis for expansionary monetary and fiscal policies that lead to greater total output and income.

The use of counterpart funds—revenues generated from the sale of food aid—like the use of “saved” foreign exchange, depends on general development policy. Donors often attempt, by the use of specific restriction, to ensure that such funds are channeled into investment activity. In practice, however, donors’ restrictions can often be circumvented. National budgets offer considerable fungibility; imaginative accounting can disguise the real use of food aid revenues. For example, development budgets can be loaded with items that belong in revenue, or operating, budgets. Or, a government can simply print money that it can use for any purpose and leave the restricted food aid revenues in various blocked accounts.

Again, it is argued that long-term reliance on additional local budget revenues, particularly when they are used for subsidies or operating expenditures, weakens the resolve to undertake fiscal reform. Specifically, it is suggested that “easy” revenue from additional food aid may lessen the pressure to reform a tax system so as to mobilize additional local resources from within.

IMPACT ON THE MARKET ECONOMY

Developing countries with persistent or growing food shortages face strong upward pressures on food prices, a situation that may stimulate producers but burdens consumers. Because food is the primary wage-good, these circumstances put a major constraint on growth and employment. Both commercial and concessional food imports shift the aggregate domestic supply curve outward, thus helping to moderate price levels. The degree of price change, when imports are distributed in open market channels, depends largely on the relevant supply and demand elasticities. Figure 2 shows that a supply shift due to food imports, S to S' , would lower price from P_1 to P_2 , *ceteris paribus*.

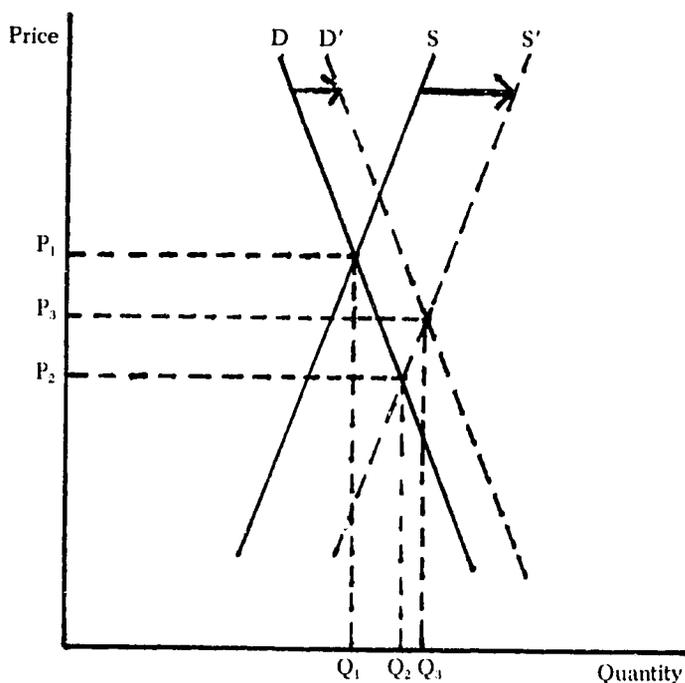


Figure 2. Aggregate food supply and demand equilibrium.

But if food imports are distributed in a way that creates additional income (e.g., through differentiated markets at subsidized prices), then imports can also affect aggregate demand and thereby offset somewhat the price-depressing effects of their own supply shift. Figure 2 shows that a concurrent demand shift due to food imports, D to D' , would result in a net price change from P_1 to P_3 . Thus food aid can play a special role in creating additional income, either through financing subsidy distribution policies to select groups (direct income retransfer) or through increasing general investment expenditures to raise aggregate output and incomes (indirect income effect).

Most developing country governments intervene heavily in food markets, especially in the pricing and distribution of food imports. Since such intervention usually affects both supply and demand, the task of analysis is to sort out the changing shifts in supply and demand, so as to estimate the

net effect of total imports or of food aid imports on prices, production, consumption, and incomes.

Production

Economic theory and a growing body of empirical evidence point to the important role prices play in agricultural decision making—in the short-run and long-run determination of aggregate level and composition of output as well as in choice of technology (see, e.g., Hayami & Ruttan, 1971; Krishna, 1967; Peterson, 1979; Schultz, 1964, 1978; Timmer, 1975, 1979). It is generally accepted that in developing countries with lagging agricultural sectors, farmers must receive “incentive” prices as encouragement to increase food production. What is not commonly accepted is that the connection between food aid and price disincentives to food production is not necessarily direct or inevitable.

First, in situations of severe food shortages, food prices tend to rise to levels well above the levels that, in the long run, are required to provide the incentive for additional investment. Thus, imports can moderate prices somewhat without destroying incentives. It is easier to visualize this set of circumstances in a short-run case of crop shortfall due to bad weather than in a long-run case of chronic shortage due to a lagging agricultural sector. The empirical question is, what is the profitability of food production relative to other activities within and outside of the agricultural sector? One common way of assessing incentives is to compare domestic prices to international prices corrected for exchange rate distortions, taxes, and subsidies.

Second, output prices are not the only index of production incentives. When agricultural productivity is rising, real food prices may decline even though producer incentives remain intact. The crucial element is the source of growth—movement along the supply curve or an outward shift of the curve. In most developing countries the task is not to squeeze additional supply out of inelastic, traditional agriculture but to push the supply curve outward through technological change, or the increased supply of modern inputs. Price incentives are important in both cases but exert their effects at different levels. Illustrative is the case of wheat in the Indian Punjab

during the 1950s and 1960s where new technology enabled farmers to achieve a rapid growth in output despite unfavorable relative (agricultural versus nonagricultural) prices (Herdt, 1970).

Third, tradeoffs between commodities can frequently insulate prices of domestic crops from import pressures. For example, in many countries the principal crop and preferred food is rice, whereas the major food aid commodity is wheat. If the cross-price elasticity of demand is low, the price of rice will be less affected by wheat imports than by rice imports.

Fourth, price fluctuations as well as price levels play a role in producer incentives. By helping to moderate such fluctuations, food imports—depending on how and when they are distributed—can affect incentives positively.

Finally and perhaps most important, it is possible to insulate domestic producers from potentially adverse price effects of food imports through institutional interventions, such as guaranteed procurement at incentive prices. In most cases, food resources can be used to finance such intervention policies.

A number of empirical studies—econometric and non-econometric—have attempted to estimate the net effects of food aid on prices and production. Most have been cast in a partial equilibrium framework. These studies have examined the experience of several countries but have focused on India, which received roughly half of all PL 480 donations made prior to the 1970s. The results of these studies, and their degree of robustness, have been mixed.

In Brazil and Tunisia, for example, food aid resources were used to help finance a dual-price system—support for wheat producers and subsidies for consumers—that resulted in higher production and consumption (Hall, 1980; Stevens, 1979). At the other end of the spectrum, in Colombia, food aid apparently contributed to a large-scale wheat import policy, already in place, that depressed wheat prices and domestic production significantly (Dudley & Sandilands, 1975).¹

¹Note that production of rice, root crops, sorghum, and cotton rose significantly in Colombia during the same period (Bachman & Paulino, 1979).

The evidence on India is inconclusive. A number of studies, which use essentially the same data but varying methodologies, describe a rather wide range of effects of food aid on prices and production (see, e.g., Ahluwalia, 1979; Blandford & von Plocki, 1977; Isenman & Singer, 1977; Mann, 1967; Rogers, Srivastava, & Heady, 1972; Seevers, 1968). Moreover, the results of many of the econometric studies are statistically weak and highly sensitive to sample-period selection (see Blandford & von Plocki, 1977).

Consumption

Prices play as direct and important a role in consumer behavior as in production decisions. Both theory and research support the notion that price relationships not only help determine the composition and level of consumption but, over time, influence consumer preferences (see, e.g., Timmer, 1979; Timmer & Alderman, 1979; Weisskoff, 1971; Wold & Jureen, 1953). In food deficit developing countries, consumers respond to shortages and rising prices by consuming less. Thus, when food imports moderate price increases, consumers benefit.

Because in general, sensitivity to price increases as incomes decline, the poor benefit proportionately more from lowered food prices than do the rich (although the absolute gains may be higher for the rich). To the very poor in low income countries, price moderation due to food imports often means the difference between (barely) adequate nutrition and starvation. One way of ensuring that food aid reaches those who need it, as already noted, is to use differentiated markets to target food imports directly to select groups at low, subsidized prices. But direct targeting is usually costly, and the method has often been criticized as directing food aid benefits to urban groups rather than to poorer, rural segments of the population.

Consumers who face changing relative prices tend to substitute less costly for more costly commodities. These effects obtain both at the aggregate (food versus nonfood) level, where consumers are responsive to terms-of-trade price changes, and at the level of food commodities alone (see,

c.g., Houthakker, 1965; Timmer & Alderman, 1979; Weisskoff, 1971).

Substitution in consumption opens possibilities for indirect targeting through food imports. For example, in a rice-staple economy, poor consumers will be likely to consume more imported wheat, which is a cheaper though a less preferred source of calories, than will rich consumers. When low income groups are extremely poor, however, their substitution options are few. Also, in multistaple economies, the indirect targeting approach can become complicated and may be limited by concurrent possibilities of substitution in production.

A substantial body of literature is devoted to estimating the effects of prices on food consumption. Macro models in the food aid disincentive literature by definition include the demand side of food systems, but their analysis of the specific effects of food aid on prices and consumption is limited. Consider, for example, the models of Mann (1967), Rogers, Srivastava, and Heady (1972), and Blandford and von Plocki (1977), all of which estimate a decrease in India's domestic production as a result of PL 480 imports. These models also show a net increase in total foodgrain availability and a resulting net gain in consumer welfare, but not one examines the distribution of these consumption gains.

The few studies that have attempted to quantify the nutritional benefits of targeting programs have suggested that in some cases they may have short-term palliative effects. However, the contribution of targeting programs to long-term structural changes that could alleviate poverty is very elusive.

Incomes

The food sector dominates many developing country economies. Food production provides a high proportion of total employment and income, and much of total income is spent on food consumption. Consequently, relative changes in food prices have a direct impact on the level and distribution of incomes among both producers and consumers.

A shift of the domestic terms of trade in favor of the agricultural sector creates an income transfer to farmers as a

group. The distribution of this income depends on the scale of farm production and the portion of the product that is marketed. Normally, when food imports lower prices, farmers' incomes are reduced. We often overlook the fact, however, that in low income countries many small farmers and landless tenants are net purchasers of food. Depending on factors such as composition of production and wage rates, lower real food prices may therefore lead to an increase in many farm household incomes.

Lower prices generally increase consumers' incomes, and this effect is relatively greater for the poor because they spend a larger share of their income on food than do the rich. The absolute increase in income may be greater for the rich simply because they spend more.

Food price changes also affect incomes indirectly, through employment. In low income countries where agriculture predominates, employment is determined largely by the aggregate level and structure of total production and consumption. But the interrelationships among food prices, wages, output, and investment are complex, and employment is the least studied part of the equation. A better understanding of these factors requires general equilibrium analysis to capture the myriad interactive effects.

Of the small number of recent studies of the effects of food price changes on real income levels in developing countries, two deserve mention here. In a pioneering study, Mellor (1978) used data from India to explore the differential effects of food price changes on consumer incomes, producer incomes, level of agricultural production, and employment. He found that both real consumer *and* producer incomes in the lowest two deciles diminished significantly with a rise in food prices. Mellor used partial analysis to examine each of his four variables but always with an eye to the general equilibrium case and the nature of the interactions.

Taylor and McCarthy (Taylor, 1977) present a macro model of the Egyptian economy that simulates the effects of a food subsidy reduction (a price increase) under three alternative scenarios. The study estimates that even with concurrent increases in wages and public investment, real incomes in rural areas would drop more than six percent, or enough to

reduce energy intake by some 200 calories. Taylor points out that such a reduction is potentially fatal for a child already near starvation.

PRODUCTION-CONSUMPTION RECONCILIATION

In most food deficit developing countries the conflicting needs of producers and consumers pose a food policy dilemma: farmers need to receive (often higher) price incentives to encourage investment that will lead to greater food production; consumers, especially the poor, need food supplies at reasonable (often lower) prices not only to survive but to stabilize their incomes and living standards. Political as well as economic reconciliation is required.

Developing country governments generally approach this dilemma with a combination of intervention policies. Food aid often fits conveniently into the import policies that most governments have for closing domestic supply gaps and thus aiding consumers. Most governments also have import distribution policies aimed at helping both consumers and producers by such means as pricing and targeting interventions. And some governments have procurement policies that help producers directly.

A dual-price system that pushes domestic food supply *and* demand curves outward can often be an effective solution to the food policy dilemma. The costs of such a system, however, are not insignificant. First, reserve stocks are needed to support market intervention. Second, there is a need for analytic, administrative, and logistic capacities that take time to develop. Third, subsidies are usually required, although the amounts vary with price structures and degree of intervention. Fourth, and perhaps most important, there must be a political commitment to maintain an effective dual-price policy that attempts to balance efficiency and equity goals.

In some countries the tendency has been to use food aid resources to support policies that put more weight on consumption than on production. Food aid, however, can support effective dual-price systems in which both producers and consumers gain in real terms, as the experience of Tunisia and Brazil demonstrates.

Many governments intervene daily in their food markets, but there are some situations that require attention only periodically—for example, the market disruptions caused by disastrous weather conditions like flooding or drought. Domestic foodgrain reserves are a prerequisite for the operation of stabilization schemes, and food aid can be used to help build such reserves. One problem associated with large-scale emergency intervention is the need to wean a country from external supplies once the emergency has passed. A related problem is that of trying to build an emergency reserve stock in a country that operates a daily foodgrain distribution system: there is a danger of depleting reserve stocks in routine operations.

RESEARCH

Because food aid resource transfers can affect food supply and demand as well as budgets and incomes in a variety of interrelated ways, the effects of food aid can be properly studied only through general equilibrium analysis. Such analysis requires a good understanding not only of the nature of the interrelationships but of the individual product and factor markets. It is of course much easier to analyze single-staple economies with traditional agricultural sectors than multistaple economies whose agricultures are in transition toward modernization. But recent general equilibrium studies of India by Isenman & Singer (1977) and Ahluwalia (1979) provide quite a different perspective on food aid resources than most of the partial equilibrium studies have provided.

The need for research as a basis for food policy formulation—including the use of food aid—is in some sense proportional to the degree of intervention practiced and the complexity of the environment. In many countries research capacity is inadequate to the demands placed on it, and data bases are often very limited. However, the potential return to food policy research is high, as the following examples suggest.

First, in many countries little is known quantitatively about the tradeoffs between commodities in either production or

consumption. Projections of relative profitabilities across alternative crops are limited. Estimates of own-price elasticities are usually available, but estimates of cross-price elasticities, especially by income group, are rare. Analysis disaggregated by commodities could indicate ways of increasing the flexibility of food policy intervention in order to achieve multiple goals.

Second, the subject of reserves and stabilization schemes is not well researched in many countries, largely because of lack of experience with such schemes. Again, the potential gains of research are high. It is usually during periods of wild food price fluctuations that people suffer the most.

Third, since technological change involving modern inputs is the key to agricultural development in most low income countries, constraints research can have a high payoff. Models that study food aid can be used to simulate counterfactuals whereby food aid resources are partially or gradually replaced by input aid.

REFERENCES

- Ahluwalia, Isher J. An analysis of price and output behavior in the Indian economy: 1951–1973. *Journal of Development Economics*, 1979, 6, 363–390.
- Bachman, Kenneth L., & Leonardo A. Paulino. *Rapid food production growth in selected developing countries: A comparative analysis of underlying trends, 1961–76*. Research Report 11. Washington, D.C.: International Food Policy Research Institute, October 1979.
- Blandford, David, & Joachim A. von Plocki. *Evaluating the disincentive effect of PL 480 food aid: The Indian case reconsidered*. Cornell International Agriculture Mimeograph 55. Ithaca, New York: Cornell University Department of Agricultural Economics, July 1977.
- Dudley, Leonard, & Roger J. Sandilands. The side effects of foreign aid: The case of Public Law 480 wheat in Colombia. *Economic Development and Cultural Change*, 1975, 23, 325–336.

- Food and Agriculture Organization (FAO). Principles of surplus disposal recommended by FAO. Appendix III in *FAO Commodity Policy Study No. 10*. Rome: FAO, 1956.
- Ginor, Fanny. *Uses of agricultural surpluses: Analysis and assessment of the economic effect of the PL 480 Title I program in Israel*. Jerusalem: Bank of Israel, 1963.
- Hall, Lana L. Evaluating the effects of P.L. 480 wheat imports on Brazil's grain sector. *American Journal of Agricultural Economics*, 1980, 62, 19–28.
- Hayami, Yujiro, & Vernon W. Ruttan. *Agricultural development: An international perspective*. Baltimore: Johns Hopkins University Press, 1971.
- Herd, Robert W. A disaggregate approach to aggregate supply. *American Journal of Agricultural Economics*, 1970, 52, 512–520.
- Houthakker, H. S. New evidence on demand elasticities. *Econometrica*, 1965, 33, 227–288.
- International Food Policy Research Institute (IFPRI). *Research Report Series: various issues, e.g., Reports Nos. 5, 7, 8, and 13*. Washington, D.C.: IFPRI, 1979.
- Isenman, Paul J., & H. W. Singer. Food aid: Disincentive effects and their policy implications. *Economic Development and Cultural Change*, 1977, 25, 205–237.
- Krishna, Raj. Agricultural price policy and economic development. In Herman M. Southworth & Bruce F. Johnston (Eds.), *Agricultural development and economic growth*. Ithaca, New York: Cornell University Press, 1967.
- Lappé, Frances Moore, & Joseph Collins. *Food first—Beyond the myth of scarcity*. (Rev. ed.) New York: Ballantine Books, 1979.
- Mann, Jitendar S. The impact of Public Law 480 imports on prices and domestic supply of cereals in India. *Journal of Farm Economics*, 1967, 49, 131–146.
- Maxwell, S. J., & H. W. Singer. Food aid to developing countries: A survey. *World Development*, 1979, 7, 225–247.
- Mellor, John W. Food price policy and income distribution in low-income countries. *Economic Development and Cultural Change*, 1978, 27, 1–26.
- Peterson, Willis L. International farm prices and the social

- cost of cheap food policies. *American Journal of Agricultural Economics*, 1979, 61, 12–21.
- Pinstrup-Andersen, Per, & Luther G. Tweeten. The impact of food aid on commercial food export. *Policies, Planning and Management for Agricultural Development*. Papers and reports of the Fourteenth International Conference of Agricultural Economists, Minsk, USSR. Oxford: Institute of Agrarian Affairs, for International Association of Agricultural Economists, 1971.
- Public Law 480. 83rd Congress, Chapter 469, 2nd Session. S. 2475. Approved July 10, 1954.
- Rath, Nilakanth, & V. S. Patvardhan. *Impact of assistance under P.L. 480 on Indian economy*. Poona, India: Gokhale Institute of Politics and Economics, 1967.
- Rogers, Keith D., Uma K. Srivastava, & Earl O. Heady. Modified price, production, and income imports of food aid under market differentiated distribution. *American Journal of Agricultural Economics*, 1972, 54, 201–208.
- Sarris, Alexander H., Philip C. Abbott, & Lance Taylor. Grain reserves, emergency relief, and food aid. In William R. Cline (Ed.), *Policy alternatives for a new international economic order*. New York: Overseas Development Council and Praeger, 1979.
- Schuh, G. Edward. *The effects of food aid: The record, and Concluding remarks: Implementation of U.S. food aid—Title III*. Papers presented at Conference on Implementation of U.S. Food Aid—Title III, sponsored by the Agricultural Development Council, Princeton, New Jersey, January 15–16, 1979.
- Schulz, Theodore W. *Transforming traditional agriculture*. New Haven: Yale University Press, 1964.
- _____(Ed.). *Distortions of agricultural incentives*. Bloomington, Indiana: Indiana University Press, 1978.
- Seevers, Gary L. An evaluation of the disincentive effect caused by PL480 shipments. *American Journal of Agricultural Economics*, 1968, 50, 630–642.
- Stevens, Christopher. *Food aid and the developing world—Four African case studies*. London: Croom Helm, in association with The Overseas Development Institute, 1979.

- Taylor, Lance. Research directions in income distribution nutrition, and the economics of food. *Food Research Institute Studies*, 1977, 16, 29–45.
- Timmer, C. Peter. The political economy of rice in Asia: Lessons and implications. *Food Research Institute Studies*, 1975, 14, 419–432.
- . Food aid and malnutrition. In *International food policy issues: A proceedings*. Foreign Agricultural Economic Report No. 143. Washington, D.C.: U.S. Department of Agriculture, January 1978.
- . *Food prices and economic development in LDC's*. Unpublished manuscript. Boston: Harvard School of Public Health, April 1979. Subsequently published as, Food prices and food policy analysis in LDCs. *Food Policy*, 1980, 5, 188–189.
- Timmer, C. Peter, & Harold Alderman. Estimating consumption parameters for food policy analysis. *American Journal of Agricultural Economics*, 1979, 61, 982–987.
- Weisskoff, Richard. Demand elasticities for a developing economy: An international comparison of consumption patterns. In Hollis B. Chenery (Ed.), *Studies in development planning*. Cambridge, Massachusetts: Harvard University Press, 1971.
- Witt, Lawrence, & Carl Eicher. *The effects of United States agricultural surplus disposal programs on recipient countries*. Research Bulletin 2. East Lansing, Michigan: Michigan State University Department of Agricultural Economics, 1964.
- Wold, Herman, & Lars Jureen. *Demand analysis: A study in econometrics*. New York: John Wiley & Sons, 1953.

Chapter 4

FOOD AID AND HUMAN CAPITAL FORMATION

G. Edward Schuh

The bulk of the world's population is poor. Low income countries are characterized by mass poverty, hunger, poor health, and lack of education. Not only physical capital but human capital is in scarce supply in many developing countries.

Economic development, or the general increase in per capita income, has been on the policy agenda of most low income countries since the end of World War II. Development assistance has been supported by the United Nations and other international agencies as well as by advanced countries of both centrally planned and market orientations. Nevertheless, development assistance has been miserly. Few advanced countries have met the commitments they have made to international concessional assistance. In fact, the richer the country, the less likely it seems to be to provide development assistance.

Many developing countries have been reluctant to take advantage of international capital markets to obtain resources for their development programs. Memories of the colonial period combine with well-intentioned concerns for preserving both national identity and control over national destiny to prevent such countries from opening their doors to foreign capital. The resulting problem of low capitalization is aggravated by domestic policies that discourage savings and investment and that fail to provide income-producing opportunities that would make such capital-building behaviors attractive.

The net effect of these various circumstances is that the resources for furthering the development goals of low in-

come countries are extremely limited. If these resources are to make any kind of contribution to improving the lot of the poor, they must be used effectively. Thus efficiency conditions must be given high priority: high payoff investment opportunities must be identified, and resources must be allocated to these specific activities.

Let us put behind us an old shibboleth. The so-called equity-efficiency dichotomy, which argues that development resources can be used for efficient investments only at the expense of failing to improve the lot of the poor, is a false dichotomy. The kinds of investments most needed to promote rapid economic development in most developing countries are precisely those investments that will improve the lot of the poor.

A basic premise of this chapter is that although food aid is a second-best form of income transfer, we should capitalize on its advantages if for no other reason than that political support for it is likely to continue. A second premise is that by using food aid to build human capital—the qualities that enable people to make productive contributions to the economy—we can take advantage of the special characteristics of food aid as an income transfer in kind. Such an approach should not only minimize any disincentive effects associated with such aid but should encourage high payoff investments.

The first major section of this chapter discusses the unique characteristics of food aid as a form of income transfer. The second section describes the various forms of human capital, and the third argues that using food aid in the formation of human capital is a high payoff investment. The fourth section discusses general and targeted methods of using food aid in the formation of human capital and explores some issues raised by these methods.

FOOD AID AS INCOME TRANSFER

Food aid is a unique form of foreign assistance. As an income transfer in kind, it is in general inferior to income transfers in monetary form—how inferior, of course, depends on its fungibility. But the more readily interchangeable food aid is the more likely it is to produce disincentive ef-

fects, since converting food into cash may lower market prices. In addition, income transfers in kind tend to be more subject to donor control than are monetary transfers.

Food aid is unique in another sense. For both donor and recipient it tends to be a more politically acceptable form of foreign assistance than the cash transfer. High income countries can support it because their bodies politic find it easier to vote resources to prevent malnutrition and starvation than to provide other forms of assistance. When the governments of such countries have accumulated agricultural surpluses as a result of inappropriate price and/or trade policies, food aid is an easy way of reducing government costs.

For similar reasons, governments in low income countries find it politically easy to accept food aid. Even when such aid is seen as a potential or real intrusion into the affairs of a recipient country, the assistance can be rationalized on the grounds that it will help prevent malnutrition and starvation. Food aid is also a convenient means of offsetting or covering up the errors of policy makers in low income countries.

FORMS OF HUMAN CAPITAL

Technically, human capital is the collective term for those characteristics of the human agent that affect the services that agent provides—for example, health, physical skills, and mental capabilities. By extension, human capital refers to a number of phenomena that directly affect the quality of the human agent, such as nutrition, training and schooling, mobility, and migration.

Nutrition and *health* are perhaps the most basic dimensions of human capital. Malnourished people lack energy, are lethargic, and often are in poor health. Such people cannot perform at their top physical or mental capacities and, as a result, they are poor learners and poor workers.

Sizeable externalities are associated with the issues of nutrition and health. Because much sickness is communicable, populations in poor health often require costly governmental programs to prevent or control epidemics. Resources used for such purposes may be at the expense of more directly productive activities. In addition, the illness of some workers

may lower the overall productivity of a well-coordinated work team.

The human agent's physical and mental, or cognitive, skills are enhanced by *training* and *formal schooling*. Skills encompass a wide range of abilities including driving a tractor, wiring a house for electricity, performing mathematical computations, and so on. Some skills may be learned on the job, others in formal training or academic school programs. The importance of improved skills is that they enable the worker to provide services that are increasingly in demand as a country develops.¹

Another dimension of human capital is *mobility*, or changing jobs. If a change improves a person's earning power or increases his or her contribution to society, it is properly viewed as a form of human capital. Typically, resources are required to bring about mobility, for workers need support during transition between jobs.

Migration, to the extent that it raises the human agent's value, is another form of human capital. The worker's good health and skills are of little value if he or she is located far from productive work opportunities. Migration relocates the human agent close to economic activities.

Human capital takes still other forms, such as research skills that produce new knowledge and cultural and institutional arrangements that govern and influence society. These and other dimensions of human capital, however, lie beyond our present interests.

Adequate nutrition and sound health are often viewed as "rights" of citizens. Consequently, resources allocated to these goals are often considered part of a nation's welfare program. In addition, education or formal schooling is often viewed as a consumption good. Both of these perspectives are wrong, and they are dangerous because they lead to unsound policy. All resources allocated to these basic goals are properly viewed as investments in human capital.

¹Note that *worker*, as used here, means either a man or a woman. The new household economics teaches us that household production is as important as production in the market economy. Moreover, in the developing as well as the developed countries, more and more women are joining the general labor force. The literature does not yet reflect proper attention to these facts.

WHY INVEST IN HUMAN CAPITAL?

A considerable number of studies have demonstrated that investments in human capital have a high social payoff, and many authors have argued in support of such investments. Let us examine the logic of the case in the light of what we know about the development process.

First, improving the qualities of the human agent contributes to labor productivity and to allocative and entrepreneurial ability. Given the importance of the human agent as a resource in most societies and the myriad decisions necessary for the production and consumption of society's needs, the potential contribution of improvements in human capabilities is clear.

Second, the continuous change that is integral to development in any society typically requires a new job mix, as well as new skills and increased allocative and entrepreneurial abilities. Skills can be acquired and abilities improved only through training or formal schooling.

Third, human capital involves a number of important complementarities. Human and physical capital are complementary. Because most low income countries have overinvested in physical capital and underinvested in the capabilities of their people, the social rate of return to investments in human capital should be high.

Human capital is also complementary to new production technology (Welch, 1970), which is, of course, the sine qua non of development. To make full use of such technology, whether in the household or the market economy, people must acquire new skills through formal schooling. The more a society invests in new technology, the higher will be the social rate of return to investments in such schooling.

The various forms of human capital are also complementary to each other. Not only does nutrition affect health; health can influence nutrition. And together, as we have noted, both affect the payoff to investment in schooling by determining the capacity of the person to learn.

Health and nutrition also have long-term effects on the payoff to investment in training and formal schooling. Well-nourished people in good health are less likely to become ill

and better able to resist disease if they do contract it. And improved nutrition and health have dramatically increased life expectancy in most low income countries in recent years: Since about 1950, life expectancy at birth has increased 40 percent or more in many of these countries. This greater life span means that the payoff from training and schooling can continue to be realized over a longer period of time; thus both social and private rates of return to investment are increased.

A fourth reason to invest in human capital is that such investment makes each subsequent improvement in human capabilities easier. That is, raising household and/or market productivity by increasing people's skills lowers the cost at which additional human capital can be supplied.

Investment in human capital cannot be considered, of course, without reference to the issue of population control. In general, the number of children a family has and the amount of investment a family makes in the children's training and schooling vary inversely. Thus, where an economy requires large numbers of people to perform work, fewer improvements in human capital will be made. In a technologically advanced economy, which requires fewer but more highly skilled workers, more investment in training and schooling for a smaller number of children may be made.

USING FOOD AID TO BUILD HUMAN CAPITAL

Food aid can be used in a variety of ways to promote the formation of human capital. Some general programs will tend to build small amounts of human capital among a large portion of the population. Other, targeted programs will tend to build larger amounts of capital but among a smaller portion. This section will discuss some principles to be followed in guiding the use of food aid for the formation of human capital and will suggest some specific techniques for applying these principles. Both principles and techniques have evolved out of two primary sources: (1) the experience with the negative income tax experiments in the United States, and (2) the now well-developed theory of human capital and the empirical research that supports it.

General Programs

The negative income tax experiments found that low income families tended to use their increases in income for the formation of human capital (Schuh, 1978). Such families used increments in their incomes to improve their diets and their health, and their children attended school on a more regular basis. Interestingly, mothers tended to withdraw from the general labor force and to spend more time at home. It was not possible to document that this move by women from market to household resulted in the formation of more human capital. However, because the new household economics stresses the importance of the mother to the growing child, the presumption is that the mother's return to the household would promote the child's development.

Food aid is often introduced into the general markets of an economy with no intent to target it to specific population groups. Such an approach increases food supplies and, under fairly general conditions, causes the price of food to be less than it otherwise would have been. To the extent that larger supplies and lowered prices make it possible for disadvantaged or nutritionally prejudiced groups to increase their consumption of food, this approach will have the effect of building human capital. Policy makers must make certain, however, that the food aid does reach these groups or that it benefits them indirectly by a general lowering of food prices.

Such general uses of food aid have an even more direct nutritional and health impact. Reductions in real food prices result in increases in real income for those who can benefit from those particular reductions, if other things are held constant. Moreover, such increases in real income are received disproportionately by the poor since they spend a larger share of their income on food.

Both the theory of human capital and the results of the negative income tax experiments suggest that such increments in income lead to the formation of human capital. The family with increased income wants more education for its children. The family with increased food supplies can rely less on its children to work to sustain the family. Hence the

generalized use of food aid can reduce the opportunity costs of schooling.

Targeted Programs

When food aid is introduced through general programs, upper income groups may benefit more, in an absolute sense, than low income groups simply because they consume more. For this and other reasons, using food aid in well-targeted programs will probably have a greater impact on the formation of human capital than introducing it generally. Food aid can be introduced in such a way as to minimize disincentive effects and focus the benefits on low income groups.

Food assistance programs need not be limited to narrow, specialized projects. For example, food aid can be introduced through rationing schemes that assure that all members of society receive a balanced diet. Although many might object to such extensive government intervention in the economy, there is some evidence to suggest that the nutritional status of the United States population improved during World War II, when a rationing system was in effect.

Another way of focusing food assistance yet keeping it on a broad scale is by means of the *fair price shop*, as operated in India, where low income groups can buy their food at lower prices. There is undoubtedly slippage in such a system; how much will depend on the local government's administrative capabilities.

Somewhat more specialized but still on a broad scale are food programs for pregnant women and lactating mothers. These programs are based on the notion that adequate nutrition is particularly crucial in the earliest months of the child's existence, when its mental and physical capabilities are shaped.

The primary purpose of using food in support of educational programs—an approach with a rather long history—is to offset the opportunity costs of schooling. Unfortunately, school lunch programs are often viewed as welfare measures, and the principles that would ensure that such programs encourage school attendance are neglected. Somewhat more on target yet still only part of the story is the assumption that lunch programs, by improving children's nutrition, will en-

able them to learn at their maximum potential. Clearly, food aid provided in school can affect only those students who come to school.

In most societies, the most important cost of schooling is its opportunity cost—the income or output sacrificed for school attendance. In a relative sense, these costs are quite high for most low income groups. Unless some way is found to offset them, even a school lunch program may not get the children into the schools. When wages are low and food is scarce, the children will have to work to sustain themselves and the rest of their families.

School food programs must provide sufficient food to meet the opportunity costs. In addition to eating a school lunch, the student may have to take food home for the rest of the family. In effect, society may have to pay the child to go to school, but this may be the best investment that society could make.

Food aid need not be limited to the school setting. It can be used to support other kinds of training programs, and it can be used in day care centers. The cost effectiveness of such programs will undoubtedly be high.

In countries with adequate administrative capabilities, food aid could be used as part of a negative income tax system: food, rather than cash, could be given the poverty-level family. On the other hand, paying for attendance at school and in training programs may be a more effective way of providing such a negative income tax. Such an approach would help to motivate the desired educational and training activities, and would do so by raising the family's real income.

Food aid could be used to support mobility and migration programs. An important cost of changing jobs or job sites is the income lost while one is engaged in searching for a new job and/or home. Food aid could be used to offset this cost, thus enabling people to capitalize more fully on their inherited or acquired skills.

Food aid could also be used to enable workers to participate in on-the-job training programs, which normally require workers to accept lower wages during a training period. Such on-the-job training is, almost universally, an

important means of acquiring new skills, but in competitive labor markets the worker pays for his or her training in reduced real wages. If food aid complemented these reduced wages, more workers could afford to acquire new skills.

Finally, food aid could be used in support of family planning efforts. Following the educational model discussed earlier, food aid could offset the opportunity costs of attending classes or counseling with specialists in family planning. Or family planning could be promoted more directly by compensating families specifically for having fewer children. For example, parents might receive a food allowance for each month that they do not conceive a child. Long-term reduction in population growth rates, however, will probably be best accomplished by promoting more rapid increases in per capita income. The evidence continues to suggest that development per se is the most effective promoter of reduced birth rates.

Issues

The use of food aid in the ways discussed in this section raises a number of controversial issues. Let us look briefly at (1) whether such uses are too demanding of administrative and managerial ability, (2) the disincentive effects of food aid on small farmers, and (3) the rationalization of price policies.

Using food aid in human capital formation has been criticized as too demanding of scarce administrative and managerial abilities in most countries. In general, this criticism is misplaced. The amount of administrative machinery needed to manage programs varies greatly, depending on the nature of the intervention. For example, the need for administrative activity is minimal if one is willing to settle for untargeted food aid programs. On the other hand, using food aid in support of family planning may require considerable managerial ability, especially if distribution is linked to remaining child-free.

Falling somewhere between untargeted and family planning programs in terms of demand on administrative resources is the use of food aid to support educational and training programs. Even this targeted program, however, is

no more demanding of administrative resources than the original provision of educational and training services. Clearly, more administrative work is required, but the demands are no more complex. Since poverty tends to be concentrated geographically, generalized programs through individual schools can be undertaken with a minimum of distortion in who receives the food aid.

With respect to the effects of targeted programs on farmers' incentives, it is important to note that providing food to people as a direct income transfer is demand augmenting, not supply displacing. Therefore, use of food aid in this way should have only minimal disincentive effects.

The third issue in using food aid to build human capital has to do with the food price policy. It should be emphasized that well-focused food aid programs can be used to rationalize price policies in individual countries (for more detail on this point see Schuh, 1979). Most developing countries, in order to provide lower prices for the politically volatile urban masses, discriminate severely against their agricultural sectors by shifting the terms of trade against them. Providing food to low income groups by some form of two-price system—which is what most of the techniques suggested in this section are—will reduce the need for such discriminatory policies.

CONCLUDING COMMENTS

Food aid is not a panacea for the problem of mass poverty in most low income countries. The problem is vast, and the available resources are limited. But this very discrepancy, between the magnitude of the problem and the limited nature of current answers, underlines the importance of using food aid to support the formation of human capital. Food aid used in this manner is a high payoff investment and should promote a more rapid rate of development. It also provides the means of lifting the poor directly from their poverty.

REFERENCES

- Schuh, G. Edward. Policy and research implications. In J. L. Palmer & J. A. Pechman (eds.), *Welfare in rural areas: The North Carolina-Iowa income maintenance experiment*. Washington, D.C.: Brookings Institution, 1978.
- _____. *Improving the developmental effectiveness of food aid*. Paper prepared for the United States Agency for International Development, Washington, D.C., September 1979.
- Welch, Finis. Education and production. *Journal of Political Economy*, 1970, 78(1), January-February, 35-59.

Chapter 5

FOOD AID AND FOOD POLICY: IN-COUNTRY DECISION MAKING

Patricia Alailima

Food policy must be determined in the context of general development strategy. The level of sophistication required in in-country decision making, however, depends to a large extent on whether government intervention is considered feasible or desirable. Ideally, at the macro level, such decision making should reconcile aggregate supply targets with demand objectives. At the micro level the impact, on both consumers and producers, of producer incentives and agricultural investment must be considered.

In many food deficit countries, however, it is extremely difficult to maintain a consistent strategy with respect to food and food aid. Typically, large portions of the population are at subsistence level, and 60 percent of agricultural producers are net consumers, who only enter the market in order to sell their labor power to make up the deficit they are unable to produce. Price incentives designed for producers may force subsistence farmers to give up their small holdings and move to urban areas. On the other hand, price incentives may lead to higher wages for such farmers. Decision making must take account of these effects, as well as of changes in international food supplies and worldwide inflation. Nevertheless, decisions must often be made in the absence of data for determining appropriate price adjustments and market interventions and in spite of weak administrative capacity and poor distribution networks.

Maintaining a coherent food strategy is often further complicated by fluctuations in donor policies. For example, the current focus on nutritional programs for the preschool child

has cut off many earlier such programs for the child in the primary grades. As food assumes increasing importance in foreign assistance budgets and is of growing strategic significance, recipients are finding that the quantum and timing of food aid can fluctuate widely and mitigate against the evolution of a coherent food strategy. International organizations such as the World Bank and the International Monetary Fund (IMF) differ markedly among themselves on development strategy. Moreover, within a single institution policies and practices sometimes conflict.

Thus, although this chapter focuses on the situation in a recipient country, the decision making capabilities of donor countries and agencies must also be carefully considered. Food aid per se has a significant impact on the domestic economy only where it closes a substantial portion of the gap between domestic food production and total food requirements. However, donor-country food policy and the decision making processes of donor countries and agencies are likely to be highly significant for the food deficit economy and can have a powerful stabilizing or destabilizing effect on it.

THE SRI LANKAN EXPERIENCE

Since gaining its independence, in 1948, Sri Lanka has ensured a minimum standard of living for all its citizens by financing a large number of income support programs out of general taxation. These programs include free or subsidized services—particularly free education and health services—and a rationing program for basic foods. Since only small sectors of the economy exhibit the stable patterns of employment one needs to assess income and pay cash benefits, it has been easier to provide goods and services than cash. Furthermore, because political and administrative difficulties of identifying aid recipients have precluded targeting, these goods and services have been made freely available to all. In addition, a wide range of social security and welfare schemes provide both services and cash benefits to those who, through no fault of their own, lack the resources to deal with certain social or occupational problems.

Early Programs in Support of Nutrition, Health, and Agriculture

Food subsidies for consumers were started during World War II. In 1945, education from primary grades through university was made free, and health services were offered free from 1950 on. During the early and prosperous 1950s, the government continued and expanded these programs as part of a conscious redistribution policy. By the time the country began to feel the pressure of the sudden increase in population that was due to the successful anti-malaria campaigns of 1946–48 and the spread of primary health services, it was politically explosive to attempt to modify these programs.¹

State assistance to agriculture, particularly plantation crops and paddy, is also of long standing. During the 1950s and 1960s, in an effort to achieve self-sufficiency in rice production, new land was cultivated and existing land was improved by major and minor irrigation works.² In recent years, the farmer has received more direct support in the form of fertilizer subsidies, high yielding plant materials, credit, and agricultural research and extension services.

Throughout the 1950s the government used about as much of its total expenditures for food subsidies as for the infrastructure related to food production (see Table 1). The large-scale importation of foodstuffs for the rationing program depressed domestic food prices. The resulting disincentive effect on total food production was marginal (Dahanayake, forthcoming), but subsidiary food crops and local sugar and sugar substitutes were severely affected. Moreover, the imports distorted the domestic price structure, which remained out of line with both international prices and the local costs of production.

As a result of indirect and direct producer incentives and

¹As a result of a technological breakthrough in the fight against malaria—the use of DDT to kill adult mosquitoes—between 1946 and 1948 Sri Lanka's death rate fell from 20 to 13 per thousand. Greatly improved health services have led to a continuing decline in this rate, which reached 6 per thousand in 1979.

²Each year between 1950–51 and 1965–66, irrigation facilities were provided to 36,000 acres of new land and 17,000 acres of land already under cultivation. These figures dropped to 15,000 and 13,000, respectively, during the period 1966–67 to 1973–74.

Table 1. Producer Incentives and Consumer Food Subsidies, Sri Lanka 1951/52–1973/74 (in millions of rupees)

Year	Producer Incentives			% of Total Government Expenditure	Ration Program (net subsidy)	% of Total Government Expenditure
	Indirect ^a	Direct ^b	Total			
1951/52	139	2	141	12	247	20
1952/53	123	2	125	11	127	11
1953/54	77	2	79	8	12	1
1954/55	87	2	89	9	36	3
1955/56	93	10	103	8	79	6
1956/57	109	13	122	8	105	7
1957/58	107	13	122	8	112	7
1958/59	135	21	156	9	146	8
1959/60	88	23	111	6	193	11
1960/61	129	24	153	8	248	13
1961/62	108	26	134	6	230	11
1962/63	61	29	90	5	238	12
1963/64	86	33	119	5	370	17
1964/65	70	34	104	5	271	12
1965/66	91	36	127	5	274	11
1966/67	26	36	62	2	171	7
1967/68	32	57	89	3	296	10
1968/69	36	79	115	3	328	10
1969/70	105	91	196	5	327	9
1970/71	96	95	191	5	336	14
1971/72	138	92	230	4	657	12
1972/73	187	35	222	4	679	14
1973/74	207	52	259	4	952	16

^a Land settlement schemes, including Gal Oya, major and minor irrigation works.

^b Paddy, coconut fertilizer subsidy, crop insurance, outstanding loans for paddy and subsidiary crops, Milk Board (profit & loss) and Coconut and Cocoa Rehabilitation Scheme.

the introduction of high yielding varieties, domestic rice production rose from an annual growth rate of 4.8 percent between 1950 and 1960 to a rate of 8.9 percent between 1960 and 1970. After the mid-1960s, however, decreases in government investment expenditures (the result of rising service bills and the relative inelasticity of government revenues) slowed down irrigation projects and land settlement schemes. In the absence of further real technological gains, the full effect of maintaining producer prices at low levels was felt in the 1970s. Moreover, aggravated by successive droughts, paddy production showed an annual growth rate of only 1.7 percent

Consumer food subsidies played an important role in improving the general welfare and, particularly, in reducing mortality rates. Middle and lower income groups derived as much benefit, if not more, from food subsidies as they did from education subsidies (the next highest subsidies). However, the participation of the poorest 5 percent of the population was much lower, possibly because they had to purchase a part of their ration with their own cash (Alaïlima, 1978).

In the late 1960s and early 1970s, because of stagnant domestic output and continuing decline in the international terms of trade, domestic and foreign resources were scarce. From an average of 4.6 percent per annum in the 1960s, growth of GDP dropped to 2.9 percent in the early 1970s. Increasingly stringent balance of payments constraints restricted capital creation and the use of full capacity, particularly in the industrial sectors. Net deterioration in the terms of trade averaged 4 percent per annum in the 1960s, accelerated to 6.5 percent between 1969 and 1972, and then to 15 percent between 1972 and 1975. The foreign exchange rate was overvalued, domestic interest rates were held down, and wage rates remained low, while the government bore a considerable part of the cost of maintaining the labor force.

Occurring in the midst of an increasingly sluggish economy, rapid growth in the population and the labor force led to large-scale, chronic unemployment and increasing social tension. Successive droughts and high food prices on inter-

national and local markets aggravated the situation, and by 1977 it was clear that economic policy and management had to change radically. All the available macro instruments were used to stimulate the economy and increase investment and production.

Current Policies and Programs

Sri Lanka's present policy package has freed the exchange rate by allowing it to float and has liberalized imports; interest rates have been increased, and wage rates have risen dramatically. Food prices are also rising as domestic prices begin to approach world prices. These measures have combined with favorable weather conditions to stimulate domestic rice production: the imported portion of all available rice declined from an average of 29 percent in 1970-77 to 12 percent in 1978 and 17 percent in 1979.

General food subsidies have been discontinued; through a food stamp program, benefits are now targeted to households with incomes of less than Rs. 300 per month. Beyond this program, government intervention in the food policy arena has been confined to the management of buffer stocks to prevent inordinate price fluctuations and to a program of price supports for rice and coarse grains. Day-to-day management of distribution has been left largely to the private sector. However, the problem of how to provide sufficient food at prices low income groups can afford remains. Food prices have already risen well above the value of the income support provided by the food stamps. Indexing the stamps to compensate for inflation would increase the budget substantially. Due to the difficulty of assessing incomes in the non-wage sectors and to administrative weakness in enforcing eligibility criteria, half the population are now covered by the program.

With the formation of the Food Policy Subcommittee of the Cabinet, served by units specializing in agriculture, food, and nutrition, the institutional framework for effective food policy formulation and in-country decision making is in place. Nevertheless, decision making still has the primary objective of maintaining food availability. The level of food imports required to make up the gap between domestic pro-

duction, the food aid available, and the total food requirement is estimated first. Commercial imports are then negotiated to make up the gap. An essential prerequisite for effective decision making in Sri Lanka is thus the provision of reliable advance information and the in-depth analysis of data already available.

Available food aid and commercial imports under the usual marketing requirement (UMR) are still far below Sri Lanka's total food import requirement. Food aid has not played a significant role in determining our food policy, even though, by 1976, it did build up to 24 percent of all food imports (see Table 2). The major food aid programs, which contribute flour to the Rs. 2,333 million (in 1979) food subsidy programs, do provide balance of payments support and free scarce foreign exchange. The counterpart funds they generate are also an important source of budgetary support.

Specifically humanitarian food aid, aimed at supplementary ongoing government programs for the malnourished, has a high degree of additionality. The most important of the humanitarian programs are the CARE contribution to the Ministry of Health program for young children and pregnant or lactating mothers and the Education Ministry's school biscuit program. In 1979, 622,000 infants, preschool children, and pregnant or lactating mothers and 1,250,000 primary school children were covered by these two programs at a total cost of Rs. 124 million. Some voluntary organizations and semigovernment institutions have also used food aid to provide nutrition supplements to preschool children; to persons who are institutionalized; and to other people, through community kitchens.

World Food Program operations, through the "food for work" projects, are also playing an increasingly important role in Sri Lanka in generating seasonal employment opportunities in rural areas and in assisting colonists in land settlement schemes. With the goal of affecting agricultural production quickly and directly, food aid is also being used to facilitate cooperative farming and the restoration of village tanks and channels.

Table 2. Food Aid Receipts by Sri Lanka, 1965-1979 (in millions of rupees)

Country or Organization from Which Received	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979
Netherlands	—	—	—	—	—	—	—	—	—	—	—	6,856	8,557	23,234	20,152
Australia	6,908	4,582	4,588	3,819	4,442	4,847	4,699	6,304	12,607	26,950	56,035	13,730	11,985	25,864	28,705
Canada	—	8,925	19,985	11,000	—	32,649	17,889	10,708	7,693	25,858	17,384	39,953	55,309	127,508	116,230
U.S.A. (loan)	—	15,713	5,896	94,813	78,137	33,807	44,266	112,658	45,886	34,417	152,331	169,220	269,196	535,496	253,353
U.S.A. (CARE)	N.A.	N.A.	N.A.	N.A.	N.A.	7,989	10,687	9,087	6,798	21,378	34,669	46,006	42,398	88,120	84,220
U.K.	—	—	—	—	14,707	13,638	14,812	—	—	—	—	—	—	12,382	—
Fed. Rep. of Ger.	—	—	—	370	4,338	696	5,784	—	15,238	20,485	—	23,252	15,915	31,908	31,657
France	—	—	—	—	3,792	2,830	134	6,724	4,383	—	—	19,528	—	31,080	20,063
Japan	—	—	—	—	—	—	—	1,887	—	—	—	9,036	—	—	—
Italy	—	—	—	—	—	—	—	7,520	—	—	9,133	—	5,015	—	47
Switzerland	—	—	—	—	—	—	—	1,124	—	—	—	—	—	—	—
China	—	—	—	—	—	48,917	24,593	20,400	—	175,662	—	—	—	—	—
EEC	—	—	—	—	—	—	—	—	9,008	14,862	126,919	5,430	52,021	45,976	3,011
World Food Prog.	—	—	—	—	—	6,806 ^a	9,901	3,663	2,816	9,731	48,595	6,219	—	—	—
Sweden	—	—	—	—	—	—	—	—	—	—	24,776	24,280	—	—	—
New Zealand	—	—	—	—	—	—	—	—	—	—	2,630	—	7,739	—	—
UN	—	—	—	—	—	—	—	—	—	—	68,075	—	—	—	—
Yugoslavia	—	—	—	—	—	—	—	—	—	—	—	—	13,697	—	—
Belgium	—	—	—	—	—	—	—	—	—	—	—	—	—	—	508
USSR	—	—	—	—	—	—	—	—	—	—	—	—	—	—	708
Thailand	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1,549
Pakistan	—	—	—	—	—	—	—	—	—	—	—	—	—	—	362
Total food aid receipts	6,908	29,220	30,469	110,002	105,416	152,179	132,705	180,075	104,429	329,343	540,547	363,510	481,827	921,568	560,565
Percentage of total food imports	1	3	4	11	11	14	15	20	8	17	21	24	22	22	12

Source: External Resources Department, Ministry of Finance & Planning, Government of Sri Lanka.

^aIncluded in EEC grants

CONCLUDING REMARKS

Developing countries all face the problem of how to generate resources for economic growth and large scale employment in the context of widespread low income. Typically, food is discounted, as a consumption good, vis-à-vis so-called investment goods, and foreign economic consultants invariably recommend increases in saving and investment, with compensation of the lower income groups that will be adversely affected by such measures.

We need to reexamine such policy prescriptions in the light of the actual income and expenditure profiles of developing country populations. Where income concentration is low, where incomes are distributed about a low mean, where 75 percent of the population already spend over 60 percent of their total expenditure on food, and where unemployment is high (without compensatory insurance), the maintenance of adequate nutrition for the large numbers of people at the low end of the income scale is an essential precondition for the full and effective participation of these people in any development program.

Once the provision of food is given its proper place vis-à-vis the production of investment goods and other economic concerns, an appropriate institutional framework for food policy decision making must be worked out. Where strong economic management capability exists, the macro-price environment can be used to foster appropriate economic choices and to implement neat policy packages. Decision making structures, however, will inevitably reflect existing weaknesses in planning and policy making. Further, the prerequisites for good economic management—accurate, timely data and competent technical analysis—and management efficiency itself can improve only gradually.

Probably the most difficult decision of all involves determining the “correct” level of food imports. Additional food aid is frequently available, and there are often financial and political pressures to accept such aid which, it can be argued, provides extra budgetary resources, foreign exchange, cheap food and/or welfare, and growth with equity. The data currently available in developing countries are, however,

generally insufficient to determine the real effects of food aid on local production. Further, the importance of attaining self-reliance in a commodity that is gaining increasing strategic significance must be considered, particularly when the foodstuff concerned cannot be grown locally. Even though theoretically the right policy package can minimize the adverse effects of food aid on production, implementation may be inconsistent, with the result that dependence on food imports and food aid is increased.

Successful in-country decision making in the food policy and food aid arena, as in other socioeconomic areas, requires technical competence and political will. As the significance of this arena becomes increasingly evident, existing structures will have to deal with the complex range of issues involved.

REFERENCES

- Alailima, P. J. *Fiscal incidence in Sri Lanka*. World Employment Program Research Working Paper. Geneva: International Labor Organization, 1978.
- Dahanayake, P. A. S. *Disincentive effects of aid on food production in Sri Lanka*. Colombo: Central Bank of Ceylon, forthcoming.

Appendix 1

SEMINAR AGENDA

August 18

- Introduction A. M. Weisblat, A/D/C
- Session I: Relation of Food Aid to More General
Economic and Development Policy
- Chairman Thomas Lederer, USDA
- Paper Peter Timmer, Harvard University
- Discussants Barbara Huddleston, IFPRI
Robert C. Chase, USAID
- Session II: Macroeconomic Dimensions of Food Aid
- Chairman Kelly Harrison, USDA
- Paper Gordon O. Nelson, Food Research
Institute
- Discussants Charles H. Antholt, USAID
Joseph Stepanek, USAID
Mahab Hossain, Bangladesh Institute
of Development Studies
- Balance of Payments Support
 - Domestic Budget Support
 - Stabilization Schemes
 - Disincentive Effects

August 19

- Session III: Food Aid and the Formation of Human
Capital
- Chairperson Ruth Zagorin, USDA
- Paper G. Edward Schuh, University of
Minnesota
- Discussants Shubh K. Kumar, IFPRI
Vera Kardonsky-Titelman, WFP/FAO
Sarojini Abraham, UNICEF
Frank L. Goffio, CARE

- Nutrition Program: Large Scale Direct Nutrition Intervention; Food for Pregnant Women; Food for Lactating Mothers; Others
- In Support of Education and Training
- In Support of Family Planning

August 20

Session IV: In-Country Decision Making
Capabilities on Food Aid and Food Policy

Chairman A. M. Weisblat
Paper Patricia Alailima, Ministry of Finance and Planning, Sri Lanka

Discussants Kelly Harrison, USDA
Syamsuddin Syarif, BULOG

Session V: Research Agenda

Chairman A. M. Weisblat
Presentation G. Edward Schuh
Discussant Peter Timmer

Session VI: Open Discussion
Chairmen W. David Hopper, World Bank
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Appendix 2

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The Agricultural Development Council was incorporated in 1953 by John D. Rockefeller 3rd, as the Council on Economic and Cultural Affairs, Inc., a private, nonprofit organization under the laws of the State of New York. The name was changed in 1963.

Its purposes remain unchanged from those stated in its original Certificate of Incorporation. These are "charitable, scientific and educational and are designed to stimulate and support economic and related activities important to human welfare."

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