

USAID Program and Operations
Assessment Report No. 22

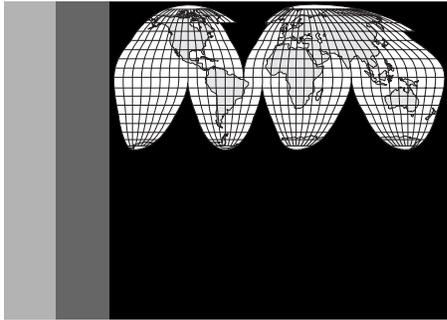
U.S. Food Aid and Sustainable Development

Forty Years of Experience

by

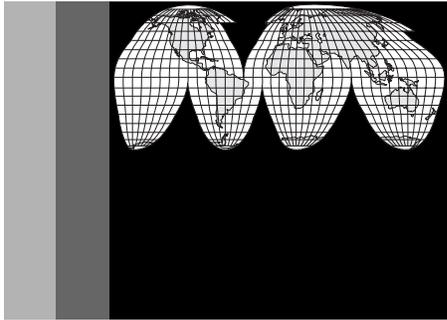
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Preface

FOOD AID dispensed under Public Law 480 has been a substantial resource flow from the United States to developing countries. During 1954 (when the law was enacted) through 1996, the United States provided more than \$52 billion of food aid worldwide. One justification for using this resource has been to alleviate hunger, a short-term objective. Another has been to promote sustainable development, a long-term objective. This assessment examines the role of nonemergency food aid in contributing to long-term sustainable development.

In the summer of 1996, USAID's Center for Development Information and Evaluation (CDIE) began fieldwork to assess the developmental impact of the American food aid program. The work was carried out in five countries: Bangladesh, Ethiopia, Ghana, Honduras, and Indonesia. In addition, a desk study was done for the nine countries of the Sahel region.

In each case, assessment teams examined a set of eight fundamental propositions concerning various potential effects of food aid: its economic effect, its social impact, and its effect on political stability. Teams also explored questions

concerning equity (Who benefited from the food aid?) and about efficiency (Was food aid an efficient way to transfer resources?).

The U.S. food aid program has for the most part succeeded in contributing to sustainable development, but more so in some countries than in others. The study synthesizes the findings of the six case studies and offers six recommendations to help guide future programs.

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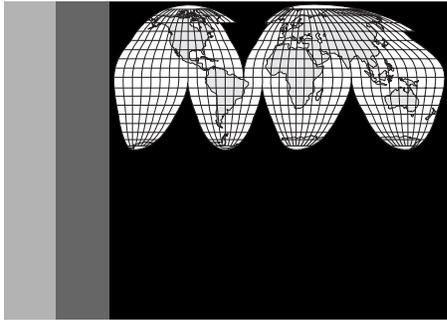
The study drew on the technical expertise of many people. These included, in particular, participants on assessment teams (listed in annex A), Mission staff in the five countries the teams visited, and other key informants (including beneficiaries). Two persons were especially helpful.

Robert Muscat, formerly USAID chief economist, provided much of the intellectual underpinning for the study during its design and implementation. He served on two assessment teams (Bangladesh and Indonesia), and he critiqued all six evaluations and the synthesis.

Michael Pillsbury, research associate with Development Alternatives, Inc., also helped develop the study from its inception. He systematically gathered and analyzed socioeconomic data for each case study and prepared a series of “country briefs” for each assessment

team. He served on two teams (Ghana and the Sahel), and he critiqued the synthesis.

Of course, none of these individuals is responsible for any errors that may remain.



Summary

THE UNITED STATES HAS PROVIDED more than \$52 billion of food aid over the 43-year period beginning in 1954 (the inception of Public Law 480) through 1996. From 1970 through 1996, the United States supplied 54 percent of food aid worldwide; in more recent years (1994–96), U.S. food aid decreased to 43 percent of the total. Food aid has also been a major component of total U.S. economic assistance, averaging 29 percent from 1954 through 1996. But the proportion has declined. It was 30 to 40 percent until the mid-1970s but has been only 20 to 30 percent since then.

Historically, most U.S. food aid (59 percent) has been provided under Title I (government-to-government concessional aid) and Title III (concessional aid tied specifically to development). The rest has come under project-specific Title II. Of Title II food aid, 60 percent has been provided to private voluntary organizations (PVOs) to carry out their regular programs (food for work, maternal and child health, and school feeding); the rest has been provided to the UN's World Food Program and to governments, much of it as emergency relief. More recently, the situation has reversed, with most U.S. food aid being provided under Title II. That reflects decreased funding for Title III (food for development) and an increase in the number of emergencies requiring food aid.

Allocations of U.S. food aid among regions have varied. Food aid was initially provided to war-torn Europe after World War II. Then massive shipments were made to Asia, particularly the Indian subcontinent in the mid-1960s. Since the mid-1970s, Africa has absorbed an increasing share of U.S. food aid, as has Latin America. Food aid levels in the Middle East increased after the 1978 Camp David peace accords; since the early 1990s, Eastern Europe and the new independent states have become larger recipients.

Of the top 50 recipients of U.S. food aid during 1973–92, six countries received almost half. In descending order they are Egypt, Bangladesh, India, Pakistan, Indonesia, and Sudan. The other 44 countries received most of the rest. However, measured in relation to a country's grain consumption the top six recipients of food aid from all sources during this 20-year period were Jamaica, Mauritania, Mozambique, Somalia, Yemen, and Bolivia. In these countries, food aid accounted for 16 to 34 percent of grain consumption, compared with less than 2 percent in the six largest food aid recipients.

Some countries tend to remain on the food aid rolls for extended periods. Such countries include Egypt, India, Bangladesh, Pakistan, Sri Lanka, and Morocco—among the 10 largest

food aid recipients during 1973–82 as well as 1983–92. By contrast, some countries (Korea, Indonesia, Portugal, and Israel) were among the top 10 food aid recipients during 1973–82 but not during 1983–92. Still other countries (Sudan, Peru, Jamaica, and El Salvador) were among the top 10 recipients in the latter decade but not the former.

USAID’s Center for Development Information and Evaluation (CDIE) examined a set of fundamental propositions concerning the role of food aid in sustainable development. These propositions hypothesized that food aid would have a positive economic and social impact, would help maintain political stability, and would benefit the poor. The propositions also hypothesized, however, that food aid might create a disincentive to domestic food production and marketing, and that food aid was inferior to dollar aid.

CDIE carried out fieldwork in five countries: Bangladesh, Ethiopia, Ghana, Honduras, and Indonesia. A desk study carried out for the Sahel region was treated as a sixth “country” case study, even though the region includes nine countries. Collectively, the 14 countries represented by the six case studies received 12 percent of all U.S. PL 480 food aid during 1954–94, and since the early 1970s, close to 20 percent. The United States shipped 35 different commodities to countries in this group. Wheat was the main commodity supplied to all countries except Indonesia, which received mostly rice. The United States continues to provide food aid to all case-study countries except Indonesia and, in the Sahel, Niger and Senegal. Food aid accounted for 47 percent or more of U.S. bilat-

eral economic assistance in all cases except Honduras and the Sahel.

Food aid has made up a significant proportion of the cereal supply in all countries except Indonesia, ranging from 6 to 10 percent, on average, from 1971 through 1994. It provided substantial balance-of-payments support to two countries (Bangladesh and Ethiopia)—averaging as much as 10 percent of the value of export earnings over the entire period. The resource transfer was much less significant for the other four case studies, only 1 or 2 percent of export earnings.

How well have these countries performed in achieving key objectives typically associated with sustainable development? Life expectancy increased for all six case studies over the 35-year period 1960–94. In Ethiopia and the Sahel, though, it was still only 47 and 48 years, respectively, in 1994. Child mortality also decreased remarkably but remains high in Ethiopia and the Sahel. Per capita calorie availability in 1962 was lowest in Ethiopia and Indonesia (1,816 and 1,842 calories per day, respectively). Thirty years later calorie availability was even lower in Ethiopia (1,621), but highest in Indonesia (2,718). Ethiopia and Bangladesh had the lowest per capita incomes in 1994 and the highest rates of malnutrition among children under 5, reflecting the tendency for income levels and malnutrition rates to vary inversely. Indonesia, though, has confounded the experts, since malnutrition is much higher than one would expect.

Did food aid have anything to do with these results? The country case studies demonstrate that in addition to providing balance-of-

payments support, food aid can leverage or support a sound economic policy environment (Bangladesh, Indonesia, some Sahelian states such as Mali). But it can also have a negative effect on a country's economic policy (Honduras in the 1980s, some Sahelian states). Or it can have no discernible effect at all (Ghana before the mid-1980s, some Sahelian states, Ethiopia until recently). This is important because a sound economic policy environment is fundamental for achieving long-term sustainable development.

Political stability, a precondition for sustainable development, is at risk in low-income countries (such as Bangladesh) when food prices are high and fluctuate widely. Food aid can help stabilize food prices and, perhaps, contribute to political stability. This seemed to be the case in Indonesia in the late 1960s and early 1970s and in Honduras in the mid-1980s. However, food aid cannot ensure political stability (the Sahel, Ghana, Ethiopia).

Local currency generated from the sale of food aid augments government revenues or provides cash to PVOs. It typically is used to support the government's overall development budget or a high-priority sector within the budget (Indonesia, to some extent Bangladesh, some Sahelian states) or to support discrete projects (as occurred in all six case studies).

But food aid can also have a negative effect on long-term sustainable development if it enables governments to put off implementing food policies needed to encourage farmers to produce grain. This occurred to some extent in Honduras, Ghana, and some Sahelian states. Moreover, if food aid does not substitute for commer-

cial grain imports, it can depress domestic grain prices, reducing farmers' incentives to produce grain. This probably occurred at certain times in Bangladesh and Honduras. Of course, low food prices may have the positive effect of benefiting consumers.

Food aid is not homogeneous. Thus, program food aid affects a country's overall economic development but does not attempt to reach specific groups directly. Project food aid, by contrast, typically targets vulnerable groups and poor regions of a country. American food aid has had its greatest social impacts through these direct food distribution programs (school feeding, food for work, maternal and child health). Food-for-work projects have been especially successful in reaching intended beneficiaries. However, the public works created under such projects have been of mixed quality. This is especially the case when they began as short-term relief and rehabilitation operations rather than as long-term development programs.

Maternal and child health programs seem to have improved the health and nutritional knowledge of poor mothers, one of the program's three objectives. However, this study found it difficult to demonstrate the programs' effect on the nutritional status of children under 5, a second program objective.

There are several reasons. First, older maternal and child health programs often relied solely on food supplementation without any complementary inputs such as primary health care; these programs had no discernible effect on children's nutritional status. In other cases, where nutritional status did in fact improve, the evaluations reviewed for this assessment could

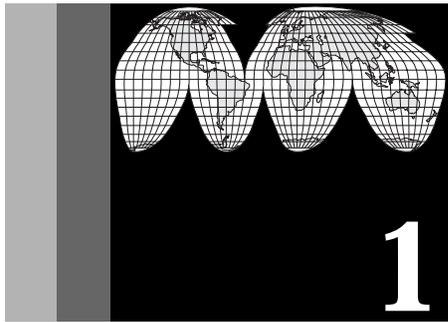
not, for methodological reasons, disentangle the effect of the food supplement from that of other factors that affect nutritional status, including vaccinations, potable water, reduced poverty, and increased incomes. Finally, the food ration was often shared among family members rather than consumed solely by lactating mothers and children (Ethiopia, Honduras, Indonesia, the Sahel). But experience is mixed. Other evaluations (for example, Mora and others 1990) have found maternal and child health supplementary feeding programs in some countries effective at improving child nutritional status when they included complementary health and education inputs.

USAID has used food aid to support school feeding programs in two Sahelian countries (Burkina Faso and the Gambia), Bangladesh, Ghana, and Honduras—but not in Ethiopia or Indonesia. Results, though mixed, have generally been positive—except in Ghana where there is no evidence any of the program’s three

objectives (improved school attendance, improved nutritional status, and improved academic performance) have been achieved.

Since project food aid is normally given directly to beneficiaries, it can be targeted to the poor. This occurred in all six case studies. Although program food aid is sold on the open market to anyone with money, it also can benefit the poor, indirectly. It can support (or encourage) an equity-oriented policy environment (Indonesia, Bangladesh), and the local currency generated from the sale of the food aid can be invested where the poor live and earn their livelihood—usually in rural areas growing crops (as occurred in all six countries).

Normally it is more efficient to transfer resources as financial aid rather than as food aid. In practice, though, U.S. financial aid is not fungible with U.S. food aid. Therefore, the choice is not between food aid and financial aid, but rather between food aid and no aid.



Background

Legislative History

THIS ASSESSMENT examines the role of U.S. food aid in contributing to long-term sustainable development. It identifies which food aid programs work best, and the conditions under which they work best. A clear understanding of the effect food aid has had in the past will help guide resource allocation decisions among alternative programs in the future. Public Law 480 was enacted on July 10, 1954. It had the following goals (ITDEF 1985):

- To dispose of surplus American agricultural commodities
- To expand international trade between the United States and friendly nations
- To promote the foreign policy of the United States
- To encourage economic development in developing nations

Operation began in 1955 with shipments valued at \$3.8 million. Just two years later ship-

ments totaled \$1.5 billion (Baker, cited in USAID 1983). Throughout the 1950s, U.S. food aid policy concentrated primarily on ever increasing domestic agricultural surpluses. The aim was to dispose of surplus commodities. American policymakers had not yet realized that the commodities could also serve as a powerful development resource.

In 1961 President Kennedy was confronted with the largest wheat and feed grains surplus in history. It was then that its development potential was recognized. Kennedy framed a new foreign assistance policy in which PL 480 was designed, among other things, to expand foreign demand for U.S. agricultural goods and to help meet U.S. responsibilities to alleviate hunger and malnutrition overseas (Wallerstein, cited in USAID 1983).

In 1966, during Lyndon Johnson's presidency, Congress revised PL 480. The revision made using food aid to promote economic development even more prevalent. None of the act's original goals was dropped, but legislation further emphasized meeting the humanitarian food needs of developing countries.

The 1970s were characterized by global economic turmoil associated with food shortages (in the Sahel, for example) and rapid increases in energy prices. As food reserves declined, commodity prices rose, and food aid shipments were reduced. The United States was hesitant to maintain, and particularly to increase, food aid levels when domestic food prices were increasing rapidly. The Soviet Union's purchase of U.S. wheat placed unprecedented demand on commercial agricultural exports, and U.S. food aid was put in even greater jeopardy.

By 1977 food commodity stockpiles were again growing, thanks to bountiful harvests throughout the world. Under the International Development and Food Assistance Act of 1977, U.S. assistance was to be allocated increasingly to encourage economic development of the poorer nations. At the same time, PL 480 Title III, the Food for Development Program, was introduced. This legislation reinforced U.S. policy that food aid should be used to help recipient countries build their own capacity to feed themselves. The 1977 PL 480 legislation also explicitly recognized the possibility that food aid might result in a disincentive to food production and marketing in the recipient country; this legislation, introduced by Senator Henry Bellmon, became known as the Bellmon Amendment.

Throughout the 1980s, legislation governing the U.S. food aid program continued to evolve. New monetization requirements were introduced as were specific ways to use and account for local currency proceeds (including support for private sector activities). Food for Progress, administered by the U.S. Department of Agriculture, was enacted in 1985 to cushion

the effects of structural adjustment on food security.

The 1990 farm bill substantially revised the food aid program. The overarching objective of the legislative reforms is food security—“when all people at all times have both physical and economic access to sufficient food to meet their dietary needs for a productive and healthy life” (USAID 1995, 8). Food security has three components: 1) food availability, achieved through domestic production or imports; 2) access to food, achieved through increased incomes to purchase food already available in the market place; and 3) food utilization, achieved by using proper food storage and processing techniques and applying basic principles of nutrition and child care. According to a 1995 USAID policy statement, “the surest way to achieve improved availability, access, and utilization of food is through increases in agricultural productivity and improved nutrition for the poor” (USAID 1995, 29).

Current PL 480 legislation authorizes the use of food aid under three titles, or programs.

1. Food aid provided under Title I is administered by the Department of Agriculture and sold to governments of recipient countries on concessional terms, primarily to develop U.S. export markets. USDA also administers section 416(b) of the Agriculture Act of 1949 (as distinct from Public Law 480). Section 416(b) provides for overseas donation of surplus agricultural commodities acquired by the Commodity Credit Corporation as part of its price support activities. CCC-owned inventories have declined in recent years as domestic farm programs have brought supply and demand into better balance.

2. Food aid provided under Title II is administered by USAID and donated to private voluntary organizations, the World Food Program, and (under earlier legislation) governments.

- PVOs implement development programs including food for work, maternal and child health, and school feeding. Title II food aid traditionally was provided directly to beneficiaries and not sold on the open market (monetized). Now as much as 100 percent of Title II food aid is monetized in some country programs.
- WFP also receives Title II food aid, much of which is used for emergency and refugee relief.
- Governments of chronic food-deficit countries used to be able to receive food aid under section 206 of Title II (no longer in the legislation). The food aid could then be sold for local currency. Many Sahelian countries have received section 206 food aid.

3. Food aid provided under Title III is also administered by USAID and is donated to governments of eligible developing countries (much like section 206 food aid). These governments generally sell the food on the open market (though it can also be used for direct feeding programs or to establish food reserves). The sales proceeds fund activities in economic development. Title III programs typically support food policy reform.

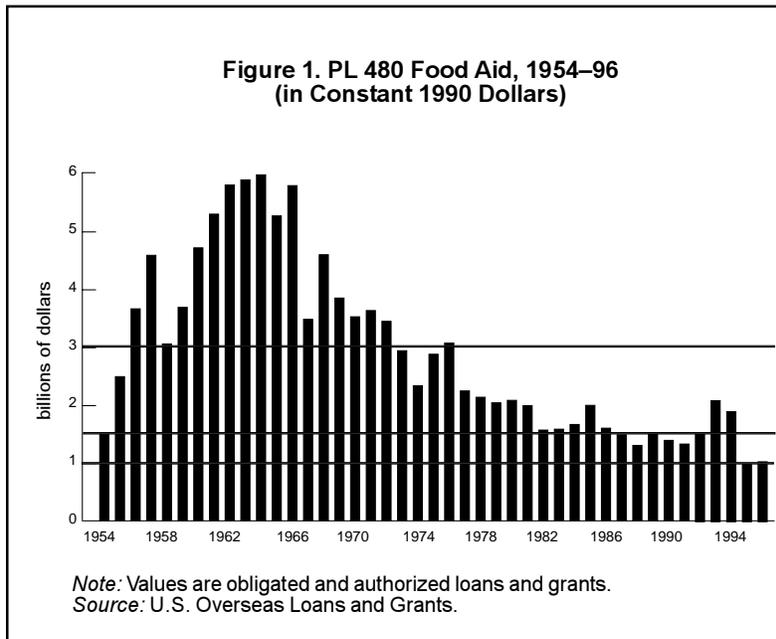
This assessment covers nonemergency Title II and Title III food aid programs and their antecedents, including much of the old (pre-1990) Title I program. To make it manageable,

it deliberately does not cover 1) emergency food aid (unless the food had a long-term development effect) or 2) food aid managed by the World Food Program or other bilateral donors. The assessment is organized around the range of long-term development programs supported by food aid, either directly or indirectly. It is not organized around the legislative mechanisms (titles) that define these programs or the three-pronged concept of food security.

Resources Committed To Food Aid

In volume, U.S. food aid increased rapidly in the first decade (1956–65), reaching a peak of almost 19 million tons in 1962. It declined sharply in the next decade to reach its lowest level, about 3 million tons, in 1975. Subsequently, it has remained at between 5 and 8 million tons a year (Shaw and Clay 1993, 220). As for value, the annual commitment has remained relatively stable over most of the period, averaging \$1.2 billion a year (in current dollars). Measured in constant dollars, however, food aid levels have decreased substantially (see figure 1). From their peak in the mid-1960s, they had declined by half by the mid-1970s; by the mid-1980s, they had declined by half again; and by the mid-1990s, they had declined yet again, by a third.

The United States has been the major supplier of food aid worldwide. From 1970 through 1996, U.S. food aid averaged 54 percent of world food aid, but this has fluctuated over time. In the early 1970s about two thirds of total world food aid came from the United States (see figure 2). This fell to about half in the mid-



of food aid worldwide. Of this, \$31.4 billion (59 percent) was provided under Titles I and III and \$21.4 billion (41 percent) under Title II. Figure 4a distinguishes program food aid (Titles I and III) from project and emergency food aid (Title II). It shows that program food aid was substantially greater than project and emergency food aid (sometimes by a factor of 2 or 3)—in 36 of the 43 years. (The seven years when Title II was greater were 1954, 1955, 1989, 1991, 1993, 1995, and 1996.) Thus the increase in Title II compared with Titles

1970s, then fluctuated between one half and two thirds until the early 1990s. In only two years during this period (1974 and 1988) did the United States provide less than 50 percent of world food aid. The pattern has changed in recent years. During 1994–96 the United States provided only 43 percent of world food aid.

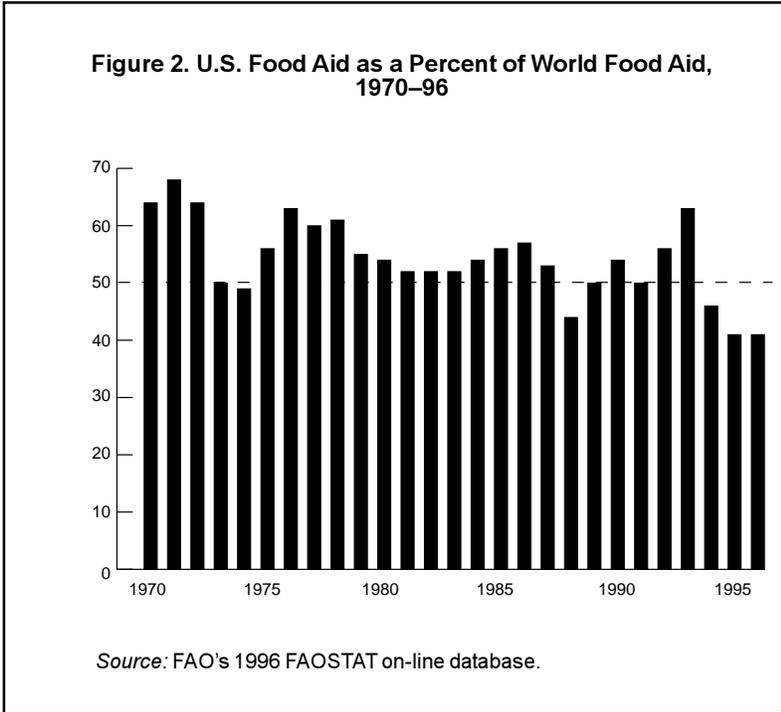
Food aid has also constituted a major component of total U.S. economic assistance, averaging 29 percent from 1954 through 1996. But the proportion has declined over the years. Up until the mid-1970s, food aid averaged 30 to 40 percent of U.S. economic assistance; since then it has gradually declined, averaging only 20 to 30 percent (see figure 3).

Over the 43-year period 1954 through 1996, the United States provided \$52.8 billion

I and III is relatively recent, occurring only since 1989. Two factors explain why Title II resource levels have been higher than Titles I and III in five of the past eight years (1989–96). First, funding for Title III has been drastically reduced in recent years.* Second, the world has experienced a surge in emergencies (especially complex, or man-made, emergencies) since the collapse of communism, and this has necessitated increased Title II funding.

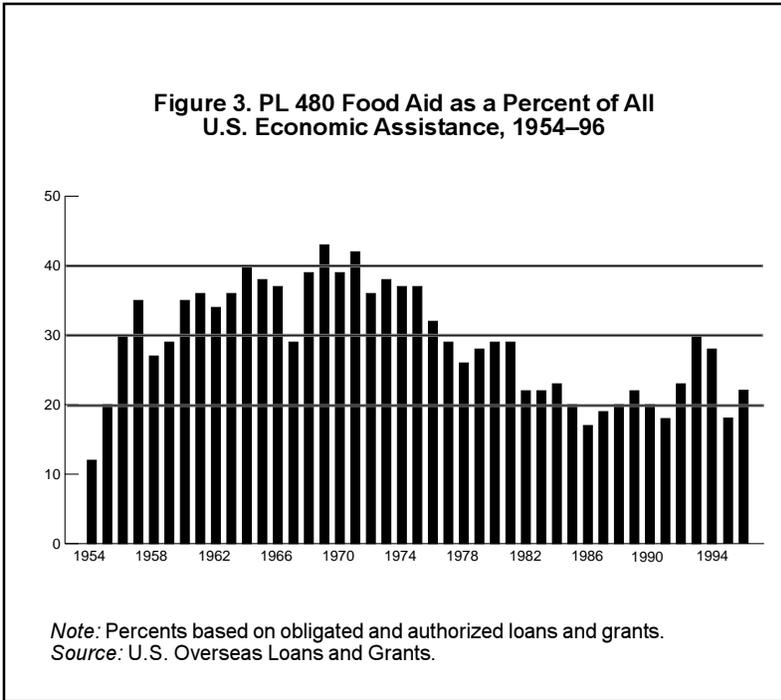
Sixty percent of Title II food aid provided during 1954–96 (\$12.8 billion) was given to PVOs to carry out food-for-work, maternal and child health, and school feeding projects. The other 40 percent (\$8.6 billion) was given to governments (mainly under the authority of section 206) to the World Food Program, or as emergency relief. For 39 years (1954–92),

* Title III was funded at \$317 million in 1993. Funding was reduced to \$239 million in 1994, to \$116 million in 1995, to \$52 million in 1996, and to \$30 million in 1997.



emergency food aid (generally, food aid not given to PVOs to support their regular programs) averaged \$176 million a year and reached \$300 million only once, in 1985 (see figure 4b). By contrast, during the four-year period 1993 through 1996, emergency food aid averaged \$438 million a year and has never been less than \$300 million.

Figure 5 shows the regional allocation of U.S. food aid over time. Two observations emerge. First, Asia was by far the largest food aid recipient, absorbing 42 percent of all U.S. food aid provided from 1954 through 1996. The Near East absorbed 16 percent; Africa and Latin America each accounted for 15 percent; and Europe and the new independent states claimed 12 percent.



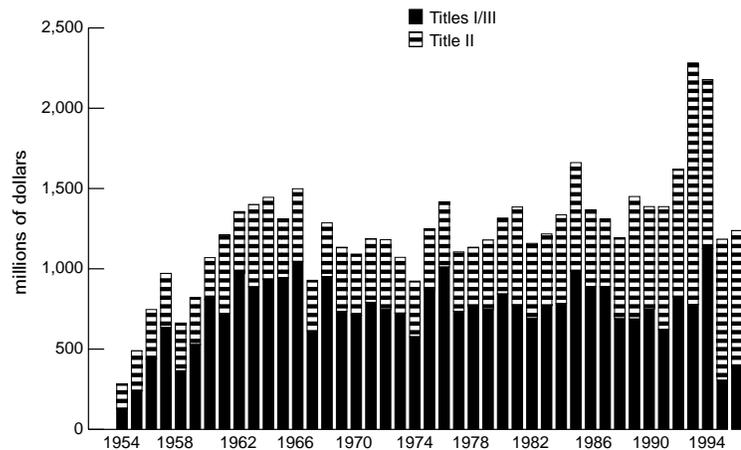
Second, food aid allocations among regions changed dramatically over time. Initially food aid was provided in response to the needs of war-torn Europe after World War II. After those needs subsided, massive shipments were made to Asia, particularly to the Indian subcontinent. As domestic food production in Asia increased under the green revolution, the United States reduced the proportion of food aid allocated to that region.

At the same time, widespread food crises in Africa resulted in an increased share going to that region. The share of shipments to Latin America also increased, and since the 1978 Camp David peace accords, to the Near East as well. Europe and the new independent states have become more important food aid recipients since the early 1990s.

Table 1 lists the top 50 recipients of food aid from the United States during 1973 through 1992 in rank order (column 4). Of the 121 million metric tons provided by the United States during this 20-year period (column 2), almost half (more than 59 million tons) was allocated to only six countries: Egypt, Bangladesh, India, Pakistan, Indonesia, and Sudan. The other 44 countries received the other half (about 62 million tons). The top six recipients of food aid from all sources, not just the United States, include Ethiopia but not Sudan (column 1).

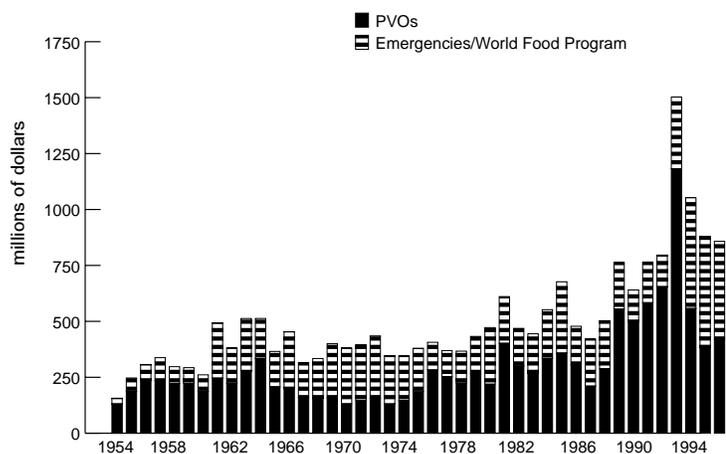
Of the top 50 recipients of food aid from the United States during 1973 through 1992, 37 countries received 50 percent or more of their food aid from the United States—and all but 7 received at least 40 percent of their food aid from the United States (column 3). All 50 countries combined received 63 percent of their food aid from the United States.

Figure 4a. PL 480 Food Aid by Title, 1954–96 (in Current Dollars)



Source: U.S. Overseas Loans and Grants.

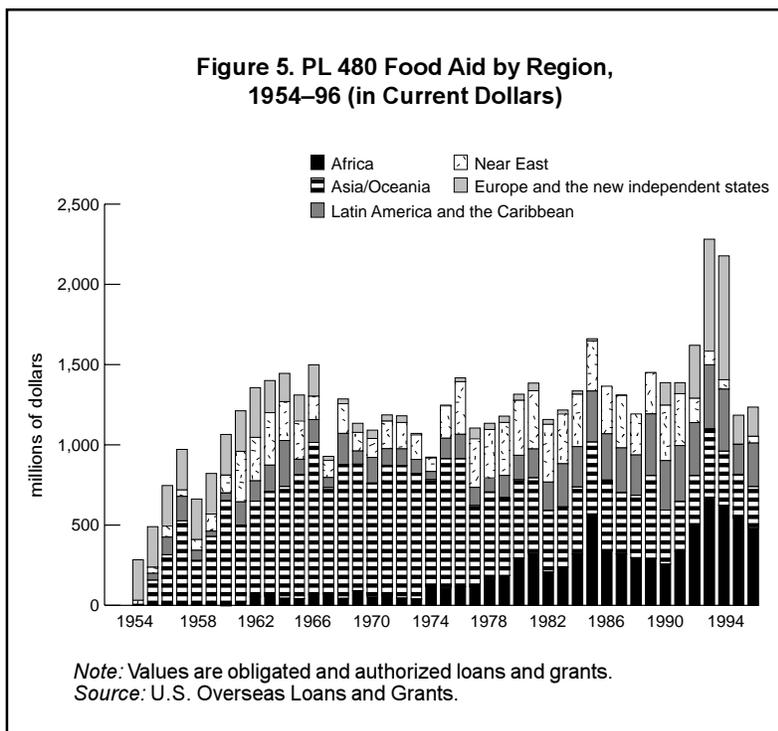
Figure 4b. PL 480 Title II Food Aid Allocated to PVOs and for Emergencies/World Food Program, 1954–96 (in Current Dollars)



Note: Emergency/World Food Program includes food aid provided under Title II, sections 202 and 206.

Source: U.S. Overseas Loans and Grants.

Figure 5. PL 480 Food Aid by Region, 1954–96 (in Current Dollars)



The six major recipients of U.S. food aid, on average, over the entire 20-year period were not necessarily the major recipients every year. Table 2 disaggregates the 20-year period into two decades (1973–82 and 1983–92) and lists the top 10 food aid recipients in each. A cursory analysis reveals the following:

□ Four countries (Korea, Indonesia, Portugal, and Israel—in Asia, the Near East, and Europe) were among the top 10 recipients during the earlier decade but not during the latter decade.

Of course, these allocations varied from country to country and from year to year.

Food aid as a percent of a country's total grain consumption is another measure of the relative importance of food aid in a given country. Viewed from this perspective, the six major food aid recipients from all sources during 1973–92 were Jamaica, Mauritania, Mozambique, Somalia, Yemen, and Bolivia (column 6). Thus food aid supplied 34 percent of domestic grain consumption, on average, in Jamaica; 32 percent in Mauritania; 27 percent in Mozambique; 25 percent in Somalia; 21 percent in Yemen; and 16 percent in Bolivia. In contrast, food aid supplied less than 2 percent of domestic grain consumption, on average, in the six countries that were the largest food aid recipients in the aggregate.

□ Contrarily, four different countries (Sudan, Peru, Jamaica, and El Salvador—in Africa and Latin America) were among the top 10 recipients in the latter decade, but not the former decade.

□ Six countries (Egypt, India, Bangladesh, Pakistan, Sri Lanka, and Morocco—in the Near East and Asia) were among the top 10 recipients in both decades.

Thus some countries tend to get off the food aid rolls over time; others join the rolls; and still others tend to remain on the rolls for an extended period.

Table 1. Top 50 Recipients of Food Aid, 1973–92

Country	Food Aid (thousands of tons)				Grain Consumption (thousands of tons)		
	Total (1)	U.S. Only (2)	U.S. as a Percent of Total (3)	Rank (4)	Total (5)	Food Aid as a Percent of Total (6)	Rank (7)
Egypt	30,603	25,198	82	1	299,520	10	17
Bangladesh	25,921	10,377	40	2	342,820	8	21
India	11,332	8,445	75	3	2,546,265	0	48
Pakistan	10,478	5,975	57	4	319,739	3	39
Indonesia	7,645	4,834	63	5	582,191	1	46
Sudan	6,957	4,357	63	6	64,042	11	16
Subtotal (1–6)	92,936	59,186	64		4,154,577	2	
Morocco	5,079	4,355	86	7	134,084	4	34
Korea	4,925	3,816	77	8	255,937	2	42
Sri Lanka	5,769	3,759	65	9	46,072	13	13
Peru	3,528	2,984	85	10	57,414	6	27
Jamaica	2,726	2,615	96	11	8,016	34	1 ^a
Philippines	3,251	2,548	78	12	198,828	2	44
Tunisia	3,848	2,473	64	13	42,768	9	18
Bolivia	2,785	2,355	85	14	17,618	16	6 ^a
El Salvador	2,506	2,348	94	15	16,918	15	8
Ethiopia	8,284	2,087	25	16	95,907	9	19
Dominican Republic	1,951	1,900	97	17	15,842	12	14
Portugal	1,879	1,767	94	18	73,004	3	41
Guatemala	1,770	1,662	94	19	27,355	6	24
Mozambique	5,174	1,617	31	20	19,151	27	3 ^a
Jordan	2,200	1,500	68	21	16,657	13	11
Haiti	1,624	1,334	82	22	12,029	14	10
Israel	1,320	1,286	97	23	39,074	3	37
Vietnam	3,361	1,284	38	24	209,447	2	45
Honduras	1,479	1,280	87	25	12,657	12	15
Poland	3,205	1,276	40	26	527,499	1	47
Kenya	1,912	1,178	62	27	60,318	3	40

(continued)

Table 1. Top 50 Recipients of Food Aid, 1973–92 (Continued)

Country	Food Aid (thousands of tons)				Grain Consumption (thousands of tons)		
	Total (1)	U.S. Only (2)	U.S. as a Percent of Total (3)	Rank (4)	Total (5)	Food Aid as a Percent of Total (6)	Rank (7)
Somalia	2,896	1,160	40	28	11,491	25	4 ^a
Zaire	1,435	1,150	80	29	23,203	6	26
Mexico	1,172	1,126	96	30	454,411	0	49
Costa Rica	1,050	1,027	98	31	8,134	13	12
Zambia	1,615	960	59	32	26,329	6	28
Chile	1,076	894	83	33	58,292	2	43
Cambodia	1,454	880	61	34	25,112	6	30
Senegal	1,696	856	50	35	26,068	7	23
Burkina Faso	1,266	819	65	36	29,423	4	33
Ghana	1,612	802	50	37	19,554	8	20
Romania	920	695	76	38	374,606	0	50
Tanzania	2,072	640	31	39	57,713	4	36
Liberia	731	588	81	40	4,915	15	7
Mali	1,447	545	38	41	27,568	5	31
Niger	1,250	537	43	42	33,140	4	35
Yemen	1,219	513	42	43	5,924	21	5 ^a
Guinea	709	505	71	44	10,729	7	22
Lesotho	747	498	67	45	5,171	14	9
Mauritania	1,440	471	33	46	4,502	32	2^a
Ecuador	570	448	79	47	17,373	3	38
Chad	838	393	47	48	13,095	6	25
Malawi	1,181	382	32	49	25,768	5	32
Sierra Leone	525	372	71	50	8,743	6	29
Subtotal (7–50)	97,497	61,685	63		3,157,859	3	
Total (1–50)	190,433	120,871	63		7,312,436	3	

^a The six countries most dependent on food aid during 1973–92.

Note: Fieldwork for the assessment was carried out in five countries. Three (Bangladesh, Indonesia, and Ethiopia) were among the six major recipients of food aid from all sources. In addition, a desk study was carried out for the Sahel region that includes nine countries. These countries covered in the assessment are highlighted in bold. Of the 9 Sahelian countries, 3 (Cape Verde, the Gambia, and Guinea–Bissau) were not among the top 50 food aid recipients in 1973–92 and therefore are not listed in the table.

Sources: Food and Agriculture Organization and U.S. Department of Agriculture.

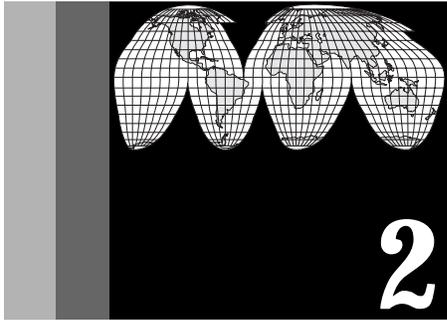
Table 2. Top 10 Recipients of Food Aid, 1973–82 and 1983–92

Country	Food Aid (thousands of tons)				Grain Consumption (thousands of tons)		
	Total	U.S. Only	U.S. as a Percent of Total	Rank	Total	Food Aid as a Percent of Total	Rank
1973–82							
Egypt	13,731	11,489	84	1	122,083	11	2 ^a
India	7,399	5,175	70	2	1,090,037	1	10
Bangladesh	12,388	4,933	40	3	150,729	8	3 ^a
Korea	4,872	3,816	78	4	107,933	5	6
Indonesia	5,752	3,379	59	5	234,790	2	9
Pakistan	5,147	3,375	66	6	136,957	4	7
Portugal	1,877	1,766	94	7	39,864	5	5^a
Sri Lanka	2,512	1,455	58	8	21,392	12	1 ^a
Morocco	1,627	1,340	82	9	56,128	3	8
Israel	1,295	1,285	99	10	18,784	7	4^a
Total	56,600	38,013	67		1,978,697	3	
1983–92							
Egypt	16,872	13,709	81	1	177,437	10	5 ^a
Bangladesh	13,533	5,445	40	2	192,091	7	7
Sudan	5,860	3,636	62	3	37,006	16	3^a
India	3,932	3,270	83	4	1,456,228	0	10
Morocco	3,451	3,016	87	5	77,956	4	8
Pakistan	5,332	2,600	49	6	182,782	3	9
Peru	2,821	2,411	85	7	32,190	9	6
Sri Lanka	3,257	2,304	71	8	24,680	13	4 ^a
Jamaica	2,221	2,155	97	9	4,365	51	1^a
El Salvador	2,254	2,114	94	10	9,336	24	2^a
Total	59,533	40,660	68		2,194,071	3	

^a The five countries most dependent on food aid.

Note: Countries in bold were among the top 10 food aid recipients in one decade but not the other. Six countries were among the top 10 recipients in both decades.

Sources: Food and Agriculture Organization and U.S. Department of Agriculture.



Evaluation Issues And Methodology

THE EVALUATION examined eight fundamental propositions (or hypotheses) concerning the role of food aid in sustainable development. Five suggested that food aid would have positive economic and social impacts, help maintain political stability, and benefit the poor. But three suggested food aid would have negative effects because it would create dependency and cause a disincentive to domestic food production and marketing—and also because it was, in any event, inferior to dollar assistance. This section summarizes the evaluation issues, describes the methodology used to examine them, and provides an overview of the six case studies.

The Eight Propositions

The case *for* food aid rests on five propositions:

1. Food aid provides real resources necessary to expand investment or dampen inflation (the output effect).

To test the proposition, the evaluation asked various questions such as

- Did food aid support a sound economic policy framework or provide a cushion that permitted the recipient government to undertake politically difficult economic policy reforms?
- Was food aid integrated with other U.S. economic assistance, or other donor assistance, to achieve needed policy reform?
- Did food aid, by expanding supply, contribute to reduced food prices and thus differentially benefit poor consumers who spend much of their incremental income (perhaps 70 percent) on food?
- Did the manner in which food aid was sold affect the structure of the country's food-marketing or distribution system?

2. *Selling food aid generates counterpart funds by transferring domestic resources from the private sector to the public (or PVO) sector. This local currency can alleviate budgetary constraints or fund development activities (the monetization effect).*

- Were sales proceeds invested in activities to increase the supply of food (availability) or the demand for food (access), thereby enhancing food security?

3. *Food aid can help disadvantaged groups by supporting nutrition, food for work, or other direct distribution projects (the distribution effect).*

- To what extent were alternative food distribution systems and targeting mechanisms effective in reaching the intended beneficiaries (for example, direct feeding, use of self-targeting commodities, use of food stamps, geographical targeting)?
- Did food aid have a long-term impact on nutrition, health, or education of beneficiaries—beyond the immediate effect of the food itself?
- Did school feeding programs have a net positive effect on children's food consumption or merely substitute for food normally provided at home? Did the programs have a positive effect on education (for example, through improved attendance)? Were they more effective when food was provided in the morning before class (hungry children don't learn) compared with later in the day?

- To what extent did the poor benefit from assets created by food-for-work projects (such as roads and bridges)?

4. *When provided by a reliable source, food aid contributes to political stability, satisfying a basic precondition for sustainable development (the political stability effect).*

- Has political stability been enhanced in countries where the United States has been a reliable supplier of food aid?

5. *Food aid is at least partly additional, because it is aid that would not otherwise be forthcoming as cash, and it is food that would not otherwise be purchased (the additionality effect).*

- To what extent is the justification for non-emergency food aid based on the assumption that it is a surplus commodity?
- To what extent is the justification for food aid based on the reality that it has been less vulnerable to reduced appropriation levels compared with financial assistance?

The case *against* food aid rests on three propositions:

1. *Food aid discourages local agricultural production, either by depressing domestic prices or by enabling recipient governments to postpone needed policy reform (the disincentive effect).*

- Did food aid, by increasing supply, depress domestic prices and thereby reduce farmers' incentives to produce food? Alternatively, did food aid merely substitute for commercial imports and thus have no effect on domestic prices?
- Did food aid serve as a crutch (or excuse) whereby the recipient government was not compelled to establish incentive producer prices or was able to delay incentive pricing policies or market liberalization?

2. Food aid leads not to greater food self-reliance but to greater dependence (the dependency effect).

- Has food aid become a larger or smaller proportion of the country's (or household's) total food consumption over time?
- Have certain food aid commodities changed dietary preferences and thus created dependency on foods the country cannot produce domestically?
- Has food aid created dependency among PVOs and government agencies that respond to emergencies?

3. Compared with cash, food aid is second best. It is expensive, dependent on surpluses in donor countries, and sometimes inappropriate (the inferiority effect).

- Since food aid entails special transactions costs (ocean freight, internal shipping, handling), to what extent is it an efficient way to transfer resources compared with other types of resource transfers (such as cash)?

- What objectives can best be achieved by food aid compared with other types of assistance, or is cash always better than food?

Evaluation Methodology

Evaluating the role of food aid in sustainable development presents several methodological problems. The main problem stems from the comprehensive nature of the assessment, which covers virtually all nonemergency food aid provided by the United States over a 40-year period. Yet food aid is not homogeneous. At a minimum, one needs to recognize the important distinction between program food aid (Title I and Title III) and project food aid (Title II). Program food aid generally affects a country's overall economic development, and an evaluation of its impact requires an analysis of changes in the economy over time. Program food aid does not attempt to reach specific groups of beneficiaries directly; anyone with money can buy it. Project food aid, by contrast, supports specific food-for-work, maternal and child health, or school feeding programs. Unlike program food aid, project food aid typically targets vulnerable groups and poor regions of a country.

Given these complexities, CDIE undertook a series of case studies, using both descriptive and analytical methods to clarify the role of food aid in contributing to sustainable development. Six criteria were used to select countries.

- The country should have had a significant food aid program for an extended period, say 15 to 20 years.

- The countries collectively should reflect geographic diversity (Asia and the Near East, Latin America and the Caribbean, Africa).
- Each country should have implemented several types of food aid program (for example, both a Title II food-for-work program and a Title III policy reform program).
- Countries with both successful and unsuccessful food aid programs should be considered.
- At least one country should be a “graduate” or near-graduate of food aid.
- Data-rich countries should be selected before countries with sparse data.

On the basis of these criteria, as well as from discussions with USAID’s central and geographic bureaus, three candidate countries were identified for each region as follows: Asia and the Near East (Bangladesh, Indonesia, Sri Lanka); Latin America and the Caribbean (Bolivia, Guatemala, Honduras); and Africa (Ethiopia, the Gambia, Ghana). After consultations with the USAID Missions concerned, five countries were ultimately selected: Bangladesh, Indonesia, Honduras, Ethiopia, and Ghana. A desk study of the role of food aid in the Sahel was also carried out to capture the “small country” perspective. For purposes of this evaluation, the Sahel desk study is treated as a “sixth” country case study, even though the region actually includes nine countries (Burkina Faso, Cape Verde, Chad, the Gambia, Guinea-Bissau, Mali, Mauritania, Niger, and Senegal).

Before undertaking field work in a particular country, each evaluation team (see annex A) collected and analyzed longitudinal data covering the period during which food aid was provided to that country. This provided a quantitative overview of the extent to which the country had achieved various economic and social objectives. It also established a backdrop against which to assess the role food aid might have played in the development process. In addition, each team reviewed program and project documentation, including past evaluations, which described the intended role of food aid. Finally, some teams conducted telephone interviews with academics, former Mission directors, and former food-for-peace officers to gain their perspectives of the food aid program in the selected countries.

Most teams spent three weeks in-country, dividing their time between the capital city and project sites. The teams conducted interviews with government officials, nongovernmental organizations, and other donors. They also made site visits to assess the effect of project food aid (food for work, maternal and child health, school feeding) on actual beneficiaries. These interviews provided both a contemporary and a historical perspective of the effect of food aid on the country’s development.

No questionnaire or other formal survey instrument was administered, but rather key informant interviews were organized around topical guides. These served not only to structure the interviews in each country but also to ensure comparability among countries. Each structured interview covered the key issues

summarized above, issues that had been identified at the outset in a “concept paper.” No attempt was made to gather data amenable to statistical analysis.

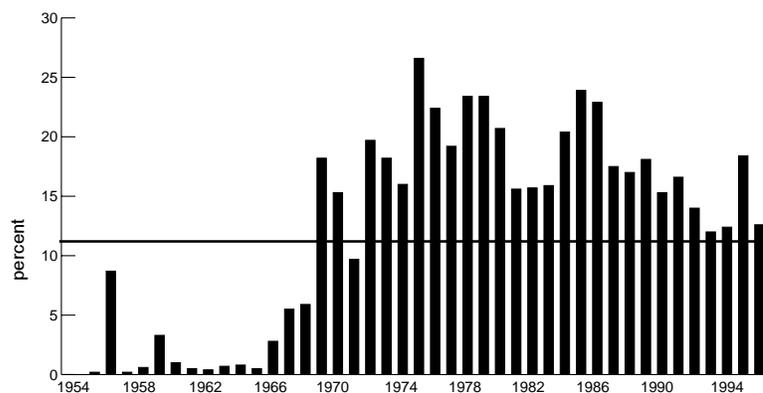
Overview of the Six Case Studies

Countries represented by the six case studies, collectively, received 12 percent of all U.S. PL 480 food aid during 1954–96. However, this was not distributed evenly over the period. Figure 6 shows that during the years preceding 1969, the group of six received less than 2 percent of U.S. food aid in most years; in contrast, since the early 1970s, they received close to 20 percent each year, on average.

The following six tables provide quantitative information about the six case studies. Tables 3 and 4 summarize the magnitude and relative importance of the U.S. food aid program in each, and table 5 lists the major commodities supplied under PL 480. Tables 6 and 7 summarize key demographic and health indicators as well as important agricultural indicators for the six case studies. And table 8 provides recent per capita income and child malnutrition data to suggest the current status of their economic and social development.

Table 3 shows the United States has provided food aid for more than four decades to Ethiopia, Ghana, Honduras, and Indonesia. The Sahel region has received food aid for nearly

Figure 6. PL 480 Food Aid to Countries Represented by the Six Case Studies as a Percent of All PL 480 Food Aid, 1954–96



Note: Six case study countries represent 12 percent of all U.S. PL 480.
Source: U.S. Overseas Loans and Grants.

as long (38 years). And Bangladesh has received food aid since independence and before, when it was East Pakistan. Indonesia was the first of the six to receive food aid (in 1954) and the only country where, after 42 years, food aid has ended (in 1995). (Food aid also has ended in two of the nine Sahelian states, Niger and Senegal, but this is not captured in table 3, which treats the nine countries as a single region.) The United States continues, in 1998, to provide food aid to the other countries.

The two largest U.S. food aid programs have been implemented in the two most populous countries, both in Asia. Bangladesh (with 118 million people in 1994) received almost \$2.4 billion of food aid, and Indonesia (with 195 million people) received \$1.8 billion. The two smallest food aid programs have been carried out in the two least populous countries.

**Table 3. Magnitude of U.S. Food Aid Programs,
Six Case Studies, 1954–97**

Case Study	Period of Food Aid	Years of Food Aid	Level of Food Aid (\$ 000)	Level of Economic Aid (\$ 000)	Food Aid as a Percent of Total Aid
Bangladesh	1972–97	26	2,383	4,054	59
Ethiopia	1956–97	42	867	1,353	64
Ghana	1956–97	42	373	798	47
Honduras	1955–97	43	325	1,997	16
Indonesia	1954–95	42	1,825	3,853	47
Sahel region	1960–97	38	1,032	3,189	32

Source: U.S. Overseas Loans and Grants, 1996.

Honduras (5.5 million people in 1994) received \$325 million of food aid, and Ghana (17 million people) received \$373. Ethiopia (53 million people) and the Sahel region (48 million people) received \$867 million and \$1 billion, respectively.

U.S. food aid has been an important component of the overall U.S. economic assistance program in all six case studies. In four of them (all but Honduras and the Sahel), it accounted for more than 40 percent of total U.S. economic assistance during the period it was provided. And in Ethiopia and Bangladesh, it constituted most of American foreign economic assistance—64 percent and 59 percent, respectively.

Table 4 shows that the United States was an important source of food aid for all six case study countries during 1971–94 but more so for some than others. For reasons of proximity and U.S. political interests, if nothing else, Honduras received 87 percent of its food aid from

the United States. At the other end of the scale, Ethiopia received only 22 percent of its food aid from the United States.

Food aid was a significant proportion of the cereal supply in five of the six case study countries during 1971–94, reaching 10 percent, on average, in Honduras and the Sahel. Indonesia is the exception. There food aid averaged only 1 percent of the cereal supply over 24 years.

U.S. food aid has provided substantial balance-of-payments support, especially to Bangladesh and Ethiopia. In Bangladesh it equaled almost 10 percent of export earnings, on average, during 1972–94, reaching 79 percent in 1975. In Ethiopia it averaged almost 9 percent of export earnings from 1960 through 1994 and reached 50 percent in 1993. U.S. food aid has been crucial in these two countries, especially during these peak years. It has been far less significant in the other four countries,

ranging from less than 1 percent of export earnings, on average, in Indonesia (1960–94) to less than 3 percent in the Sahel (1968–94). But even in Indonesia, food aid was critical in the early years of the Soeharto period (1966–73), reaching 22 percent of export earnings in 1969.

During 1954–94, the United States supplied 35 different commodities as PL 480 food aid to the five case study countries (that is, excluding the nine Sahelian states). Table 5 lists the 21 most important commodities supplied to each country. The other 14 commodities, those making up less than 0.5 percent of the total, are listed in the note to the table. Wheat was the predominant commodity supplied to all countries except Indonesia, where rice was most important. The second most important

commodity was rice (Bangladesh and Ghana), cotton (Ethiopia), corn (Honduras), and wheat (Indonesia).

Over the years, most food aid supplied by the United States has been in the form of cereals. Noncereals as a percent of U.S. food aid worldwide remained relatively low—between 5 and 10 percent of the total—from 1977 through 1992. In 1993, though, noncereals made up more than 10 percent of total U.S. food aid; in 1994, more than 15 percent; and in 1995, nearly 20 percent. This probably reflects the fact that Title II programs have become larger in recent years, and these programs typically dispense relatively more processed commodities.

Table 4. Relative Importance of U.S. Food Aid Programs, Six Case Studies, 1971–94

Case Study	U.S. Food Aid as a Percent of All Food Aid (1971–94)	Food Aid as a Percent of Cereal Supply (1971–94)	Food Aid as a Percent of Export Earnings		
			Average	Maximum	Year of Maximum
Bangladesh	38	6	9.9	78.8	1975
Ethiopia	22	8	8.9	50.0	1993
Ghana	48	7	1.5	5.5	1969
Honduras	87	10	1.9	3.3	1989
Indonesia	59	1	0.4	22.0	1969
Sahel region	41	10	2.5	8.4	1974

Note: Food aid as a percent of export earnings refers to the following years: Bangladesh (1972–94); Ethiopia, Ghana, Honduras, and Indonesia (1960–94); Sahel region (1968–94).

Sources: OECD, Public DAC Database, 1996; FAO, FAOSTAT Database, 1996; U.S. Overseas Loans and Grants, 1996.

**Table 5. PL 480 Commodities Provided to Five Case-Study Countries,
By Title, 1954–94, Percent of Total**

Commodity	Bangladesh		Ethiopia		Ghana		Honduras		Indonesia	
	Titles I/III	Title II	Titles I/III	Title II	Title I	Title II	Titles I/III	Title II	Title I	Title II
Bulgur wheat		x		14		15		5	4	35
Corn				2	6	6	2	17		5
Cornmeal				x		2		2		1
Corn–soya milk				11		1		11		2
Cotton	1		21		5				5	
Cotton fabric					1					
Dry beans				1		x		4		x
Ground sorghum		1		8	1	2				x
Inedible tallow					6		1			
Lentils				1						
Miscellaneous edible products						4		1		
Nonfat dry milk		x		2	x	4		9		8
Oils (vegetable)			5	4		x		x		x
Rice	12	x		x	25	12	1	8	48	13
Rolled oats				x		x		1		x
Sorghum grits		1		x		6		1		x
Sorghum–soya				4		10				
Soybean oil	4	1		6	1	6		6		x
Wheat	83	97	74	44	46	23	96	25	27	12
Wheat flour				3	8	x		5	15	19
Wheat–soya flour						7		5		3
Subtotal	100	100	100	100	99	98	100	100	99	98
Residual	0	x	0	x	x	2	0	x	x	2
Total	100	100	100	100	100	100	100	100	100	100

Note: All numbers are rounded to the nearest 1 percent. “X” denotes a commodity making up less than 0.5 percent of the total. The “residual” includes commodities that together composed less than 1 percent of the total. (Some of these residual commodities are listed in the table and denoted by “x,” but 14 are not listed in the table. These include butter, butterfat, cheese, cotton yarn, cottonseed oil, dehydrated potato, dry peas, peanut oil, rice–soy blend, rolled wheat, shortening, tobacco, wheat protein, and wheat–soy beverage.)

Table 6. Demographic and Health Indicators, Six Case Studies, Various Years

Case Study	Life Expectancy at Birth (Years)		Child Mortality (per 1,000 births)		Daily Per Capita Calorie Availability	
	1960	1994	1960	1994	1961–62	1991–92
Bangladesh	40	55	247	117	2,093	1,995
Ethiopia	37	47	294	200	1,816	1,621
Ghana	46	56	213	131	2,078	2,161
Honduras	48	67	203	54	1,942	2,311
Indonesia	42	62	216	111	1,842	2,718
Sahel region	36	48	318	193	2,031	2,348

Sources: UNICEF, *State of the World's Children*, 1996; UNICEF, *The Progress of Nations*, 1996; FAO, *FAOSTAT On-line Database*, 1996.

Table 6 summarizes changes in three important quality-of-life indicators: life expectancy, child mortality, and per capita calorie availability. Life expectancy at birth has increased in all six cases over the 35-year period 1960–94. In Ethiopia and the Sahel, though, in 1994 it was still low—47 and 48 years, respectively. In the other four countries it was much higher, ranging from 55 years (Bangladesh) to 67 years (Honduras).

Child mortality has also decreased remarkably over the past 35 years in all six cases. However, it still remains high in Ethiopia, where out of 1,000 children born in 1994, 200 died before age 5. It is high as well in the Sahel, where 193 died before age 5. The most dramatic improvements from 1960 to 1994 have occurred in Honduras, where child mortality has declined by 73 percent (from 203 to 54 per 1,000) and

in Bangladesh, with a 53 percent decline (from 247 to 117 per 1,000).

In 1962, daily per capita calorie availability was lowest in Ethiopia (1,816 calories) and Indonesia (1,842 calories). Thirty years later it was even lower in Ethiopia (1,621 calories)—but it was 47 percent higher in Indonesia (2,718 calories). Per capita calorie availability remains relatively low in Bangladesh and Ghana. By contrast, it is more than 2,300 calories per day in Honduras and the Sahel.

Table 7 shows changes in agricultural performance over the period 1970–95, for the six case studies. Cereal yields increased in all six cases, ranging from 18 percent in the Sahel to 92 percent in Indonesia. What is striking, though, is that yields in Africa (Ethiopia, Ghana, and the Sahel) and in Latin America (Honduras)

ras) were lower in 1995 than they were in Asia (Bangladesh and Indonesia) 25 years earlier, in 1970. Variations in yields among countries (or within countries) can be explained by many factors. One is the use of modern inputs, such as fertilizer. In Bangladesh and Indonesia in 1992, fertilizer was applied 10 times as intensively as in the other four case studies. Another factor is the government's food policy and whether it encourages or discourages food production (this factor is discussed in chapter 3). Still other factors include rainfall (or water availability), basic soil conditions, and use of high-yielding technologies.

Finally, table 8 provides an important measure of economic status (per capita gross national product) and social status (child malnutrition) for the six case studies. Since these two indicators tend to vary inversely, it is not surprising that the two poorest countries, Bangladesh and Ethiopia, have the highest rates of

child malnutrition—67 and 48 percent, respectively. As per capita incomes increase, malnutrition rates decrease, as in Ghana and the Sahel with malnutrition rates of 27 and 30 percent, respectively. The pattern continues for Honduras, a country with an even higher per capita income (\$600) and an even lower rate of child malnutrition (21 percent). Considering this pattern, it is surprising that Indonesia, with the highest per capita income of the six (\$880) has a relatively high child malnutrition rate (40 percent).

Given this backdrop, what impact (economic, social, political), or lack thereof, has 40 years of U.S. food aid had on sustainable development in the six case studies? Who have been the main beneficiaries of the food aid? Is food aid an efficient way to transfer resources? Insights on these and other questions are reported in the next five chapters. The last chapter suggests conclusions and recommendations.

Table 7. Cereal Yields and Fertilizer Use, Six Case Studies, Various Years

Case Study	Cereal Yields (Kilograms per Hectare)			Percent Change in Cereal Yields 1970–95	Fertilizer Use (Kilograms per Hectare) 1992
	1970	1980	1995		
Bangladesh	1,666	2,006	2,607	56	1,098
Ethiopia	835	1,191	1,505	80	71
Ghana	858	718	1,353	58	29
Honduras	1,209	1,132	1,546	28	166
Indonesia	2,001	2,866	3,840	92	1,093
Sahel Region	646	652	763	18	47

Note: Cereals include wheat, rice, maize, barley, sorghum, and millet.

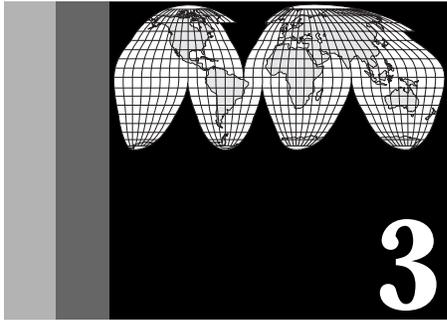
Source: FAO, FAOSTAT On-line Data, 1996.

**Table 8. GNP Per Capita and
Child Malnutrition,
Six Case Studies, Various Years**

Case Study	GNP Per Capita (1994 dollars)	Percent of Malnutrition in Children Under 5
Ethiopia	100	48
Bangladesh	220	67
Sahel region	393	30
Ghana	410	27
Honduras	600	21
Indonesia	880	40

Note: malnutrition is defined as weight-for-age of more than two standard deviations below the median.

Source: Demographic and Health Surveys



3 Economic Impact

FOOD AID CAN HAVE a positive economic impact in three main ways: 1) it provides additional resources (food) to the recipient country; 2) it may provide leverage to encourage the recipient government to adopt needed food policy reforms (often based on food policy analysis associated with the food aid); and 3) when sold, it provides additional money (local currency) that can be used by the recipient government or by PVOs for development.* Food aid can also have a negative economic impact at the aggregate level: it can create a disincentive to domestic food production and marketing.

Depending on the strength of the various impacts, food aid may or may not contribute to long-term sustainable development. Each potential economic impact—resource transfer, food policy reform, additional budgetary resources, and disincentive effect—is discussed below in the context of the six case studies.

Resource Transfer

Food aid helps governments save foreign exchange they otherwise would have used to import food commercially. The saved foreign exchange may then be used by the government or the private sector to import alternative goods, for either investment or consumption purposes. In this sense, food aid, like other types of foreign economic assistance, represents a pure gain to the national economy equal to the amount of foreign exchange saved or the value of the alternative imports made possible by the savings.

Not all food aid falls into this category. Food aid given away to people with no purchasing power (in famine situations, for example) normally does not represent food that would have been imported commercially. Therefore, it should not be considered in terms of saved foreign exchange. The same is true for most food aid given away to mothers at maternal and child health centers or to children at schools.

* When provided in kind as food for work, rather than sold, it can augment employment and support infrastructure development (see chapter 4).

But food aid that is monetized, or sold, either by governments or by PVOs, goes to consumers with real purchasing power. It probably substitutes for food that otherwise would have been imported commercially and sold to those same consumers. It thereby saves foreign exchange.*

The issue of substitutability is closely linked with the disincentive issue—the role food aid may play in flooding local markets, driving down producer prices for local farmers. Insofar as food aid substitutes for commercial imports, it increases the availability of foreign exchange, but it does not increase the overall supply of food in a country. It does not, therefore, flood markets or affect producer prices. If, by contrast, food aid is truly additional to normal commercial imports, it increases overall supply, pushing down producer prices.†

The magnitude of food aid supplied by the United States has varied among countries and over time. Table 3 reports the overall magnitudes for each of the six case studies from 1954 through 1997. And table 4 suggests that the resource transfer was more important in some countries at certain critical time periods than in other countries at other time periods. Figure 7 summarizes U.S. food aid deliveries (in con-

stant 1990 dollars) for each of the six case studies and shows how these deliveries have varied over time. In Indonesia, for example, PL 480 food aid was heavily concentrated in the early years of the Soeharto period (1966–73). But in Ethiopia, in response to famine and civil war, food aid has been concentrated in the years since 1984.

Food Policy Reform

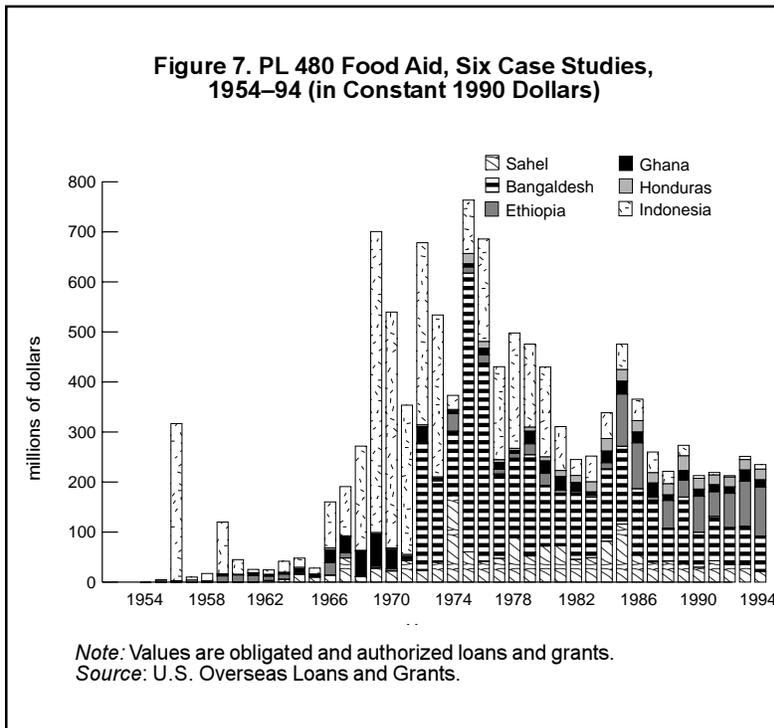
It is difficult to demonstrate a direct causal linkage between food aid and food policy reform—and subsequent economic growth. U.S. food aid has typically been part of a larger U.S. economic assistance package, which in turn has been part of a much larger multidonor effort. As a result, it is methodologically difficult to disentangle the role of U.S. food aid from the overall package.

In **Indonesia**, food aid was not used as leverage to induce policy change. In fact, during the Sukarno period, the United States had no influence on government policy, and Sukarno frequently denounced U.S. policy. But after Soeharto came to power, Indonesia developed a sensible policy framework designed to restore economic order, initiate income growth, pro-

* Food aid generally does not substitute for *all* commercial imports. Recipient governments are expected to import food commercially at a level equal to their “usual marketing requirements.” Likewise, PL 480 legislation requires the president to “take reasonable precautions to safeguard usual marketings of the United States. . . .” In practice, though, implementation of the legislation has been flexible, usual marketing requirements are not always rigorously enforced, and sometimes they are set at low levels (even zero) if a recipient country is confronting a serious foreign exchange constraint. As a result, food aid almost certainly substitutes for a portion of commercial imports (Nathan Associates, Inc. 1990; Singer and others 1987).

† Most analyses conclude that food aid, in most cases, does not create disincentives to domestic agricultural production. This is because much of the food aid entering the market substitutes for commercial food imports (Vondal 1990; Bremmer–Fox and Bailey 1989).

Figure 7. PL 480 Food Aid, Six Case Studies, 1954–94 (in Constant 1990 Dollars)



introduce new policies to enhance food security. Although food aid is often considered an inherently weak instrument for exercising policy leverage (since withholding it would be seen as “punishing the poor”), the Bangladesh experience suggests it can be highly successful. As a condition for food aid, the United States required the government to eliminate, over time, the urban-biased food subsidy system and to create a buffer stock scheme to stabilize rice prices.

Honduras illustrates yet a third scenario. During much of the 1980s, U.S. food aid

mote agricultural development, invest in rural infrastructure, and maintain price stability for rice. Food aid made a significant contribution to sustainable development because it supported a sound economic policy environment, not because it induced such an environment.* This positive economic policy environment, coupled with high-quality economic management, enabled U.S. food aid to be especially effective.

Quite the opposite occurred in **Bangladesh**. There, USAID used multiyear food aid agreements to chip away at economic policies that were undermining the food sector and to

(coupled with much larger amounts of funding under the Economic Support Fund) provided major balance-of-payments assistance to promote political stability. But the extra time and political space made possible by these resources were largely dissipated by the government. Unlike Indonesia, where the resource transfer supported a sound economic policy framework, or Bangladesh, where it leveraged such a framework, food aid in Honduras served as a crutch that permitted the government to postpone (but not avoid) economic policy adjustments critical to sustainable development.

* The Indonesia experience is consistent with Ruttan’s comprehensive review of the role of food aid worldwide. “The history of efforts to employ food aid to induce other governments to initiate economic or political reforms . . . indicates that it is an exceedingly blunt instrument. . . . Success has been achieved only when there was substantial political support for the reform in the recipient country or the recipient country was in an exceedingly weak bargaining position” (Ruttan 1993, 224).

As in Bangladesh, PL 480 food aid programs in the **Sahel** tried to leverage economic policy reform to stimulate growth and reduce poverty. Initially, though, they tended to strengthen state agencies when in fact the role of the state needed to be reduced so as to encourage private sector–led growth. Throughout the early 1980s USAID’s efforts were confounded by this internal contradiction, as food aid facilitated (rather than reduced) state intervention in food markets. By the mid-1980s, conditions laid down by USAID had become directed at market liberalization. The World Bank and other donors were pushing a similar agenda. As a result, agricultural marketing policies changed for the better in most of the Sahel, and food markets became more efficient. Although American food aid played a role in promoting these policy changes, how large a role is open to debate, given the multiplicity of donors involved.

The case of **Ghana** demonstrates how food aid can be used to support sound economic policy, but—because it is quick disbursing—can just as easily be withdrawn when the government backslides and reverts to counterproductive policies. With the end of President Kwame Nkrumah’s socialism in 1965, the United States increased Title I food aid from nothing to more than \$10 million a year to support the government’s move to liberalize the economy. Then, as conditions soured, the United States reduced the food aid to nothing again in 1973. This scenario was repeated in 1979 after the revolution of military strongman Jerry Rawlings. Title I food aid was resumed, increasing from zero to more than \$10 million but was reduced to zero again in 1983 when reforms were abandoned. Then, in 1984, PL 480 food aid was resumed yet a third time when the government

launched a new package of economic reforms. In each of these crises, food was in short supply, the new reform-minded government was hesitant to carry out economic policy changes, and U.S. food aid helped ease the transition.

In **Ethiopia**, food aid played a relatively minor role either in supporting, leveraging, or postponing economic policy reform. Its main effect was to jump-start two important industries of the economy after the country had been devastated by civil conflict. By providing raw materials (wheat and cotton), the Title III program kept the country’s flour mills and textile mills operating. That helped employment.

Sometimes economic advice came with the food aid, and in some cases this advice was critical. This was certainly true in Indonesia and Bangladesh.

Few would dispute that **Indonesia** has been one of the best-performing developing countries over the past 30 years. This is due in large part to a sensible macroeconomic policy framework, which is due in no small measure to the U.S.–trained economic team that took over management of the economy in 1965 and stayed the course for 30 years. The overarching goal of U.S. assistance at that time was to help the new Soeharto government realize its long-term economic objectives and to avoid a reversion to the misguided policies of the Sukarno era. The government’s ability to accomplish these ends rested, to a considerable extent, on the continuity of the sound policy framework and from Soeharto’s long, uninterrupted tenure—as well as Soeharto’s appointment of the small group of U.S.–trained economists to positions of economic management.

In **Bangladesh** the food policy reforms negotiated under the PL 480 agreements were also based on solid analysis, much of it carried out by USAID. The Agency's strong professional staff, with excellent analytic capability and good diplomatic skills, together with the long, continuous tenure of its local professional staff, was especially valuable.

To its credit, USAID sought to institutionalize an equally solid analytical capability within the government. The 1987 Title III food aid agreement was conditioned on the government's agreeing to strengthen the Food Planning and Monitoring Unit under a USAID-funded policy analysis project, later implemented by the International Food Policy Research Institute. A subsequent Title III agreement was conditioned on the government's agreeing to fund the unit from the "revenue" budget, not the "development" budget. That confirmed it as a permanent part of the civil service. The lesson: sound food policy analysis is fundamental to successful food policy reform, economic growth, and food security.

Throughout much of the 1980s, many African governments expressed little willingness to engage in policy dialog or to implement sound economic policies. This reluctance was exacerbated by civil war in **Ethiopia**, frequent changes in government in **Ghana**, and political instability in much of the **Sahel**. In Ethiopia, it was not until 1991, with a change in govern-

ment, that dollar-funded food policy analysis coupled with a new Title III food aid program was put in place to help keep reforms on track.

In **Honduras** (as in much of Central America) the United States was more concerned with the political agenda than with economic growth. Similarly, governments there had little interest in reform—or actually resisted reform—and therefore had little use for even the most cogent and forceful of economic analyses. Not until 1987, when serious policy reform began to make some headway, was food policy analysis valued.

Additional Budgetary Resources

Food aid often saves foreign exchange the recipient government otherwise would have used to import food. The United States traditionally has not been involved with influencing how this saved foreign exchange was spent. It *has* tried to influence how counterpart funds (local currency generated from the sale of the food aid) was spent.* Sometimes local currency has been used as budget support to fund activities the government planned to fund anyway. In other cases it has been used for activities that would not have been funded in the absence of the counterpart funds. In still other cases the Agency and the recipient government have disagreed about how the local currency should be allocated. This has caused heated debate, since

* Keep in mind that food aid, not local currency, represents the resource transfer from the United States to the recipient country. The local currency is only an internal transfer of domestic resources from the private sector to the public (or PVO) sector. Although local currency is not additional to the economy—only the food aid is—it is additional to the finance minister. That is, proceeds from the sale of food aid provide additional revenue just as a tax increase generates additional revenue. (See Bruton and Hill 1991 for a comprehensive treatment of the developmental effect of counterpart funds.)

the local currency generated under most PL 480 programs is owned by the host country, not by the United States.

Partly for this reason, the United States has not evaluated the effect of local currency-funded activities in most countries (unless the local currency represented the government's contribution to a USAID project). As a result, it is difficult to gauge the effect of local currency expenditures. In principle, local currency generated from the sale of food aid contributes to sustainable development when the resources are used to support a sound, development-oriented budget or when the government or qualified nongovernmental agencies use the resources to fund high-priority development activities.

This occurred in **Indonesia**. In the late 1960s and early 1970s, before oil revenues became significant, proceeds from the sale of PL 480 commodities represented 20 to 30 percent of the government's development budget. These resources were one of the few incremental, non-inflationary revenue sources for funding public sector investment activities, given the government's policy against deficit financing. Had counterpart funds not been available, the development budget would have been reduced by the same amount. USAID attempted early on to determine the specific uses of these counterpart funds, but the Indonesian government resisted. In most years, both sides agreed the funds should support rural investment, especially investment in infrastructure needed to stimulate increased agricultural productivity. As a result, irrigation canals were rehabilitated and extended, roads widened, bridges built, flooding controlled, and food storage facilities constructed. Local currency was also used to build and staff agricultural research institutions where

new green revolution rice varieties were adapted to Indonesian soil and water conditions.

The story is much the same in **Bangladesh**, except USAID had a much greater role in deciding how to allocate the local currency, especially among discrete projects. These local currency proceeds were significant, amounting to more than \$920 million from 1979 through 1996. As in Indonesia, most of the funds (more than 80 percent) were used to support agriculture-related investments. These included developing high-yielding rice varieties and improving rural infrastructure.

In the **Sahel**, too, the United States was involved in programing counterpart funds (approximately \$166 million over 30 years) jointly with recipient governments and sometimes with other donors. Some of these investments (such as the Kayar Dune Stabilization Program) have yielded positive returns; some (such as financing Burkina Faso's state marketing monopoly) have yielded negative returns; and others (such as paying off Senegal's banking debts) have yielded ambiguous returns.

Throughout much of the 1980s, large amounts of local currency generations were used in **Honduras** (as in much of the Sahel) to support counterproductive price-control programs and related public storage and marketing activities. The local currency, in effect, permitted the government to finance these programs beyond what otherwise would have been possible using only domestic resources from the public treasury. About 1987, when major policy reforms helped realign agricultural terms of trade, local currency began to be used to accelerate agricultural development. It funded discrete activities, such as the Land Use and Productivity Enhancement project, as well as specific Honduran gov-

ernment entities, such as the agricultural policy unit in the Ministry of Natural Resources. Whether these and other programs would have been funded in the absence of the PL 480 local currency, however, cannot be determined.

In **Ghana**, PL 480 local currency was used to support the government's public investment program in agriculture, education, and health. In most cases, USAID was simply providing budget support, so it is difficult to know what the developmental effect of the local currency actually was. Nor is it known whether the projects were additional to what the government would have done in the absence of the local currency generated by food aid.

The budgetary effects of the Title I program in **Ethiopia** were minimal. Only four relatively small programs amounting to \$9.5 million were administered between 1956 and 1991, and the local currency generated from these programs represented less than 1 percent of the government's expenditures in any one year. Although the Title III program during 1992–95 totaled \$136 million, the PL 480 commodities were not sold, and local currency was not generated. Instead, PL 480 cotton was transferred to a government-owned textile mill, and wheat was stored as an emergency food reserve.

Disincentive Effect

Although food aid can have important positive economic effects, it can also have a potential negative effect: discouraging domestic food production. When food aid is targeted to those who are hungry and lack the money to buy additional food, it tends to increase food

consumption and income without harming domestic food production. This was generally the case in all six case studies with Title II programs that supported food for work, maternal and child health, and school feeding. Since the beneficiaries of these programs lacked the income to buy additional food, the food aid did not substitute for normal market purchases and did not harm domestic production.

The question is quite different when food aid is sold in the marketplace. Then it competes with local food products and can—but need not—have a disincentive effect on domestic food production. Whether it does depends in large part on whether the food aid is additional to commercial imports or substitutes for commercial imports. The evaluation literature on PL 480 programs in the **Sahel** concludes in almost all cases that food aid was substituting, to a large degree, for commercial imports and did not significantly depress producer prices.

Two recent studies on the disincentive effects of food aid in **Ghana** (Wordzorgbe 1994; Dadson 1989) found that rice imports had a modest effect on domestic production. A 10 percent increase in the rice supply depressed the domestic price by 2.8 percent and reduced domestic rice production by 7.5 percent. Wheat imports, by contrast, had almost no effect on domestic production, since wheat is not grown in Ghana and does not substitute for maize and tubers.

In **Indonesia** the government emphasized domestic food production, and this was manifested in part by keeping rice prices above world levels. This policy meant that food aid was never allowed to reduce incentives to producers or have a disincentive effect on domestic produc-

tion. It also helped redistribute income to rural producers from urban consumers (in contrast to many developing countries where government policies are designed to have the opposite effect).

The effect of food aid on domestic food production has always been a sensitive issue in **Bangladesh**. Recent studies suggest that the rice price has a strong effect on wheat demand but not vice versa (Ahmed and Shams 1993; Goletti 1993, cited in Ahmed, Puetz, and others 1995). Therefore, food aid provided as wheat is unlikely to have any significant effect on the price of rice. Although it will have an adverse effect on wheat prices, any decline in wheat production associated with wheat imports will be more than compensated for by increased production of competitive crops (since wheat competes with other winter crops).

The evidence for Bangladesh also indicates that food policy reforms, leveraged by USAID and other donors, have created a more favorable price environment for food producers by encouraging increased ration prices and government procurement of domestic rice. At the same time, local currency proceeds have permitted increased investment in rural infrastructure (especially irrigation and rural roads) and development of high-yielding varieties (through agricultural research), which have greatly increased agricultural productivity. On balance, then, although food aid may have diminished domestic grain production to some degree, policy changes associated with the food aid have enhanced production. They have more than offset the minimally depressing effects of the imports.

During 1983–89, virtually all wheat imported into **Honduras** arrived under PL 480. The wheat was sold to millers at the official exchange rate, even though parallel exchange rates were much higher. In addition, the government subsidized in-country transportation costs and sold the wheat to millers on credit, further lowering its cost relative to domestically produced cereals. As a result, subsidized Title I wheat flour was competing directly with domestically produced cereal grains such as corn, rice, and sorghum that did not enjoy equivalent subsidies. Under these conditions the Title I food aid program almost certainly worsened the negative terms of trade for domestic grain producers. This led to decreased production of cereal grains, especially corn.

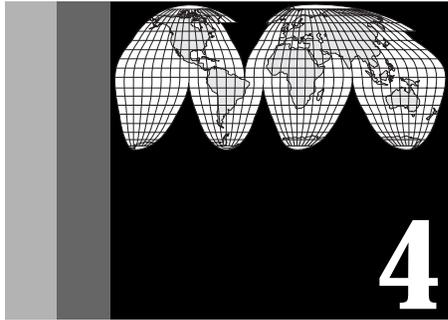
Since PL 480 wheat sales to Honduras were driven by U.S. foreign policy toward Central America during much of the 1980s, the negative impact of the food aid on producer prices was essentially ignored. The overriding foreign policy concerns also meant there was little leverage to be exercised in utilizing local currency generations. Although a 1987 evaluation (Norton and Benito) concluded Title I imports did not unduly depress grain prices, the fact remains that inappropriate macroeconomic and food policies permitted a regulated flour price considerably below the equilibrium price. Not surprisingly, domestic producers of food grains responded to deteriorating relative prices by reducing output during the 1980s.

In **Ethiopia** most Title II food aid was made available to meet emergency needs during periods of major shortfalls in domestic production, and no Title III food aid was sold on

the market. Under these circumstances, it is unlikely the food aid could have had a disincentive effect on domestic food production. This conclusion is substantiated by a detailed study of relief food in the northeast highlands. It found food aid deliveries bore a reasonable relationship to food deficits during 1988–92. Although food-for-work projects can negatively affect local labor markets if the value of the daily ration is above the daily wage rate, there

is no evidence this occurred in Ethiopia. Nor is there evidence that food aid enabled Ethiopian governments to avoid economic policy reforms deemed necessary to achieve food security.

Annex B discusses the role of food aid in contributing to increased food production for each of the six case studies; annex C provides a generic discussion of the potential disincentive effect of food aid on domestic production.



4 Social Impact

AMERICAN FOOD AID has had its greatest social impact through four programs: 1) food for work, 2) maternal and child health, 3) school feeding, and 4) emergency distributions.* These programs involve direct distribution of food by PVOs or the World Food Program to the intended beneficiaries or the sale of food to raise cash for development activities.

Food for Work: Generating Employment And Creating Assets

USAID has used food for work extensively as a means to achieve two objectives:

- To provide food or income to poor, underemployed people, particularly during the difficult preharvest months
- To create infrastructure such as roads or schools needed for long-term sustainable development

Food-for-work programs have been popular for several reasons. They do not have the same welfare stigma associated with food handouts. They are effective at targeting the poor, since only those who are unemployed or very poor are willing to work for food rations valued at less than the market wage rate (chapter 6 discusses the equity implications of food aid programs). Finally, public works created through food for work, such as roads and irrigation canals, can have positive long-term development effects.

A worldwide review conducted for USAID in 1991 concluded that food for work is generally successful in reaching poor areas and targeting poor people, and thus is a useful device for identifying the needy. But the public works created have been of mixed quality, and administrative problems have abounded (Bryson and others 1991).

This is partly because many food-for-work projects have been initiated as emergency programs where the goal was short-term relief

* This assessment does not examine emergency distributions, except in the context of political stability in Ethiopia (see chapter 5).

rather than long-term development. This was the case in the **Sahel** (Niger and Chad, for example) in the early 1980s, when food for work was used for drought relief. The program sought to create employment; building rural infrastructure was secondary. As a result, little attention was paid to the sustainability of the assets created. An exception occurred in Burkina Faso. A USAID evaluation of this program attributed the good results to Catholic Relief Services' deliberate emphasis on creating worthwhile assets rather than merely creating employment (USAID/Burkina Faso 1986). A second reason for success was the organization's use of the bottom-up approach, wherein project ideas were initiated by the villagers.

Another exception occurred in **Indonesia**, where food for work was an important factor in the government's approach to developing rural infrastructure. During the late 1960s, district governments were given food aid to undertake labor-intensive public works during slack agricultural seasons. The program required only that most of the cost had to be for local labor or materials. (This approach was adapted from earlier experimentation using U.S. food aid for rural public works in East Pakistan.) Its success prompted the Indonesian government to institutionalize it in 1970. When oil revenues started pouring in in the mid-1970s, it became feasible to pay workers in money rather than food. The program ballooned into a large-scale financial transfer to district governments exceeding \$500 million a year. This "Inpres" program, as it was called, born out of

the food-for-work program, has been credited with producing rural prosperity both by generating incomes and by improving rural infrastructure.

Food for work has also worked in **Bangladesh**, but the program raises the question about the merits of using a single instrument, food, to achieve simultaneously two objectives: short-term relief and long-term development. In the early 1970s, the objective was to pay unemployed and underemployed workers in kind, and to build irrigation canals, rural earthen roads, and earthen dams for flood control. But by 1983 it had become clear that many of the earthen roads made little economic or environmental sense, largely because their construction was intended as an instrument to generate short-term employment rather than as a mechanism to meet long-term transportation needs. (As is often the case, the urgency of the relief effort took precedence over technical considerations.)

To remedy this, some of the food aid was sold to construct bridges and culverts, making the roads more durable. By 1993 fully 85 percent of Title II food aid was being monetized in this way and only 15 percent was being given in kind to unemployed workers. The shift over time from short-term relief (employing and feeding the poor) to long-term development (upgrading rural roads so they are well designed, economically justifiable, and environmentally sound) reflects the view that the greatest and most sustainable gain in reducing poverty comes not from generating employment in road building but from the roads themselves.*

* One study has shown that in areas where transport facilities were developed by food-for-work projects, poverty decreased by 8 percent (Rahman 1996, cited in USAID/Bangladesh 1993). Another study (by the International Food Policy Research Institute) found that households in Bangladeshi villages with physical infrastructure (such as roads) in conjunction with directly productive infrastructure (such as irrigation canals) have incomes 60 percent higher than those without such infrastructure (Hossain and Akash 1993).

Similarly in **Ethiopia**, public works programs began in the early 1960s as relief and rehabilitation activities. Their prime objective was to get food to those in need rather than to create sustainable assets. As a result, infrastructure that was built deteriorated after the projects ended. Two factors account for this: first, the projects were of poor technical quality because they deliberately emphasized feeding rather than sustainability; and second, the projects (many of which dealt with natural resource management) were not maintained because they were carried out on community land where no one was responsible for maintenance. In the mid-1980s, USAID began supporting development-oriented food-for-work projects to promote soil conservation, reforestation, and agriculture development. By 1994, the program had provided 175,000 metric tons of food valued at about \$150 million, equivalent to roughly 92 million person-days of work (Catterson 1994).

Alleviating poverty has also been the objective of the CARE-administered food-for-work program in **Honduras**. Food was provided to seasonally unemployed members of poor communities, and community assets such as roads, bridges, and irrigation systems were built to facilitate longer term development at the local level. In general, the program has been successful.

In **Ghana**, the Adventist Development and Relief Agency was the main PVO to administer food-for-work projects as well as small community-based activities such as school and well construction and village woodlots. During the 1980s these projects were consistently troubled by lack of cash to purchase materials. ADRA

had food to pay for labor, but materials costs always seemed to prevent project completion. After 1990 an increasing proportion of Title II food aid was monetized. Within one year, schools that had remained unfinished began to be completed: 21 in 1993, 40 in 1994, and 55 in 1995.

Maternal and Child Health: Improving Nutrition

Maternal and child health (MCH) programs have sought to

- Improve the health and nutritional status of poor mothers and their babies
- Improve the health and nutritional knowledge and practices of poor mothers
- Generate supplemental income or food through gardening or small enterprises

MCH programs supported by Title II reached, on average, more than 11 million beneficiaries in 39 developing countries annually from 1979 through 1989. Although the U.S. program was the largest food-aided program of its kind (except for the World Food Program), the aid still reached only a small fraction of mothers and children suffering from persistent nutrition problems (Shaw and Clay 1993).

The programs generally consist of monthly meetings of participants selected from poor villages during which MCH staff weigh the mothers' babies to monitor their nutritional progress in relation to standardized weight-for-age charts.

The staff instruct the gathered mothers about various health or nutritional themes, such as how to treat diarrhea. In some cases the mothers are encouraged to participate in a small cooperative enterprise or garden. At the end of the meeting, each mother is given a food ration such as soy-fortified cornmeal to take home for supplemental feeding of the child. (Some of the older MCH programs are more properly referred to as supplementary feeding programs, because the food distribution was not accompanied by nutrition education and health services. Such programs are ineffective in combating malnutrition, and USAID no longer supports them.)

USAID has supported maternal and child health programs in five of the six case studies, all but Bangladesh. Their impact has proved difficult to measure, and results are inconclusive. A comprehensive survey of the effectiveness of MCH supplementary feeding programs from 1979 through 1989 also reported difficulty in demonstrating nutritional impact, generally because evaluations have been inadequately designed (Mora and others 1990). Perhaps partly for this reason, MCH programs that once operated in the **Sahel** (Burkina Faso, Chad, the Gambia, Mali, Mauritania, and Senegal), now operate only in the Gambia and Mauritania.

The MCH program in Senegal, the largest, was operated by Catholic Relief Services from 1977 through 1988 in more than 400 locations throughout the country. The program delivered about \$50 million worth of food aid, and at one point 10 percent of Senegalese children under 5 were participating. A 1984 evaluation documented an association between the length of time a child spends in the program and higher nutritional status. But because of

“methodological constraints and potential confounding effects of self-selection,” the evaluation found that it was “not possible to attribute this association solely to the program.” The evaluation asserted that mortality rates in the most vulnerable age groups were consistently lower for program participants than for non-participants. But there was no significant difference in growth, as defined by weight for age, between participants and nonparticipants of similar age and economic status from the same village (Echenberg and Stubbs 1984).

In Burkina Faso, Catholic Relief Services distributed \$37 million worth of Title II commodities from 1969 through 1988 in 162 centers. The program reached 75,000 children and their mothers every month. A 1981 evaluation concluded that for two age groups (children 7–12 months and 13–24 months) no statistically significant difference existed in rates of malnutrition between participants in the CRS program and nonparticipants of comparable age—perhaps because 68 percent of the children were still nursing (ISTI 1981). By contrast, for children 25–36 months, rates of both acute and moderate malnutrition were considerably lower among program participants.

But the evaluators also found strong reason to believe children were not consuming more than a small amount of the food ration. “When all the evidence is considered . . .,” the International Science and Technology Institute found, “it seems fairly clear that the food ration is being shared among the household, and this is certainly the usual finding with the take-home feeding programs” (ISTI 1981). In 1986 the CRS program in Burkina Faso was evaluated again. It concluded: “At present the program is unable to demonstrate any nutritional

impact as measured by improvement in weight-for-age in its participant population” (USAID/Burkina Faso 1986). However, it considered “methodological problems” to be the most likely reason for this finding, rather than the possibility the program actually had no impact.

In Mauritania, Catholic Relief Services distributed more than \$27 million worth of Title II food aid from 1960 through 1987. In 1983 it was operating in 23 MCH centers, serving 50,000 beneficiaries, or 14 percent of all Mauritanian children under 6. The program was evaluated, and the analysts concluded that “the effect of the ration on the nutritional status of participants is not known” (Stephens and Parlata 1983). In 1987 CRS withdrew from Mauritania and another American PVO took over six MCH centers. In 1995 the new program was evaluated (Coulibaly and Correra 1995). Comparing participants with nonparticipants, the evaluation failed to demonstrate a connection between participation and nutritional impact. It did, however, find positive results from the educational component of the program:

- Thirty-six percent of mothers in the program started breast-feeding their children properly, compared with only 13 percent in the control group.
- Sixty-nine percent of mothers in the program continued breast-feeding after 18 months, whereas only 39 percent in the control group did so.
- Seventy-three percent of mothers followed proper weaning procedures, compared with 42 percent in the control group.

In the Gambia, Catholic Relief Services has operated a maternal and child health program since 1975, distributing more than \$20 million in Title II commodities in 630 villages. Twenty years after the program began, CRS recognized that many of its initiatives had failed to show any measurable nutritional effect (Denman 1995). In the Gambia and elsewhere, this lack of results could be due to at least two factors: 1) there is no nutritional effect, or 2) the evaluators could not demonstrate nutritional effect because of methodological problems—in defining control groups and in using weight-for-age ratios as a proxy for nutritional status.

Perhaps short-term nutritional impact is not an appropriate objective for MCH programs. It may be unrealistic to expect measurable nutritional effect from food rations that are usually shared by the family at home (Mora, King, and Teller 1990). Still, MCH programs, it seems, are more likely to show nutritional impact if they target children under 2 (rather than under 5), because this age group shows more physical response to nutritional improvements. In any event, the educational component of MCH programs (as contrasted with the nutritional status component) seems to have shown some success in helping mothers improve their knowledge about health and nutrition practices.

Results of the maternal and child health program in **Indonesia** were much the same. Food supplementation alone showed minimal, if any, direct or sustainable effect on the nutritional status of children under 5 with moderate to mild malnutrition. Also, as in the Sahelian countries, part of the reason may be that the rice ration was consumed by the entire house-

hold, not just the intended beneficiaries (lactating mothers and children under 5). Used in this way, the ration could meet the needs of a family of five for only two or three days, rather than the needs of a mother and child for a month. The same was true with the wheat–soy blend. Although intended only for children, it was often consumed by the whole family, reducing the likelihood of its having any significant effect on the nutritional status of children under 5.

But food aid may have contributed indirectly to nutritional improvements by encouraging mothers to attend village health posts, called *posyandu*. During the 1970s, attendance rates at Title II–supported maternal and child health programs were three to four times as great as at programs not supported with food aid. As in the Sahel, a key reason for attending *posyandu*, according to the mothers themselves, was to learn about their children’s development and to receive counseling and immunization. Thus, the education and health objective of MCH programs seems to have been achieved more so than the nutritional objective (food intake or child growth). Some Title II–supported *posyandu* developed income-generating activities, the third objective of MCH programs, and these sometimes became financially self-sustaining; however, they were not widespread.

At the national level, the rate of moderate and severe child malnutrition in Indonesia decreased from 51 percent to 40 percent during 1986–94, a positive achievement. Still, 40 percent is a much higher rate than would be expected for a country with a 1994 per capita income of \$880 and a reported daily caloric intake above minimum requirements as established by the UN Food and Agriculture Organization (see table 8).

In **Honduras** USAID began supporting MCH supplementary feeding programs in the 1960s. Program participants (pregnant and lactating women and malnourished children under 6) received rations from two delivery systems. One distributed take-home dry rations through health centers. The other served prepared rations on-site. In 1990 a third program, *Bonos Materno Infantil*, began providing food stamps to the same target groups in certain locations.

Evaluations undertaken in 1977 (Clapp and Mayne) and 1987 (Smith and Nesman) were unable, owing to lack of baseline data, to measure nutritional results. (Assessing the nutritional effect of feeding programs requires careful monitoring of specific anthropometric measures over time as well as controlling for a host of confounding variables.) The same was true with a series of carefully designed studies undertaken in 1994 and 1995 (Rogers and others 1995). Although these more recent studies concluded that the two supplementary feeding programs significantly increased household caloric intake and that the food stamp program did not, they did not relate these findings to incidence of malnutrition. (Increased caloric intake, though, was significant: according to the studies, participating households were consuming an estimated 250 to 350 more calories per adult equivalent than nonparticipating households.)

These more recent studies also compared the cost-effectiveness of the three programs as well as their effectiveness in reaching the poor. They concluded that the food stamp program was most cost-effective, with 97 percent of the total cost received as a benefit by the participants (compared with 65 and 14 percent for the other two programs). Moreover, the food

stamp program was almost twice as effective as the other two in reaching the poorest quarter of the population. USAID stopped supporting the on-site supplementary feeding program in 1994 after concluding it was poorly managed, too costly, and relatively ineffective. But USAID is continuing the dry ration distribution through health centers. This is partly because the rations are effective in encouraging participants to visit health centers for maternal and child health services, at least more effective than food stamps.

Although overall health conditions have improved significantly and some improvement has been made in nutritional status, the causes of these changes are difficult to establish, since many interventions were occurring at the same time. The major improvements in health appear to have come from vaccinations, use of health services, economic development, water and sanitation, and education. It seems safe to say that the overall nutritional impact of the MCH programs, especially on chronic malnutrition, was minimal.

Title II feeding programs have been operating continuously in **Ghana** for 37 years. MCH programs administered by Catholic Relief Services typically cover 150,000 to 275,000 beneficiaries a year (60 percent children and 40 percent mothers). These programs reach 5 to 8 percent of the country's chronically malnourished children in any given year. Although health improvements have been well documented at facilities supported by Title II, the Title II program alone has not had a measurable effect on child malnutrition at the national level. Of course, lack of a national-level impact should not be surprising—in Ghana or elsewhere.

Still, Ghana's child malnutrition rates (like Indonesia's) are much higher than those in other countries at a similar income level. They are also higher now than they were 20 and 30 years ago (according to the Ministry of Health and UNICEF). And according to two Demographic and Health Surveys (1986 and 1993), Ghana is second only to Niger (among African countries) for acute undernutrition. Stunting (low height for age) affects about a third of all Ghanaian children, compared with only 2 percent of the reference population. This is about the same proportion as in the 1970s. Although one would expect child malnutrition rates to improve with economic growth, that has not happened in Ghana, even during a recent 13-year economic boom. By contrast, Ghanaian life expectancy and infant mortality rates have improved over the last 30 years, owing largely to increased vaccination rates.

Catholic Relief Services operates 18 Title II-funded maternal and child health programs throughout **Ethiopia**. Each program provides services to 3,000 beneficiaries annually (half children and half mothers), for a total of 54,000. A 1996 CRS evaluation shows child malnutrition rates sliding at one MCH center from 75 percent in 1992 to 49 percent in 1995 to 41 percent in 1996 (King 1996). However, because MCH programs reach such a small percentage of the population at nutritional risk, overall malnutrition rates in Ethiopia (as in Ghana) worsened from 1982 to 1992. (Of course, other, more significant forces were also at work at this time: a famine in 1984–85; a civil war that disrupted food production; and a government [the Derg] that imposed compulsory food purchasing at low prices, establishment of state farms, and massive resettlement.)

As in other case studies (Honduras, Indonesia, the Sahel), food rations targeted for the child and the mother are actually shared among the whole family. It is thus unlikely the food ration alone had any significant effect on the nutritional status of children. However, the nutrition and health education services provided at the MCH centers may have contributed to children's improved nutrition. MCH centers teach mothers how to feed and take care of their children, provide immunizations and other health services, and offer advice on breast-feeding—all of which can contribute to improved nutrition.

School Feeding: Food for Education

School feeding programs generally provide a prepared lunch served at school, free, to primary school students. The objectives of most programs are to

- Increase school enrollment and attendance
- Improve nutritional status
- Improve the cognitive or academic performance of the schoolchildren

Over time, the emphasis has shifted from the nutritional objective to the two educational objectives.

School feeding programs have operated in only two countries in the **Sahel**; the program in the Gambia lasted 10 years and in Burkina Faso, 35 years. Three evaluations of the program in Burkina Faso (in 1981, 1986, and 1996) were positive. The 1981 evaluation compared 3,000

students receiving the school lunch with 3,000 not receiving it and found the prevalence of malnutrition significantly higher among nonparticipants. The lunch also helped increase school attendance and improve children's learning abilities and attention spans (ISTI 1981).

The 1986 evaluation supported the 1981 conclusions regarding improvements in nutrition and in attendance and alertness in class (USAID/Burkina Faso 1986). The 1996 evaluation provided still more positive evidence. It showed attendance improved by 10 to 20 percent in program schools; promotion rates were significantly higher and dropout rates significantly lower in program schools compared with nonprogram schools; and the exam success rate in the 10 most vulnerable provinces was higher in program schools than in nonprogram schools—45 percent compared with 38 percent (Moore 1996).

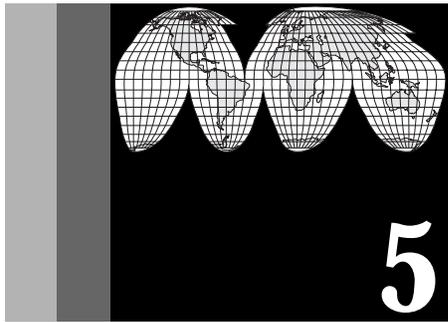
School feeding has been one of the most important components of the U.S. food aid program in **Honduras** during the last 30 years. The school snack program began in 1959. Its principal goal was to increase learning through increased attention and reduced absenteeism. Improving nutritional status was a secondary goal. In 1987, 330,000 of the nation's 750,000 schoolchildren in grades 1 through 6 were receiving snacks or beverages; by 1991, the number had increased to 484,000. A 1995 evaluation concluded that the average daily amount of calories provided annually was probably insufficient to see a measurable improvement in children's nutrition or growth (Rogers and others 1995). On the positive side, data suggest the snack added to food consumed at home rather than substituted for it.

A second school feeding program, *Bonos Mujer Jefe de Familia*, operates alongside the school snack program. It covers all low-income children in primary schools in areas with the most severe malnutrition and poverty. Eligible children, identified by local teachers, receive food coupons through third grade. Distributed three or four times a year, the coupons can be converted to cash or used to buy food and other goods. Essentially an income-transfer program, its main objective is to increase school attendance and retention. By 1994 the number of participating children had reached 190,000.

Both the school snack program and the *bonos* program significantly improved the rate of academic progress by reducing grade repetition (Phillips and others 1995). However, neither program had a significant effect on academic performance as measured by standardized test scores. The school snack program had no effect on attendance, but the *bonos* program clearly helped boost attendance. USAID recently stopped funding the school snack program in favor of the *bonos* program, largely because of its cost-effectiveness. Beneficiaries of the school snack program were receiving only 31 percent of its value, whereas beneficiaries of the *bonos* program were receiving 79 percent.

In **Ghana**, Catholic Relief Services provides feeding supplements to 30,000 to 50,000 schoolchildren (and 5,000 to 10,000 preschool children) each year. In addition, the Adventist Development and Relief Agency reaches a few thousand recipients a year through a small school feeding program. There is no evidence these programs have had any effect, one way or the other, on improving attendance, nutritional status, or academic performance. According to Levinger (1986), this lack of evidence, typical in many countries, is due to poorly designed and methodologically flawed—hence, inconclusive—evaluations.

USAID has not used Title II food aid to support school feeding programs in Bangladesh, Ethiopia, or Indonesia. In **Bangladesh**, though, the Agency uses Title III food aid to support the government's food-for-education program launched in 1993. Under this program, poor parents who send their children to primary school receive wheat—15 to 20 kilograms a month. The program is targeted at distressed groups who have particular difficulty in sending their children to school because of the high value they place on their work. The wheat helps compensate the parents for what their children otherwise would have earned. After only three years the program has succeeded in increasing enrollment, promoting attendance, and reducing the dropout rate.



5 Political Stability

FOOD AID CAN HELP to ensure food availability at acceptable prices. Many believe this helps to avoid bread riots or other forms of political instability that could lead to a coup or other violent change in government. This is important because political stability is a precondition for sustainable development. But food aid that enhances political stability may not always support sustainable development. Such would be the case if, for example, it enabled the regime in power to perpetuate food policies that hamper economic and social development.

The applicability of this thesis to the **Sahel** is difficult to judge. No documented cases exist in which American food aid was rushed to shore up a Sahelian government at a time of political instability caused by food shortages. Nor have there been cases where American food aid was suddenly cut off, causing food shortages or regime changes to occur. Since the early 1970s the flow of American food aid to the Sahel has been fairly steady, and its effect on Sahelian politics has been unremarkable. No regime changes occurred in any of the nine Sahelian countries during the 1984–85 drought and only one during the 1973–74 famine. Al-

though food aid levels peaked in those years, this was due to humanitarian concerns rather than political or economic development concerns.

Food aid rushed to ameliorate conditions of drought or famine, or simply to provide balance-of-payments support, may have the unintended effect of maintaining political stability by supporting existing political regimes. For example, food aid enables governments to import other goods needed to satisfy consumer demand. It also generates local currency that can be spent on politically popular domestic projects such as roads, schools, or employment-generating public works. By supporting existing governments, food aid often supports existing policies, which, though politically popular (such as subsidized food to civil servants and other urban constituencies), may not be conducive to sustainable development. Conversely, food aid may weaken some governments by requiring them to effect difficult policy reforms considered necessary for sustainable development.

Thus the effect of American food aid on Sahelian political change has been minor. By

the same token, Sahelian political change seems to have played no major role in determining levels of American food aid to the region. PL 480 has flowed to nearly every type of regime in the Sahel. The regimes have ranged from pro-American dictatorships (in Chad) to pro-Soviet dictatorships (in Mali) to democrats (in Senegal). Burkina Faso, which has made several swings between left-leaning and right-leaning dictators, received more U.S. food aid than any other Sahelian state. Per capita food aid levels to Cape Verde remained high because of strong historical and family ties between it and the United States. Even after a wave of democratization and multiparty elections in the Sahel in the early 1990s, overall levels of U.S. food aid have failed to increase. Thus any relationship between food aid and political stability in the Sahel seems tenuous at best.

In **Honduras** as well, U.S. food aid has had little effect on political stability—except during 1982–88 when U.S. foreign policy in Central America sought mainly to isolate Nicaragua. During that period food aid was substantial, accounting for 15 to 20 percent of the country’s total cereal supply. And because the food entered the country at the official exchange rate, which was overvalued, the effect was to hold down wheat and flour prices. Because Honduran consumers of wheat and flour products live mainly in urban areas, and because these areas tend to be politically vocal, low urban food prices made possible by food aid contributed to political stability. (Of course, U.S. economic assistance permitted subsidized consumption of all imports, not just food.)

Although the short-run political interests of the United States were served by PL 480, the long-run economic interests of Honduras may not have been served. U.S. assistance enabled the Honduran government to postpone much needed economic adjustments until a more “convenient” time.

In **Indonesia** as well, U.S. food aid generally had little effect on political stability—except during six or seven critical years in the late 1960s and early 1970s when the Soeharto government came to power. At that time the United States regarded Indonesia, the largest and most resource-rich country of the region, as a pivotal nation in the domino theory of geopolitics. As such, the overarching goal of U.S. assistance was to help the new government avoid reverting to the policies of the Sukarno era. (Those policies were decidedly anti-Western and militaristic.) U.S. aid, and rice aid in particular, can be credited as having played a vital role in restoring economic and political stability in Indonesia in the precarious post-Sukarno years.*

Food-for-work projects in the late 1960s and early 1970s also contributed significantly to political stability in Indonesia, though not to the same extent as the Title I commodity transfers. These projects created a sense among Indonesia’s periphery regions (with some conspicuous exceptions) that they were participating in, and incorporated within, the country’s overall development. The overall effort, known as the Inpres program, later became the country’s major (oil

*An illustration of the politically destabilizing potential of food insecurity occurred in 1973–74. At that time the United States was unable to supply meaningful quantities of rice to Indonesia, then the world’s largest rice importer, because domestic and international rice production had dropped sharply. Rice prices doubled in parts of the country, and the deteriorating economic situation triggered deadly student demonstrations.

revenue-financed) mechanism for resource transfers for rural development.

Indonesia has maintained remarkable social and political stability. Yet it has for 30 years operated under authoritarian and paternalistic rule in which the army plays a major role in both legislative and executive branches and in parts of the economy. Therefore, though political stability has been achieved, underlying ethnic and regional tensions remain strong. The country has made little progress in developing political freedoms and institutions to help cope with such tensions when they erupt.

In **Bangladesh** it was generally feared that chaos in the food regime would generate the greatest threat to the country's social and political stability. This was understandable, given the large fraction of the population living on the edge of subsistence. It is thus not surprising that the government was reluctant to accept USAID proposals to reform the public food distribution system.

The government saw two potential risks. First, losing direct control of food distribution might leave it unable to cope with an unpredictable, disastrous food crisis with potentially destabilizing political consequences. And second, reduced subsidies to politically active groups might lead to political instability and threaten the government's legitimacy and power. That these threats have not materialized since a 1974 rice crisis, when rice prices skyrocketed, can be credited in part to the substantial role of U.S. food aid, which was provided over two decades to augment foodgrain supplies needed to back the efficiency reforms.

In Bangladesh, as in Indonesia, the political leadership has come to appreciate the political sensitivity of rice prices. The Awami League had been the party in power from independence in 1971 until the assassination, in 1975, of its leader, Sheik Mujibar Rahman. But the league was not returned to power until 1996—after 21 years in opposition! One likely reason is that throughout this entire period it was vulnerable to criticism for having lost control over rice prices in 1974. The Bangladeshi experience underscores the importance of food price stability (partly ensured by food aid) in contributing to political stability.

Political stability has eluded **Ghana** for most of its history. Ghanaians have lived under four constitutions since independence in 1957. Three democratically elected governments have fallen to military coups during this period. And from 1966 to 1992, no civilian government lasted more than 27 months. Thus, political stability has been, at best, episodic.

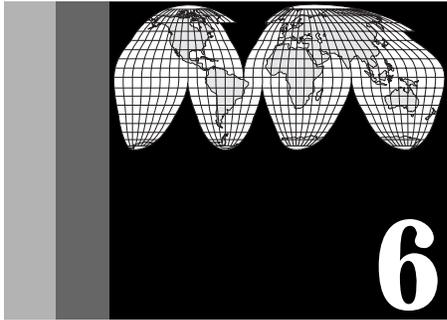
It is unlikely that food aid accounted for Ghana's episodes of political stability. It is equally unlikely that inadequate food aid accounted for periods of political instability. Even during a devastating food crisis in 1983 when food was in extremely short supply, Ghanaians did not take to the streets or attack the government. People blamed the drought, a nationwide epidemic of fires, and the expulsion of Ghanaians from Nigeria—but they did not blame the government. Thus, political stability (or instability) in Ghana seems unrelated to the presence or absence of food aid.

From 1953 to 1976, **Ethiopia** was the largest recipient of U.S. aid in Africa. Haile Selassie was in power during this period, and he enjoyed friendly relations with the United States. It is likely that U.S. military and economic assistance (including food aid) helped to bolster political stability and sustain the emperor's regime—until famine came in 1973. The government failed to respond to the famine (as did the international community). When journalists reported massive starvation in parts of the country, the government finally formally requested emergency assistance, and in one year (from 1973 to 1974), U.S. food aid jumped from \$2.6 million to \$32.5 million. Nonetheless, Haile Selassie's regime fell, partly because of his slow response to the famine and partly because of the country's feudalistic agrarian structure (which itself may have contributed to the famine).

Lt. Col. Mengistu Haile Mariam assumed power in 1977. He installed a socialist state and nationalized American holdings. This action invoked the Hickenlooper Amendment barring U.S. foreign assistance and leading to a souring of U.S.–Ethiopian relations. Except for Title II food aid, U.S. assistance ended in July 1979. In 1984 another famine hit Ethiopia. The Mengistu government identified large numbers of vulnerable people who needed food aid. However, it prevented food aid from reaching rebel-held famine areas. Therefore, the United States began to transfer food across the Sudanese border into rebel-held areas of Tigray and Eritrea. The United States also provided food to PVOs within Ethiopia's borders.

USAID could not ensure that some food aid provided through the cross-border program did not fall into the hands of rebel soldiers. Likewise, USAID could not ensure that a portion of the food aid provided within Ethiopia was not diverted improperly for use by Mengistu's soldiers. The humanitarian group Africa Watch confirms that large amounts of relief food were used to feed soldiers loyal to the government as well as locally conscripted militia in Eritrea and Tigray. Because U.S. food aid supplied both sides during this time of civil war, and because the United States could not ensure that some of the food was not diverted from famine relief to feeding soldiers, the food aid may have prolonged the civil war at the same time it responded to the famine.

In sum, food aid can enhance the prospects of political stability, as in Indonesia during the late 1960s and early 1970s and in Honduras during the mid-1980s. Food aid can also contribute to food price stability, as in Bangladesh, and price stability is often a precondition for political stability. But food aid cannot ensure political stability. Witness Ethiopia as well as Ghana and the Sahel, where numerous changes in government have occurred independent of food aid. Although it seems clear that political stability is a precondition for sustainable development, it is less clear what unique role, if any, food aid might play in contributing to political stability. On balance, food aid programs are probably less influential politically than other forms of assistance.



6 Equity and Targeting

FOOD AID PROGRAMS tend to benefit the poor. And when they do, there are two main ways this happens. One is direct, the other indirect.

1. *Project* food aid is normally given directly to beneficiaries. To help ensure the beneficiaries are poor, the food can be provided through a self-targeting program such as food for work or to individuals or households that satisfy a means test. Alternatively, the food can be geographically targeted to poor regions of a country.

2. *Program* food aid is sold in the marketplace to anyone with money, including the rich. To help make sure it benefits the poor, USAID can provide a self-targeting commodity, since it is more likely to be purchased by the poor than the rich. Through policy conditionality, the Agency can encourage the government of the recipient country to emphasize agriculture development, since agriculture is the primary source of income for the poor in most low-income countries. Another strategy is to invest local currency proceeds in rural areas where many of the poor live.

Project Food Aid

From its inception, food for work in **Indonesia** was viewed as a means to reach the poor, and PVOs were particularly adept at seeking out poor provinces and districts in which to undertake such activities. In 1990, Catholic Relief Services was working in 12 provinces that were, on average, more than twice as food-poor as provinces not served by CRS. Food for work was a significant in-kind income transfer to lower income areas, if not the poorest families in those areas.

Indonesia's network of integrated posyandu (village health posts) also succeeded in differentially reaching the poor. By 1994 Catholic Relief Services was using Title II food aid to assist nearly 700 posyandu and nearly 50,000 recipients in poor areas in the outer islands.

In the **Sahel** the evaluation literature suggests that targeting maternal and child health programs was based mostly on geography. Centers were established in poor rural villages and poor urban neighborhoods. Applicants were not screened further to check their poverty status.

This was probably adequate. Although evaluations criticize the programs for failing to prove nutritional impact, they do not criticize them for missing the poor.

School feeding programs in the Sahel were less well targeted. In Burkina Faso, for example, students in almost all primary schools benefited from the program. Ultimately, though, urban schools were dropped on the grounds their students were less likely than students in rural schools to be poor.

In the Sahel, as elsewhere, food-for-work projects were self-targeting in the sense that labor-intensive road construction and similar work was strenuous and unattractive. Those with alternative employment opportunities would not accept such work, especially with “wages” paid in food. Since alternative employment was unavailable and because the projects were carried out during slack employment seasons, the poor benefited.

The same was true in **Bangladesh**, where CARE launched food-for-work projects in 1974. By 1996 the program covered 319 of the country’s 460 *thanas*, or subdistricts. These thanas were targeted because they were relatively poor. In the context of geographic targeting, CARE excluded environmentally fragile regions where infrastructure projects might be harmful. It also avoided regions where projects would be too costly, as in mountainous terrain.

Bangladesh’s food-for-education program targets primary school-age children unable to attend school because their parents need their meager incomes to supplement family income. The wheat (food aid) helps compensate the par-

ents for what their children otherwise would have earned had they not been in school. The benefits accrue differentially not just to *children* who are poor, but to *girls* who are poor. Receiving program benefits requires that if one child goes to school, all a household’s children must go. As a result, enrollment rates for girls, who were often not sent to school, have increased.

The same was true in **Ghana**, where Catholic Relief Services explicitly targeted female primary school students in an effort to increase their attendance rates. Other PVOs concentrated their efforts on the poorer population groups, located predominately in the north.

In **Honduras**, by contrast, boys and girls benefited equally from the school feeding program, which originally covered all students in rural schools. Only in recent years has it zeroed in more narrowly on the poorer western region of the country. That has increased its effectiveness in reaching poor students.

Recent studies compared the three maternal and child health programs implemented in Honduras. They concluded the food stamp program was almost twice as effective as the two supplementary feeding programs in reaching the poorest quarter of the population. Partly as a result of these findings, USAID in 1994 stopped supporting the on-site supplementary feeding program. The dry ration program was continued, though, because the monthly food distribution encouraged mothers to visit the health center and use its services.

In **Ethiopia** the Famine Early Warning System (FEWS) has been used for the past several years to identify regions where the most vulnerable populations are concentrated. In

early 1996, for example, about 2.3 million people needed food assistance. Of these, 72 percent were concentrated in three of the country's nine regions. That 76 percent of food aid distributed during this period was delivered to these three regions suggests it reached poor regions, if not poor people within those regions. By contrast, twice as much food aid per capita was delivered to two regions where famine was not as severe.

In contrast to Indonesia, where Catholic Relief Services moved from one area to another as dictated by need, PVOs in Ethiopia seem to have remained in the same area, even though the need for food assistance was greater in other areas. Moreover, within poor regions in Ethiopia, peasant associations wield considerable power in determining individual beneficiaries of food aid. As a result, certain vulnerable groups, such as the landless and female-headed households, have sometimes been inadequately targeted.

Program Food Aid

Program food aid generally did not target the poor, nor was it designed to. The food was sold in markets to whoever had purchasing power.

In one case, Mauritania in the **Sahel**, the Mission tried to use program food aid to benefit poor consumers by supplying a self-targeting commodity (red sorghum). As it turned out, though, a large part of the subsidized sorghum was purchased by relatively well-off livestock owners to use as animal feed, rather than by poor consumers to use as a source of needed

calories. By the end of the 1970s, U.S. food aid to **Bangladesh** also consisted mainly of a self-targeting commodity—wheat rather than rice. However, wheat tends to be self-targeting primarily in rural areas of Bangladesh. The attribute no longer applies in urban areas, where wheat is a customary food and an integral part of the diet.

Policy reform initiatives supported by food aid and the use of counterpart funds can also benefit the poor, though indirectly. In low-income countries, the poor majority normally work in agriculture and live in rural areas. Thus, they benefit when investments are explicitly designed to accelerate agricultural growth and rural development.

In **Indonesia** the benefits of economic growth have been widely shared over the last three decades. This was largely due to Indonesia's growth strategy, which placed highest priority on increasing food production, maintaining stable rice prices, and investing in rural infrastructure. Land distribution was relatively equal. That meant successfully implementing the strategy was likely to benefit the bulk of the poor: smallholders (largely rice producers) and low-income food consumers. (Often these were one and the same.) Rice producers were the initial beneficiaries, partly because rice prices, on average, were maintained above world market levels. Food aid, of course, was the critical ingredient in this price-incentive food production strategy. It allowed the Indonesian government to raise the harvest price for farmers above what it otherwise would have been and at the same time maintain food price stability for urban consumers.

With the application of high-yielding rice varieties, harvests increased and real incomes of poor smallholders grew threefold. As the domestic food supply increased, prices stabilized at a lower level, enhancing food security. In addition, local currency was invested in rural infrastructure needed to complement—indeed, permit—improvements in agricultural productivity. The money benefited the poor because it was invested where the poor lived and worked—in rural areas, on farms. Equitable growth in Indonesia is evident from the numbers: poverty was reduced from 60 percent of the population in 1970 to 14 percent in 1995, and economic growth averaged 7 percent a year between 1966 and 1994, 4.3 percent per capita.

In **Bangladesh**, U.S. food aid was used to leverage, then support, food policy reforms, especially incentive prices for farmers needed to stimulate food production. The strategy paralleled that used in Indonesia. So did the results. Agricultural growth resulting from these policy reforms and other interventions benefited both poor producers (who reaped higher yields) and poor consumers (who paid lower real cereal prices). This is important, because rice prices are a powerful determinant of real income in Bangladesh. In 1989, for example, rice accounted for 29 percent of average household expenditure, 45 percent of food expenditure, and 69 percent of total caloric intake. When real rice prices decrease, poverty is reduced. In 1974, 92 percent of the population lived in absolute poverty (defined as consuming less than 2,122 calories a day); by 1992 the poverty incidence had fallen by almost half, to 48 percent (World Bank 1996).

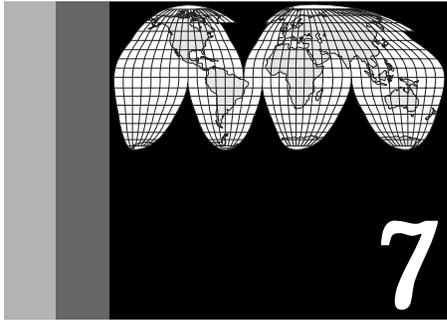
Local currency proceeds were also significant, amounting to more than \$920 million from 1979 through 1996. The majority of these resources, 80 percent, was invested in agriculture and rural development, including cereal (mostly rice) research, and infrastructure (irrigation, flood control, and roads).

USAID's policy dialog in **Honduras** was designed to eliminate the government's bias against agriculture (for example, overvaluing the currency, controlling agricultural prices, and protecting tariffs for industry). These efforts had considerable success in shifting the terms of trade toward agriculture and raising rural incomes. The shift benefited both high- and low-income rural people. But because rural incomes were substantially lower than urban incomes, it contributed to more equitable income distribution. PL 480 local currency supported agriculture, rural development, and other activities designed to increase the productivity of poor farmers. It was used to fund, among other things, land-titling work, which provided titles to several thousand Honduran farmers each month, increasing the value of their landholdings and their access to credit.

In **Ghana**, PL 480 food aid provided after 1983 supported policy reforms and benefited the poor indirectly. The reforms were designed to eliminate controls, restrictions, and subsidies that generally had favored the formal sector, urban areas, and higher income groups. With PL 480-supported reforms, benefits shifted to the poor who lived in rural areas and worked in the informal sector.

Although policy reform initiatives helped liberalize economies in some countries of the **Sahel**, the agriculture sector in that region (as in much of Africa) has generally performed poorly over the past 30 years. Uses of counterpart funds were too diverse to allow generalization about their effect on the poor. Sometimes they helped the poor directly, as in Cape Verde, where the funds were used to create em-

ployment in public works. In other cases, they did not help the poor directly. In Senegal, for example, counterpart funds were used to pay off government debt to the banking sector. In still other cases their effect on the poor was ambiguous. This was the case in the Gambia, where the funds were used to strengthen an agricultural parastatal.



Efficiency Considerations

HOW EFFICIENT IS FOOD as an instrument of international development assistance compared with financial aid? This question has been debated for many years and can be examined from several perspectives. In the past, the issue hinged on the fact that food aid (apart from disaster relief) was supply driven. Using food as a form of aid was considered mainly because the United States and other donor countries were pursuing domestic agricultural support policies that generated large surpluses of grains, dairy products, and other commodities that had to be kept off their domestic markets. Disposing of these surplus commodities as food aid was an attractive and economic alternative to paying the costs of storing ever increasing stocks.

Food aid also had domestic political appeal, for both agricultural interests and the general public, because of its direct association with alleviating hunger. This strengthened its support in legislatures. In contrast to its treatment of other kinds of economic assistance, Congress has never reduced the food aid budget below the president's request. This is because food aid has generated substantial benefits to domestic groups and recipient coun-

tries, not because it was superior to other forms of aid (Ruttan 1993, 1, 226). In fact, if recipient countries did not get food aid, there is little likelihood they would have received cash instead. With the disappearance of food surpluses under changing agricultural and trade policies of the 1990s, the role of food aid needs to be reexamined and its relative efficiencies and limitations reassessed. Such an assessment of U.S. experience with PL 480 needs to examine issues concerning additionality, reliability, commodity mix, logistics, and monetization.

Additionality. The most often cited merit of food aid as a resource transfer has been its de facto additionality. This arises from the fact that U.S. food aid, in practice, is not legislatively fungible with nonfood official development assistance. In this way, whatever discount is calculated for food aid when comparing it with an equal allocation of financial assistance, the food aid represents an additional resource. Food aid as a separate, nonfungible source of U.S. official development assistance has enabled the United States to provide food-deficit countries with substantial assistance that would not otherwise have been available. In Indonesia, for example, as dollar program aid declined, the

Mission was able to use Title I program food aid to help meet the U.S. aid pledges. Similarly, the United States was able to provide Ghana with substantial additional assistance that would not have been available except as food aid. The same is true with the other case studies.

The nonfungibility of food aid as a form of official development assistance has a potentially obverse side. To the extent the rationale for development assistance in a specific commodity form (food) is tied to the import-gap needs for that same commodity, a narrowing of the gap automatically triggers a reduction in food aid—even though the overall need for concessional transfers may remain large. In short, unless the donor is in a position to increase nonfood aid, a decline in a country's food deficit will automatically entail a decline in overall balance-of-payments assistance. In Indonesia, the volume of U.S. food aid was directly linked to the country's cereal import needs. Therefore, when the drive to raise rice production began to yield major results, U.S. official development assistance to Indonesia automatically fell. This occurred during years when the country's overall resource gap was still substantial.

Reliability. For a recipient country not self-sufficient in basic foodgrains, securing adequate supplies of grain has a very high political and economic priority. Yet the volume of food aid the United States can (or will) provide in any one year is subject to short-run uncertainties additional to those normally attached to the level of general aid funding. This uncertainty (and therefore potential unreliability), which may be due to unexpectedly poor American harvests as well as sudden changes in U.S. country alloca-

tion priorities, makes *food* aid less attractive than *financial* aid. But quick-disbursing *program* assistance (even food assistance) is generally more appropriate than slow-disbursing *project* assistance as a mechanism to help meet a country's critical short-run foreign exchange requirements.

The United States has generally been a reliable supplier of food aid. In 1970, however, U.S. food aid on its way to Indonesia was diverted to Vietnam. This was a case of political priority undercutting Indonesia's import supply management on very short notice. Likewise, the United States was unable to provide meaningful amounts of food aid to Indonesia and other countries during the worldwide crisis in rice supply during 1974. A similar situation occurred in Bangladesh in the early 1970s when the United States, as required by law, withheld food aid because the government of Bangladesh was exporting jute to Cuba. In Ghana the United States postponed a food aid agreement only once, when world wheat prices were high and U.S. stocks were low.

Commodity mix. When food aid is supply driven, the mix of commodities available as food aid in any program period is determined by the commodities that happen to be in surplus. The efficiency of food aid is diminished by including commodities that would not otherwise have been imported by the recipient country or do not substitute for commodities that would have been consumed or imported. In such cases, food aid does not help reduce a balance-of-payments constraint or resource gap.

In Indonesia such a situation occurred when bulgur wheat was supplied as food aid in 1968–73. At first, Indonesians were unfamiliar with this commodity. They did not know how

to prepare it, and some considered it animal feed. In Ghana, the “undesirable” commodity was vegetable oil. Ghana meets most of its demand for cooking oil from domestically produced palm. In 1988–89, though, the United States wanted to move stocks of vegetable oil, and Ghana obliged. But after finding it difficult to sell the higher priced U.S. product and taking heat from domestic oil producers, the government asked the United States not to provide vegetable oil in the future. In general, though, the United States does not supply food commodities that recipient countries do not want.

Logistics. Food aid is encumbered with additional logistical requirements and transactions costs that do not arise, or at least can be avoided, with straight dollar financing. Ghana, where both PL 480 food aid and cash transfers were used to generate local currency, illustrates the point. Under the cash transfer program, dollars were auctioned to Ghanaian importers. That immediately generated local currency used to fund development programs. With food aid, numerous delays and increased costs were encountered. After grain was purchased in the United States, it had to be shipped to Ghana, unloaded, and sold. And only after the local currency was processed through the government budget could it be used to fund development programs. Typically this occurred a year or more after the grain was shipped.

But there is also a positive side. In the 1960s, internal systems for shipping, storing, milling, and distributing grain were very weak in many countries. The Agency was forced to address these problems in the context of the

PL 480 program. In retrospect this turned out to have positive implications. In Indonesia, for example, both the Mission and the government gave high priority to improving the functioning of the country’s food distribution system. Provision of food aid created the opportunity for a long-sustained joint effort to which the Agency was able to provide both commodities and technical assistance. Over time the government developed a highly efficient food management and distribution system that helped compensate for the cost disadvantage of providing assistance in the form of food.

In Ghana, as well, one clear benefit emerged from having to confront the logistical problems of providing food aid rather than financial aid. Thanks to USAID encouragement and advice, the government got out of the business of importing and distributing food. Instead, it permitted more efficient private importers, millers, and distributors to handle both food aid and commercial food imports.

Another logistic issue associated with U.S. food aid concerns the freight differential. By law, food aid must be shipped in U.S. flag vessels. Although the Commodity Credit Corporation rebates to the host government the cost difference between U.S. and non-U.S. flag vessels, freight costs are sometimes much higher than if the grain had been shipped from nearby suppliers. Freight costs from the United States to Indonesia, for example, were 2 to 3 times higher in the late 1960s than from neighboring countries. Of course, to realize such savings, the procurement of food aid would have to be untied to U.S. sources.

Monetization. Food-for-work participants often sell their in-kind wage payments (food) at a heavy discount to get cash, suggesting that cash is valued more than food. But this is not always the case. In Indonesia, for example, when inflation was out of control, Title II food commodities had a major advantage over wage payments in cash. While money was losing value continuously and instantaneously, food-for-work recipients valued the payment they received in kind because it was a reliable and credible form of real remuneration. Thus, in a project context food aid may be superior to financial inputs when hyperinflation is ravaging the economy.

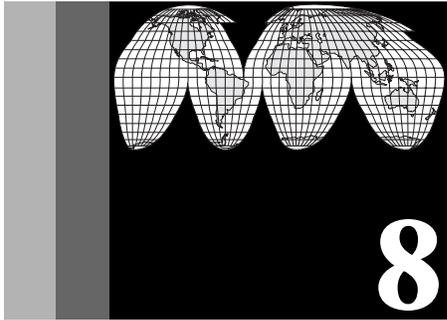
In Bangladesh, too, food as a means of payment was more effective than money—at least until recently. True, many food-for-work participants sold a portion of their wheat rations; still, more food was consumed in the household than would have been the case if participants had been paid in cash. More recently, however, 85 percent of Title II food aid has been monetized to achieve an objective that could have been achieved more efficiently with straight financial aid. Under these circumstances, the substantial additional transactions costs of food aid as an instrument of resource transfer reduce its effective value.

One aspect of monetization particularly germane to considerations of efficiency is the alpha value of the commodities supplied as food aid. Food aid has a cost to the donor and a value

to the recipient. For some commodities, the value to the recipient may be higher than the cost to the donor. The alpha value measures the income transfer efficiency of a particular food aid commodity. It is expressed as the value of the commodity to the recipient divided by its acquisition and delivery cost to the donor.

The value to the recipient depends, among other things, on what substitutes exist for the food aid commodity. Assume, for example, that a kilogram of wheat as food aid costs 20 cents to buy, 20 cents to ship, and 10 cents to distribute—for a total cost of 50 cents. Also assume that absent the wheat food aid, people in the recipient country would buy sorghum at 15 cents a kilogram. In this case, the alpha value is 0.3 ($15 \div 50$), quite low. Individuals would be better off receiving a check for 30 cents (the saving in shipping and distribution costs) than the kilogram of wheat food aid (Singer and others 1987).

The higher the alpha value of the commodity, the greater the efficiency of the income transfer and the more effective food aid becomes. If the alpha value is low, as in this example, food aid may still be valuable, but financial aid or a different food aid commodity (one with a higher alpha value, such as cooking oil) would be better. Application of this principle would appear to have merit in situations (perhaps such as Bangladesh) in which much of the food aid is monetized.



Conclusions 8 And Recommendations

WHAT IMPACT, IF ANY, has the American food aid program had on long-term sustainable development? From the six case studies, six conclusions emerge.

1. Economic policy reform. An appropriate economic policy environment is fundamental for achieving long-term sustainable development. The six case studies demonstrate that food aid can, but need not, have a positive effect on a country's economic policy regime.

The Bangladesh experience suggests food aid can be highly successful. For 15 years after independence, U.S. food aid equaled more than 10 percent of the country's export earnings. Much of this aid was supplied in exchange for policy reform. Economic policies that were impairing the food sector were gradually phased out, and new policies designed to enhance food security were introduced. These policy reforms have helped spur economic growth. Policy conditionality was also successfully used in some Sahelian states, such as Mali.

Food aid can also contribute to sustainable development when it is provided to support an existing economic policy environment that is fundamentally sound. This occurred in Indonesia in the late 1960s and early 1970s. At that time the new Soeharto government began carrying out policies designed to restore economic order, initiate income growth, promote agricultural development, support rural infrastructure, and maintain price stability for rice. During six critical years, U.S. food aid equaled more than 5 percent of the country's export earnings (and in 1969, 22 percent).

Conversely, food aid can hamper sustainable development when it permits governments to postpone needed economic policy adjustments. This occurred in Honduras during much of the 1980s. U.S. food aid (and other bilateral assistance) supported U.S. political objectives in Central America but did not promote sustainable development. Instead, the assistance enabled the Honduran government to postpone (but not avert) the debt crisis experienced by

most other countries in the wake of the oil price shocks of the 1970s.

Food aid had a similar effect in some Sahelian states because it enabled governments to finance statist policies, support overvalued currencies, and postpone change.

Finally, food aid may have no discernible effect on a country's economic policies. This was the case in Ghana before the mid-1980s, some Sahelian states, and until recently, Ethiopia. These countries, like others in Africa, have been plagued with political instability over much of the period. As a result, food aid was provided to governments that were not in power long enough to implement policies needed for sustainable development, or to governments that were not committed to reform in the first place.

Recommendation. Provide program food aid to support long-term sustainable development only when the recipient country a) needs the food commodities, and b) has in place (or is putting in place) an economic policy environment to stimulate agricultural growth and food security. Absent these two conditions, food aid is likely to be counterproductive or, at best, neutral.

2. Budgetary resources. Investments in sustainable agriculture and rural infrastructure are fundamental to achieving long-term economic growth in most low-income countries. Local currency generated from the sale of food aid is a useful source of additional funds for investing in agriculture and food security, whether by governments, donors, or PVOs.

Local currency can be used to help fund a sound, development-oriented public sector budget, as was done in Indonesia, to some extent in Bangladesh, and in some Sahelian states—countries where the government placed a high priority on investments in agriculture and rural infrastructure. It can also be used to help fund discrete projects (as distinct from sectors of the government's budget) as occurred to varying degrees in all six case studies. However, since money is fungible, it is difficult to be sure the activities would not have been funded even without food aid.

Recommendation. When a government's development priorities are sensible, allocate proceeds generated from the sale of program food aid to support the overall budget or key sectors within it. When this is not the case, or when project food aid is monetized, use local currency to support discrete activities, including well-designed NGO- and donor-funded projects.

3. Disincentive effect. Targeting food aid to those who lack purchasing power to buy food increases consumption and incomes without depressing domestic food production. But providing large quantities of food aid for sale on the open market at the wrong time can discourage production (as was recognized in 1977 with enactment of the Bellmon Amendment to PL 480). First, the availability of food aid enables governments to delay implementing food policies needed to encourage farmers to increase production. This occurred in varying degrees in Ghana, Honduras, and the Sahel. Second, unless it substitutes for commercial imports, food aid depresses domestic prices, reducing

farmers' incentive to produce grain. This probably occurred at certain times in Bangladesh and Honduras.

Recommendation. Assume that large quantities of food aid sold on the open market of any country will depress domestic grain prices or otherwise be incompatible with achieving long-run sustainable development. Test the assumption by undertaking a careful analysis of the potential disincentive effect of food aid.

4. Nutrition. Consistent with findings of several earlier studies, this assessment found it difficult to demonstrate unambiguously the effect of food aid on the nutritional status of children under 5. USAID had learned by the late 1980s that maternal and child health programs relying solely on food supplementation had no discernible effect on nutritional status. In addition, since the children's ration provided by the food supplement was often relatively small or was shared among family members, the likelihood of seeing a *measurable* improvement in children's growth was reduced.

But even when the food was provided together with other, complementary inputs, including health interventions (clean water, immunizations, sanitation), the evaluations reviewed for this assessment could rarely disentangle the effect of the food aid program from the effects of these and other factors (such as reduced poverty and increased incomes). Methodological problems of this nature were encountered in all five case studies where food aid programs had a nutrition objective: Ethiopia, Ghana, Honduras, Indonesia, and the Sahel (Burkina Faso, the Gambia, Mauritania, and Senegal). Other studies, however, have found

some evidence that maternal and child health feeding programs can contribute to improved health and nutritional status of vulnerable populations when combined with complementary inputs (Mora and others 1990). In addition, MCH programs appear to improve mothers' knowledge about health and feeding practices. This was the case in Ethiopia, Indonesia, and some Sahelian states. Thus the education objective of MCH programs (if not the objective to improve nutritional status) is being achieved.

School feeding programs also achieved educational objectives (including increased school enrollment and improved attendance) in three case studies (Bangladesh, Honduras, and some Sahelian states). However, they seemed to have no measurable effect on children's nutrition, perhaps reflecting the difficulty of measuring nutritional change among older (primary school-age) children.

Recommendation. Provide food aid supplements to improve children's nutrition only in conjunction with related interventions designed to improve children's health and mothers' knowledge. Provide food aid supplements to achieve educational objectives (and to improve children's nutrition) only when it is cost-effective to do so.

5. Equity. Food aid is a successful vehicle for differentially benefiting low-income groups, either directly or indirectly. Food-for-work projects by their very nature are self-targeting and directly benefit the poor; these were implemented in all six case studies. In addition, relatively poor regions of a country can be targeted, as was done in Bangladesh, Honduras, and Indonesia. Moreover, a self-targeting commod-

ity (such as wheat in Bangladesh) can be supplied as food aid.

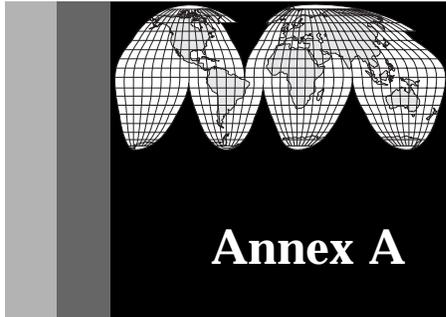
Food aid can benefit the poor indirectly by supporting economic policies that encourage equity-oriented growth. This involves investing in rural areas where the poor generally earn their livelihood usually in agriculture, as in Indonesia. Or it can be conditioned on policy reforms designed to encourage equity-oriented growth, as in Bangladesh. Or it can be suspended in the absence of such reforms, as in Ghana. Regardless of the policy regime, local currency generated from the sale of food aid can be used to build roads, irrigation canals, and other rural infrastructure and to increase crop yields (through agricultural research), as in Bangladesh and Indonesia.

Recommendation. To benefit the poor directly, implement food-for-work projects, target low-income people in relatively poor geographic regions, and if feasible, supply self-targeting food commodities. To benefit the poor indirectly, provide food aid to countries where the government is committed to an equity-oriented economic growth strategy that emphasizes investments in agriculture and rural infrastructure.

6. Efficiency. On efficiency grounds, it is normally better to transfer resources as financial aid rather than food aid. This enables the recipient government to use the financial aid to purchase food from neighboring countries, reducing transportation costs. When the recipient is a PVO that intends to use the food aid only as a vehicle for securing local currency, the logic favoring financial aid is even more compelling, since it is more efficient to write a check in the first place than to ship grain.

In practice, though, there is no choice between U.S. food aid and U.S. financial aid because the two resources are not fungible. Instead, the choice is between food aid and no aid. Therefore, as long as the recipient country needs food, food aid is an appropriate (though often second-best) vehicle for transferring resources. Such is the case even when the primary objective of the food aid is to obtain cash (as in Bangladesh, Ghana, and Honduras).

Recommendation. Provide food aid to countries that need food, not because food is an efficient way to transfer resources, but because food is more likely to be available than financial aid.



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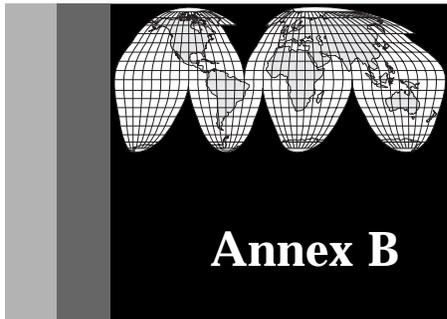
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Annex B Food Aid And Food Production

The assessment demonstrates how U.S. food aid programs in Indonesia and Bangladesh, more so than in the other four case studies, supported food policies (and food policy reforms) necessary to stimulate domestic food production. The food aid programs also encouraged local currency investments in rural infrastructure and agricultural research. To what extent did this emphasis on the agriculture sector translate into improved food production, a key element of food security?

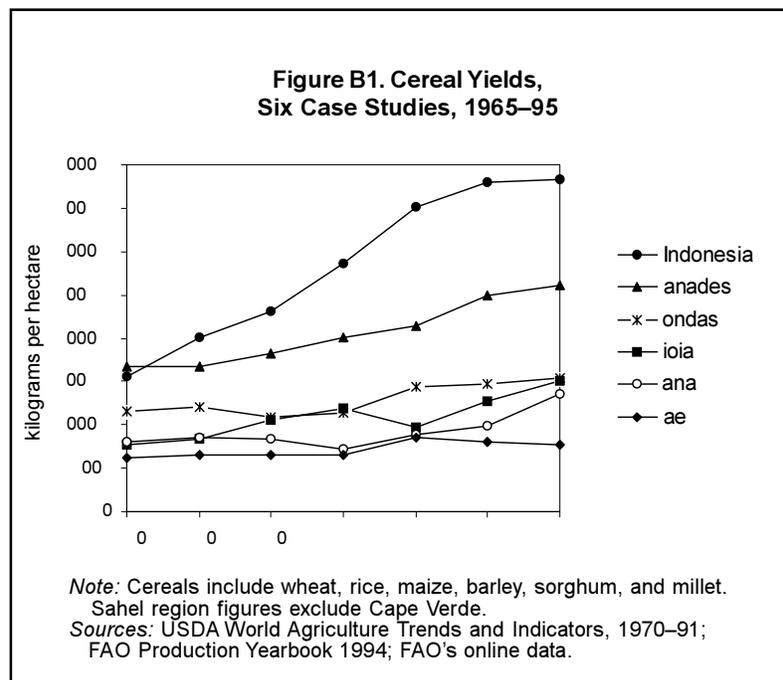
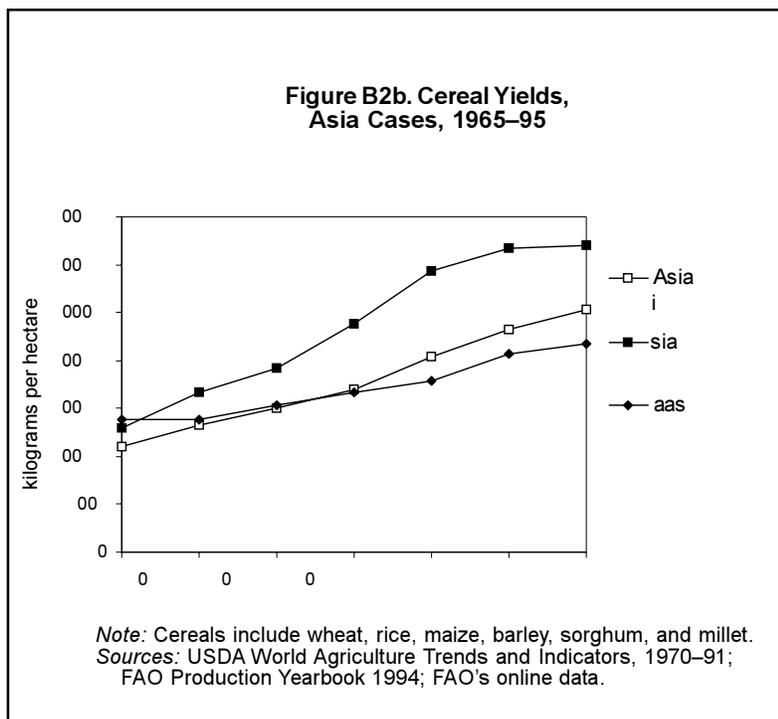
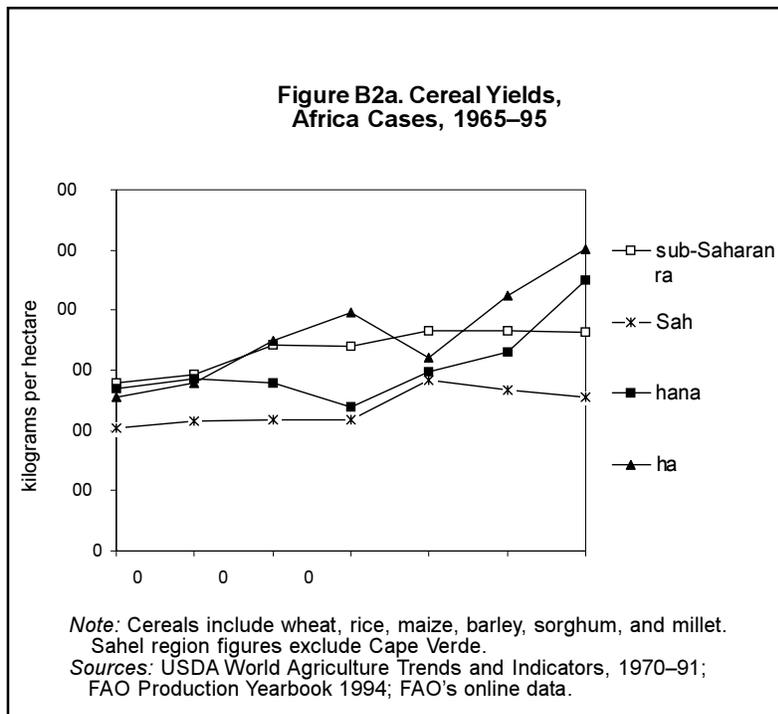


Figure B1 shows trends in cereal yields for each of the six case studies during 1965–95 (see also table 7, page 20). A single observation stands out more clearly than any other. After 30 years, cereal yields were sub-

stantially higher in Indonesia and Bangladesh, the two Asian countries, than in the other four case studies.* In fact, cereal yields in the four case studies in Africa and Latin America (the

* Although cereals are the main staple food for most people in most low-income countries, this is not the case for all countries. In 1992–94, cereals accounted for 83 percent of total caloric consumption in Bangladesh; in Ethiopia, 71 percent; Indonesia, 64 percent; the Sahel, 61 percent; Honduras, 49 percent; and Ghana, 30 percent (FAO 1996). In Ghana, for example, roots and tubers are the main staples.



Sahel, Ethiopia, Ghana, and Honduras) were lower in 1995 than yields in the two Asian countries 30 years earlier, in 1965. This is important, because agricultural growth is typically an important precondition for overall economic growth.* Thus, to the extent food aid contributed to agricultural growth, it can also be credited with contributing to overall economic growth and sustainable development.

Unlike Figure B1, which compares cereal yields only among the six case studies, figures B2a, B2b, and B2c provide a regional comparison. Were cereal yields in the countries represented by the six case studies higher or lower than yields in other countries in the same region?

Africa. Figure B2a shows that cereal yields in sub-Saharan Africa increased gradually from 1965 to 1975 but remained relatively constant from 1975 to 1995. In 1965, yields in Ethiopia, Ghana, and the Sahel were below average yields for the region as a whole—slightly below in Ghana and Ethiopia, but substantially below in the Sahel. Since then, yields have fluctuated widely, and not necessarily in the same direction.

□ Sahel region. Yields in the Sahel remained relatively constant for

* Analyses by the International Food Policy Research Institute have shown that most developing countries that grew rapidly in the 1980s experienced rapid agricultural growth in the preceding years (von Braun and others 1993). For example, Indonesia's agricultural growth of 4.3 percent a year during 1965–80 stimulated annual growth in gross domestic product of 5.5 percent during 1980–90. Thailand's agricultural growth of 4.6 percent a year during 1965–80 contributed to annual GDP of 7.6 percent during 1980–90. There is a 75 percent correlation between agricultural growth and overall economic growth in the least developed countries over the period 1965–89 (von Braun 1991).

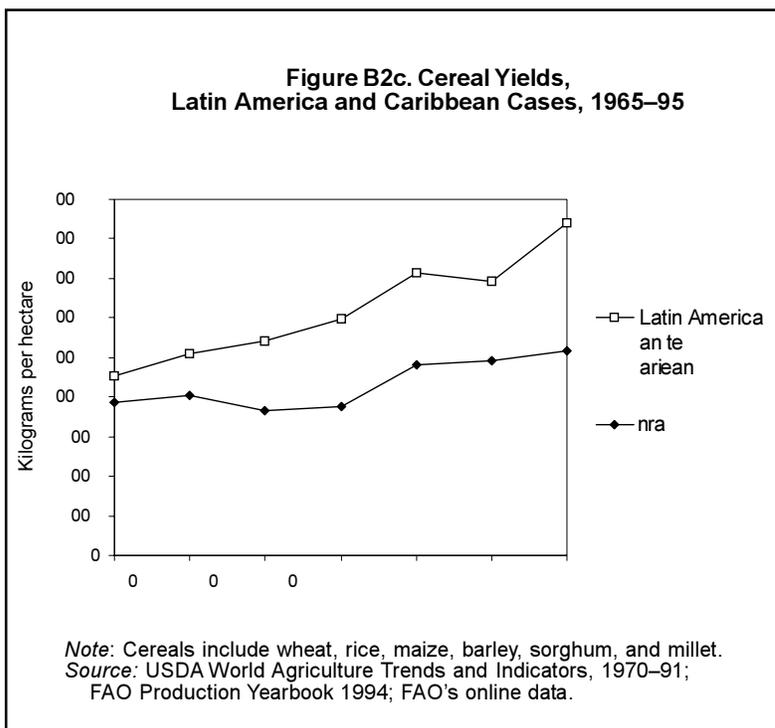
15 years (1965 to 1980), then increased from 1980 to 1985, and then decreased from 1985 to 1995, though not back to pre-1980 levels.

- Ghana. In Ghana, yields decreased during the 15-year period 1965–80; but they have increased ever since, especially since 1990. Cereal yields in Ghana now surpass the average for the continent.
- Ethiopia. The opposite occurred in Ethiopia, where yields increased during the 15-year period 1965–80, then decreased sharply from 1980 to 1985, and over the past 10 years increased again. In 1995 cereal yields in Ethiopia were higher than in Ghana (and Africa as a whole).

Asia. Figure B2b shows that cereal yields in Asia have increased steadily since 1965. Interestingly, in 1965 yields in both Indonesia and Bangladesh (then East Pakistan) were higher than for the continent as a whole. And for a short period, yields in Bangladesh surpassed those in Indonesia. But that did not last.

- Indonesia. Cereal yields in Indonesia took off shortly after 1965 and accelerated after 1975. In 1983 the country achieved rice self-sufficiency.
- Bangladesh. In contrast, cereal yields in Bangladesh stagnated until 1975. They increased slowly from 1975 to 1980, when they dropped below the average for the region.

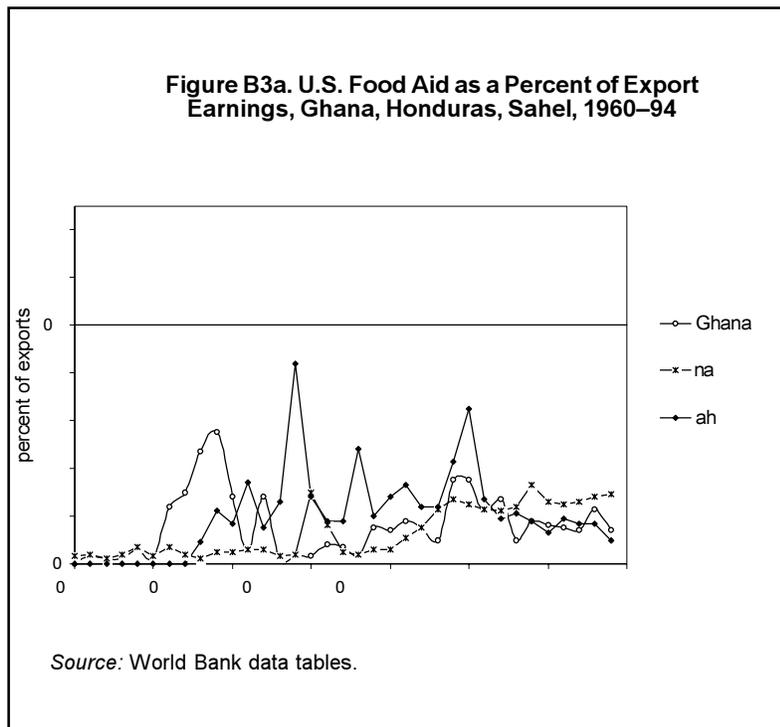
Figure B2c. Cereal Yields, Latin America and Caribbean Cases, 1965–95



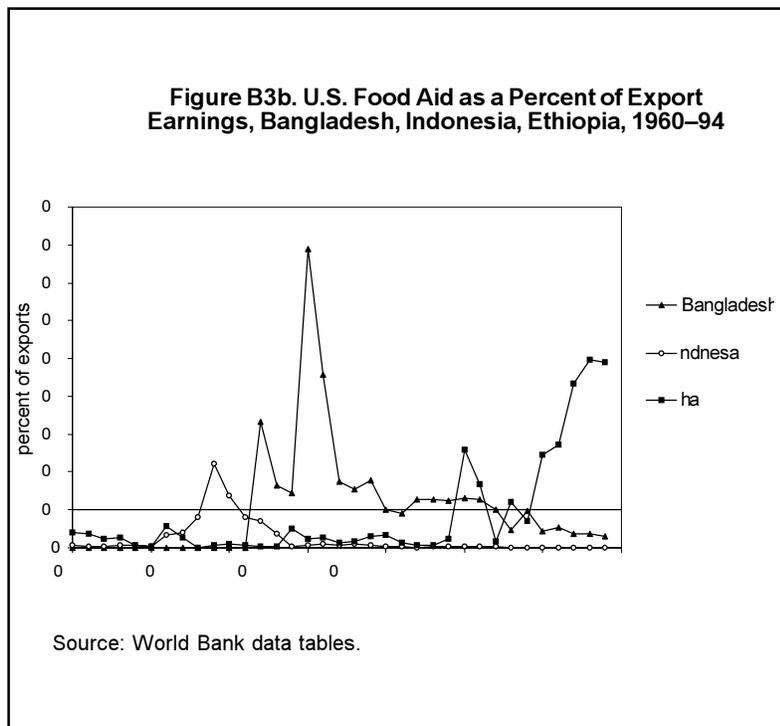
Yields continued to increase over the next 15 years (1980–95) but not as rapidly as for the continent as a whole.

Latin America and the Caribbean. Figure B2c shows that cereal yields in Latin America increased gradually from 1965 to 1980, increased rather sharply from 1980 to 1985, decreased somewhat from 1985 to 1990, then increased sharply again from 1990 to 1995.

- Honduras. Cereal yields in Honduras have been consistently lower than the average for the continent over the entire 30-year period. They actually decreased from 1965 to 1980. Then, as in the rest of Latin America, they increased sharply from 1980 to 1985 and remained constant from 1985 to 1990. However, in contrast to the rest of Latin America, they continued to remain constant from 1990 to 1995.

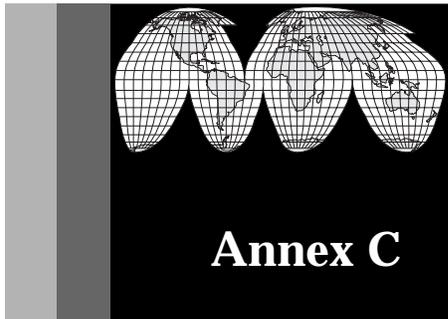


What, if anything, did food aid have to do with the agricultural performance of these six case studies? Figure B3a shows that the value of U.S. food aid never reached 10 percent of export earnings over the 35-year period 1960–94 in three of the case studies (Ghana, Honduras, and the Sahel) (see also table 4, page 17).



That was not the case in the other three countries (Bangladesh, Indonesia, and Ethiopia). Figure B3b shows that in Bangladesh, in particular, the value of U.S. food aid equalled more than 10 percent of export earnings in most years from independence in 1971 through 1987. In Indonesia, it averaged more than 10 percent of export earnings during five consecutive years shortly after President Soeharto came to power in the late 1960s and early 1970s. This was also the case in Ethiopia in the early 1990s after the overthrow of President Mengistu.

The relatively small quantities of U.S. food aid provided to the first group (Ghana, Honduras, and the Sahel) did not seem to affect their agricultural growth. In contrast, food aid probably played a key role in Bangladesh’s agricultural performance and an important role in Indonesia’s performance, at least during the early years of the Soeharto regime. It is too soon to tell what role it might play in Ethiopia.



The Potential Disincentive Effect Of Food Aid

This annex analyzes the price, income, and foreign exchange rate effects of Titles I, II, and III food aid (under pre-1991 legislation) using different assumptions regarding domestic food distribution and food pricing policies.*

The Generic Case

Food aid has the same short-run effect as the introduction of food imports: the country's total food supply increases, causing prices to fall. Graphically, this increase in supply is represented by an outward shift in the supply curve. In figure C1 the original equilibrium point (E)

is marked by the intersection of the supply curve (S) and the demand curve (D). Introducing food aid causes the supply curve to shift out to S_1 . The difference between the quantity demanded (Q_d) and the quantity supplied (Q_s) represents the quantity of food aid imported. At the new equilibrium point (E_1), the market clearing price has fallen from P to P_1 .†

The price reduction will result in a decline in the quantity domestically supplied from Q_e to Q_s , as some domestic producers will be unwilling or unable to supply the same amount of food at the reduced price.□ If the price drops to a level such that a producer can cover only part

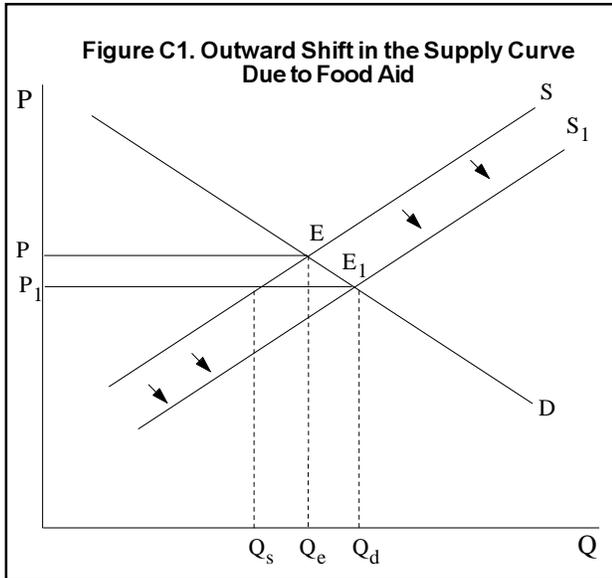
* The annex is an abbreviated version of a paper prepared by Carlos Gargiulo, Amy Mulcahy, and Gustavo Arcia, Center for International Development, Research Triangle Institute.

† The exact reduction in price will depend on the magnitude of the shift in the supply curve as well as the elasticities of both the supply and demand curves. If demand is price elastic, a small decrease in price will bring a large change in quantity demanded. If demand is price inelastic, a large change in price is needed to generate only a small change in quantity demanded. Poor countries generally have more elastic demand curves for food than do wealthier countries. Therefore, the decrease in price brought about by the introduction of food aid will be smaller in poorer countries than in wealthier countries.

□ At P_1 consumer demand has increased from Q_e to Q_d . The difference between Q_d and Q_s is the unsatisfied domestic demand (excess demand) that is covered by imports.

of his production costs, he will reduce production in the short run. If the price falls to a level

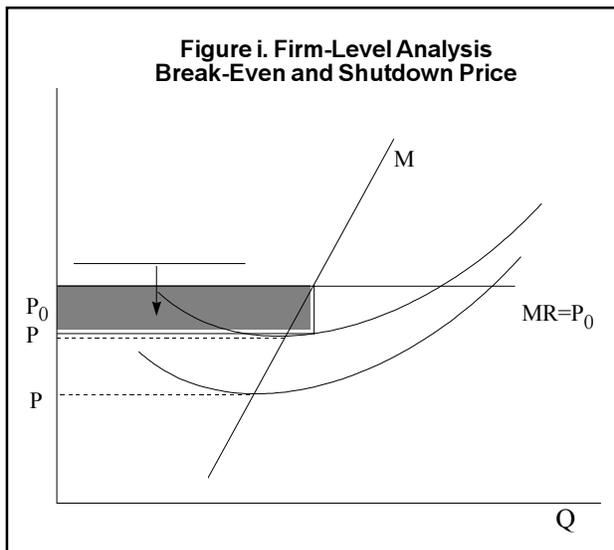
such that he cannot recover any of his costs, he will stop production altogether and be forced out of the market, even in the short run.*



Title I

Under pre-1991 PL 480 legislation, the United States sold Title I food aid to governments of recipient countries on concessional terms. There are two scenarios under which the food aid could have been imported: 1) as a substitute for existing imports or 2) as an addition to existing imports. In both cases, food aid has a direct price effect, an indirect income effect, and an indirect foreign exchange rate effect. The two indirect effects tend to be weaker than the direct price effect.

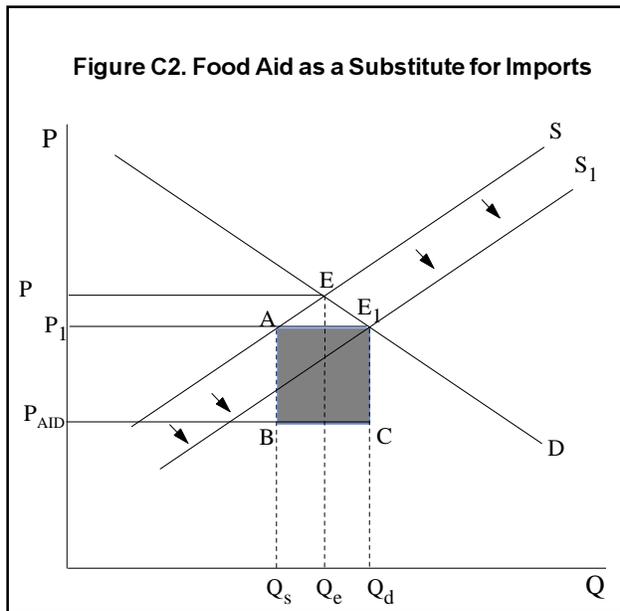
* Under perfectly competitive conditions, a producer would operate at the point where marginal costs (MC), marginal revenues (MR), and the product price at the farm gate (P_0) are all equal (see figure i). Any reduction in product price would cause the producer to reduce production. The lowest price the producer can face without losing money is P_d , at which point the producer's average cost, marginal cost, and marginal revenue are all equal at D. D is the break-even point, where the producer can cover both average variable costs and average fixed costs. If the product price drops to a point between P_d and P_f , the producer will lose money in the short run: the price allows the producer to recover all fixed costs, but only part of the variable costs, and in the long run, this producer will stop production. If the price drops to P_f or below, the producer cannot recover any costs, at which point he must stop production.



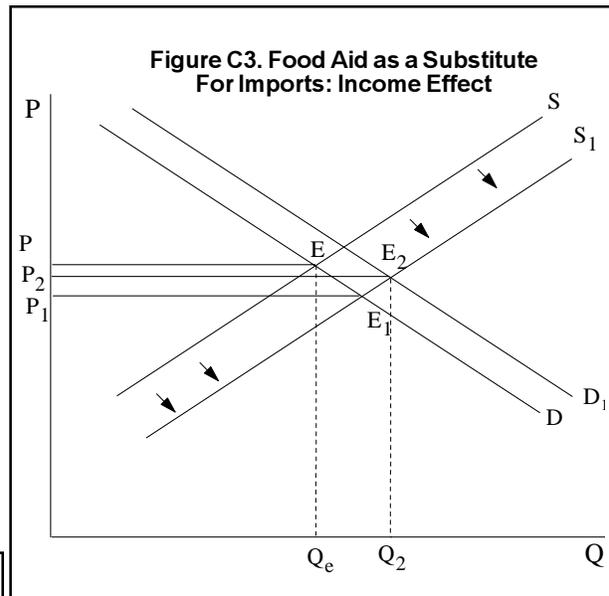
Food Aid as a Substitute for Imports

Under this scenario, the government imports food aid at a concessional price, displacing its own food imports or commercial food imports on a one-to-one basis.

1. Price effect. Under normal trading, the equilibrium price of food in the recipient country will be P (see figure C2). Since food aid replaces normal food imports on a one-to-one basis, total supply will remain the same and the price level will remain unchanged. As there is no change in price in the short run, there is no



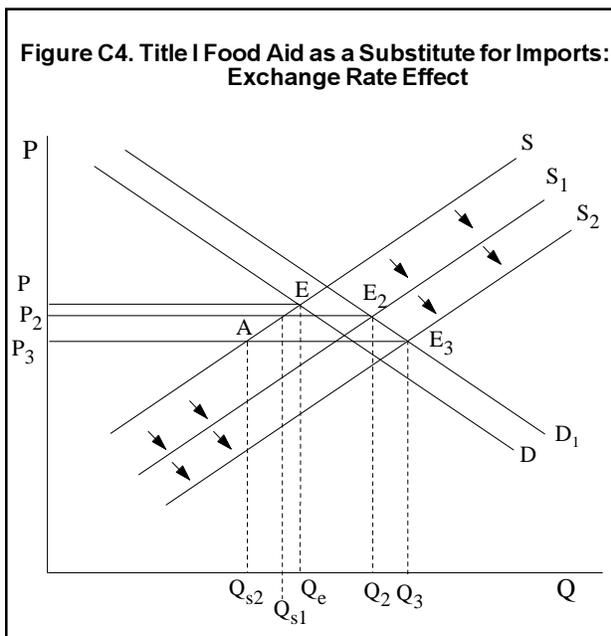
disincentive effect on local production. As Timmer (1978) suggests, though, “the long-run availability of food aid reduces the financial and political pressures to invest in domestic food production capability.” According to Nelson (1981), “This weakening of the recipient [government’s] resolve to address the basic structural problems of a lagging agricultural sector is probably the most serious potential risk of the use of food aid.”



2. Income effect. The government of the recipient country purchases food aid at less than the world market price (P_{AID}) and resells it at a higher price, which generates additional revenue for the government. If the food aid is resold at the world market price (P_1), the government will earn revenue equal to the area AE_1CB . If the added government revenue generated by the sale of the food aid is then transferred to the consumer, this is equivalent to an increase in overall income, which creates greater demand. Consequently, the aggregate demand curve will shift out from D to D_1 , raising the domestic price level to P_2 (see figure C3).

3. Exchange rate effect. In an open market economy, the concessional price of food aid reduces the requirement to purchase foreign exchange equal to the area AE_1CB (figure C2). Lower foreign exchange requirements, in turn, cause an appreciation in the domestic currency, assuming a flexible exchange rate in the recipient country. This means that, in local currency, imports will be relatively cheaper (Grennes

1984). Imports will increase, reflecting the lower price faced by consumers, and total supply in the recipient country will increase from Q_2 to Q_3 , reducing the market price from P_2 to P_3 (see figure C4). Because of the lower price level, domestic producers will reduce production, and the amount of domestically supplied food will decrease from Q_{s1} to Q_{s2} . The exact impact of the currency appreciation on domestic price will depend on the level of food aid, the currency appreciation, the share of imports in the domestic market, and the elasticities of the supply and demand curves.



To summarize, Title I food aid has three potential effects under a free-market import-substitution scenario. First, though there is no short-run price effect, in the long run the availability of food aid enables the government to reduce investments in agriculture, creating greater dependency on food aid and foreign imports. Second, by selling food aid at the market price, the

government will earn additional revenue, which, if transferred to domestic residents, will lead to increased income, increased food demand, and, therefore, increased food prices. However, third, appreciation of the local currency will increase the flow of imports, increase supply, and, therefore, reduce domestic food prices and production. Thus, the two indirect effects of food aid create opposing pressures on the price level. The exchange rate effect tends to cause prices to fall, whereas the income effect tends to cause prices to rise. Although the net effect depends on the relative magnitude of both the supply and demand curve shifts, the *direct* price effect tends to have a greater effect on production than the combination of the two *indirect* effects.

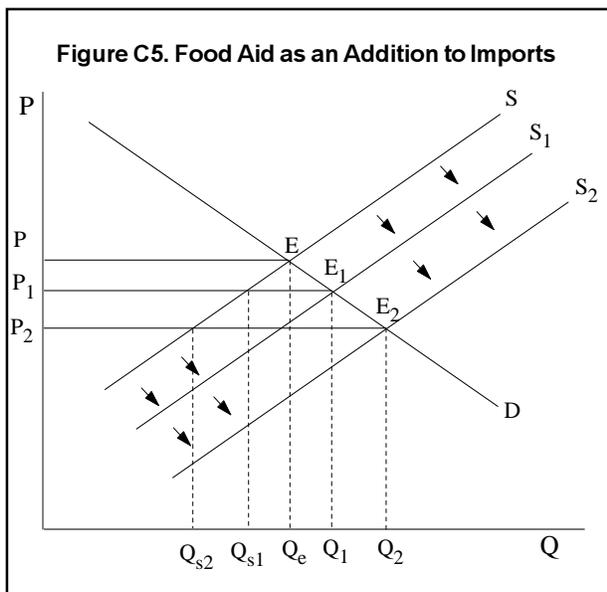
Food Aid as an Addition to Imports

In this scenario, the government imports food aid at a concessional price, supplementing (rather than displacing) preexisting government or commercial imports.

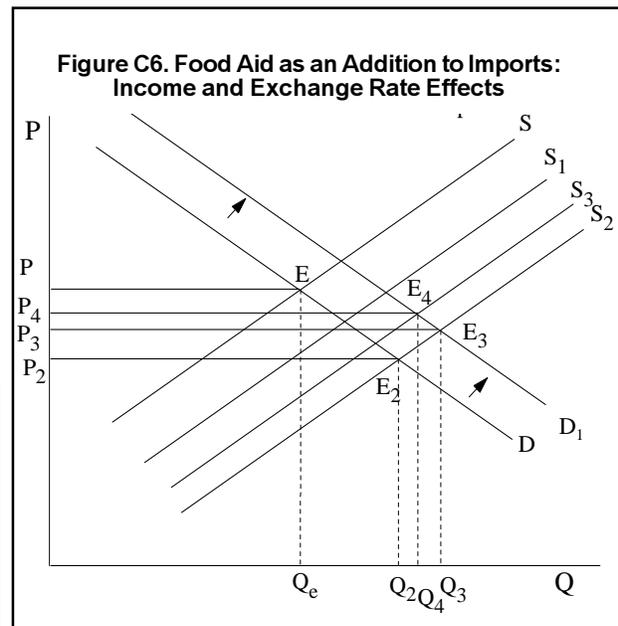
1. Price effect. Introducing food aid additional to preexisting imports increases the aggregate supply of food. In the short run, the supply curve will shift outward from S_1 to S_2 , and the price in the recipient country will fall from P_1 to P_2 (see figure C5). At the new equilibrium price (P_2), local producers will reduce their output or be forced out of the market, and domestic production will fall from Q_{s1} to Q_{s2} .* In addition to this short-run effect, food aid will reduce pressure to invest in agriculture to boost domestic production (as in the previous scenario).

* The exact change in price and quantity will depend on the elasticities of the demand and supply curves and the magnitude of the supply curve shift.

2. Income effect. As under the import-substitution scenario, when the government purchases food aid at the concessional price (P_{AID}), then sells it at the world market price, this generates additional revenue for the government, which, if passed on to the consumer, will increase income, shifting the demand curve out to D_1 and increasing the domestic price level to P_3 (see figure C6).



3. Exchange rate effect. Since the food aid is additional to normal government or commercial imports, total expenditures on imports are greater. Therefore, foreign exchange requirements are greater, and this requirement to purchase additional foreign exchange will depreciate the recipient country's currency. Supply will shift inward to S_3 , reflecting the higher price, in local currency, faced by consumers. The quantity imported will decrease, total supply will decrease, and domestic prices will increase to P_4 (figure C6).



To summarize, Title I food aid has three effects under the free-market additional-imports scenario. First, the additional food will cause the price of food to fall in the recipient country in the short run; in the long run, it will result in reduced investments in agriculture. Second, if the food aid is sold at the world market price, government revenue will increase, which will lead to increased income, increased demand, and increased food prices. Third, depreciation of the local currency will decrease the flow of imports, decrease aggregate supply, increase domestic prices, and, presumably, lead to increased production. As in the scenario in which food aid substituted for imports, the direct effect on prices will generally be greater than the two indirect effects.

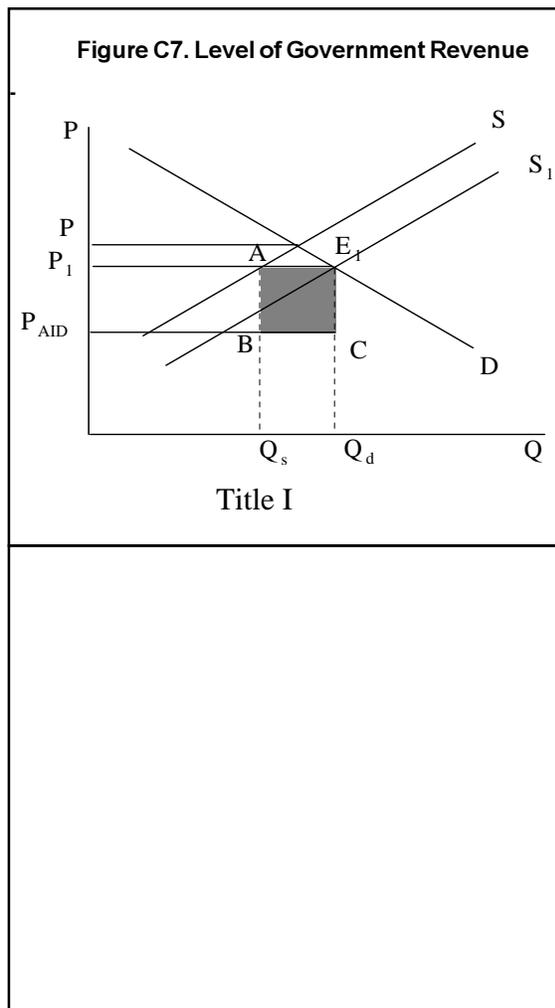
Title III

Under pre-1991 legislation, the United States sold Title III food aid to governments of recipient countries on concessional terms (as with Title I); but unlike Title I, the loan under Title III could be forgiven if certain conditions were satisfied. Under current legislation, Title III food aid is granted (not sold) to governments.

1. Price effect. As under Title I, if Title III food aid is a substitute for imports and does not alter domestic supply, there will be no impact on price or local production in the short run. In the long run, though, the presence of food aid will reduce pressure to invest in domestic food production, making the country more dependent on foreign sources of food. Similarly, as under Title I, if Title III food aid increases aggregate supply in the recipient country, price levels will fall (figure C5).

2. Income effect. Under both the import-substitution and additional-imports scenarios, the government will collect more revenue under Title III than Title I because the food aid is granted to recipient governments, not sold. Total government revenue under Title III would equal rectangle $F A E_1 G$ (see figure C7), assuming the government sells the food aid at the market clearing price. Under Title I, total government revenue would only equal area $B A E_1 C$, since area $Q_s B C Q_d$ represents the cost of purchasing the food aid at the concessional price (P_{AID}).

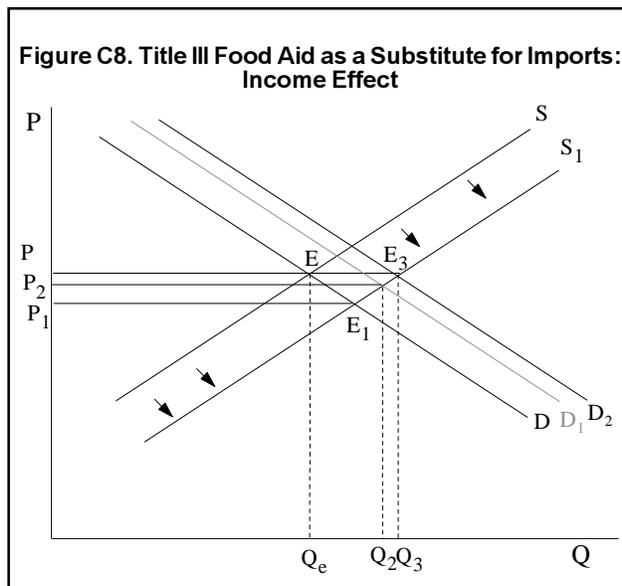
The higher level of revenue under Title III, compared with Title I, implies a larger increase in aggregate income, which in turn means a larger shift in aggregate demand. The demand



curve under Title III will shift outward to D_2 , rather than to D_1 under Title I (see figure C8). As before, depending on the magnitude of the shifts of the demand and supply curves, the price effect may in fact be neutral.

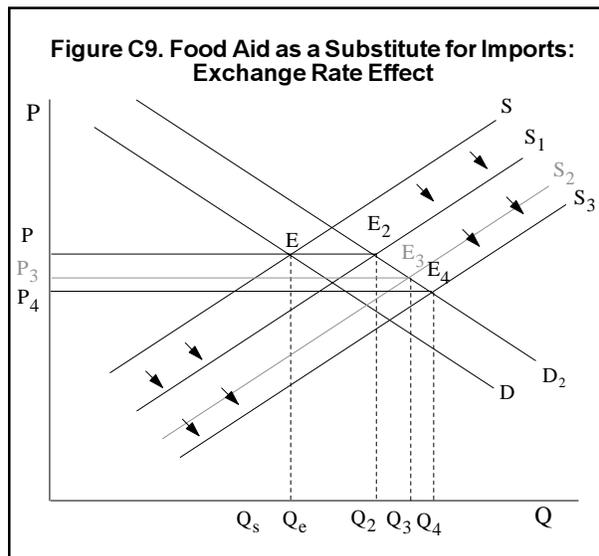
3. Exchange rate effect. As with the import-substitution scenario, food aid implies a savings in foreign exchange. However, the savings will be larger under Title III than Title I, because the recipient government is granted the aid and only has to cover costs such as ship-

ping. For this reason, appreciation of local currency under Title III will be greater than under Title I, and the resulting outward shift in the supply curve will also be larger. Under Title I the exchange rate effect caused the supply curve to



shift out to S_2 (see figure C9); under Title III the supply curve will shift out to S_3 . An excess supply of imports will be created and domestic prices will fall from P to P_4 . Under the additional-imports scenario, where food aid is granted to the recipient government, only a small depreciation of the local currency will occur, as the government's cost of purchasing food aid will be limited to shipping costs.

To summarize, Title III food aid has three effects under the free-market import-substitution scenario. As under Title I, it has no short-run price effects, but in the long run it may have a disincentive effect as reflected by reduced agricultural investment. Similarly, under the import substitution scenario, the income and exchange rate effects will be the same, except they will be larger under Title III than Title I. Under the free-



market additional-imports scenario, Title III will have a greater income effect, implying a greater outward shift in the demand curve than under Title I. However, the exchange rate effect under this scenario will be smaller under Title III than Title I, implying a smaller inward shift in the supply curve.

Food Aid and Domestic Pricing Policy

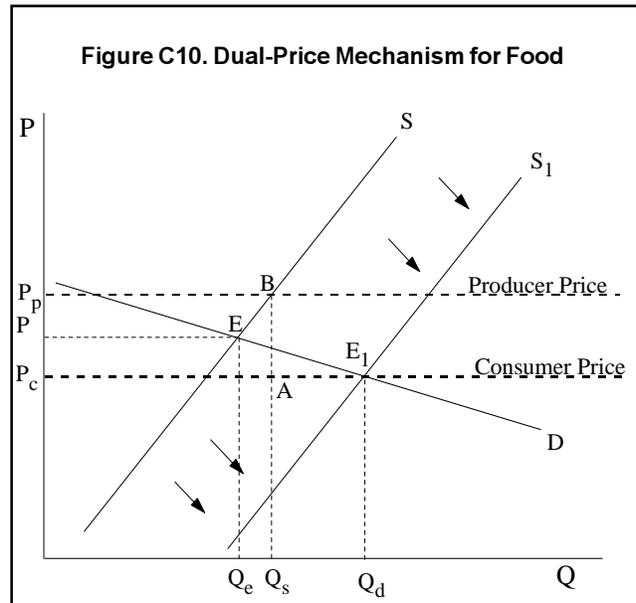
The disincentive effect of food aid may be mitigated or even eliminated with appropriate pricing policy. Developing countries often maintain a dual price system for food. The purpose is to ensure that food staples are available to all consumers at an affordable price and at the same time ensure that producers have an incentive to increase production. In theory, a dual price system shields both producers and consumers from the vagaries of the world market. In the same way, it can insulate producers from price decreases caused by the introduction of food aid.

Under a dual price system, the government sets a ceiling price for consumers that is below the market-clearing price and a floor price for producers that is above the market-clearing price. The government maintains the artificially low consumer ceiling price by controlling the supply of the commodity with imports and food reserves. When prices move above the ceiling price, food reserves are released into the market and imports are increased. Conversely, when prices fall below the ceiling price, the government purchases food on the market, stores it, and restricts imports.

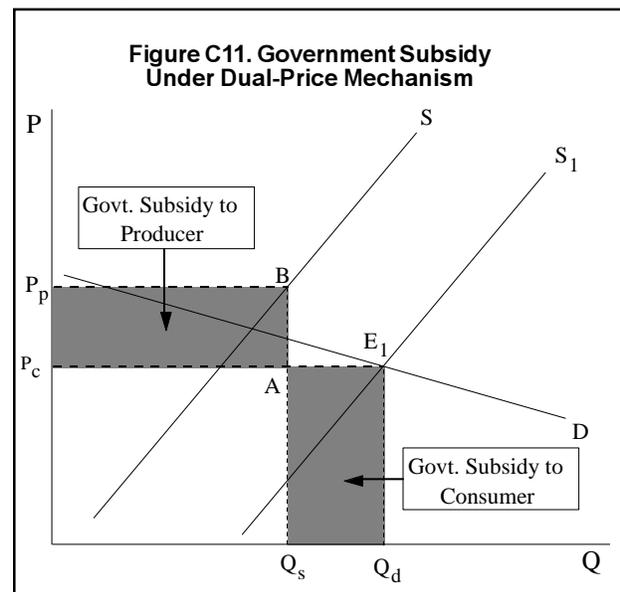
Figure C10 demonstrates the effect of a dual price system. If the government sets the producer price at P_p , producers will be willing to increase the amount they supply from Q_e to Q_s . To move the market price from the original equilibrium price (P) to the consumer ceiling price (P_c), the government will import food, causing the aggregate supply curve to shift outward from S to S_1 and the market price to fall from P to P_c . For the market to clear at the consumer ceiling price (P_c), the government will have to import a quantity equal to the difference between the quantity demanded and the quantity supplied at the consumer ceiling price P_c ($Q_d - Q_s$).

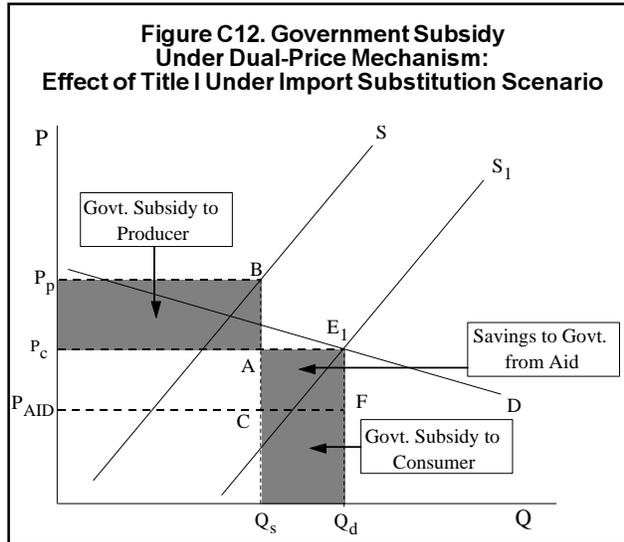
If the government purchases food from domestic producers at the producer floor price (P_p) and the food is then sold at the consumer ceiling price (P_c), the government subsidy to the producer will equal the area $P_c P_p B A$ (see figure C11), or the quantity supplied (Q_s) times ($P_p - P_c$). The government subsidy to the consumer will equal the area $Q_s A E_1 Q_d$, or the quantity imported ($Q_d - Q_s$) times the consumer price (P_c).

* The government will not import food aid additional to existing imports, because this would lower the market clearing price below P_c , increasing the government subsidy to both consumers and producers.



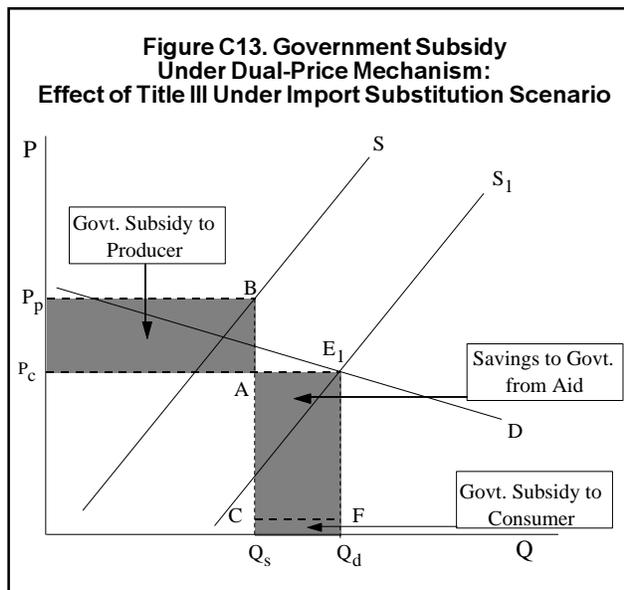
When Title I food aid is introduced instead of commercial imports, the cost of the government subsidy will be reduced.* By importing food at the concessional price (P_{AID}), the consumer subsidy will now equal only the area $Q_s C F Q_d$ (see figure C12), and government sav-





ings made possible by the use of Title I food aid will equal the area CAE_1F .

Under Title III, the savings to the government will be even greater than under Title I because the additional revenue will cover a larger share of the cost of the dual price system (see figure C13).



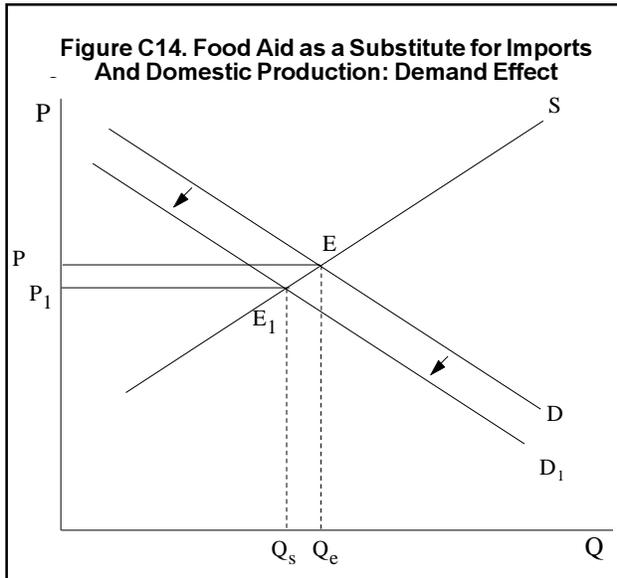
Thus, a dual price system can mitigate if not eliminate the disincentive effect of food aid, and food aid can actually be used to help maintain such a system.

Title II

Under PL 480 Title II, food aid is normally granted to PVOs. Under pre-1991 legislation, it was also granted to governments of chronic food-deficit countries under section 206 authority. Although some Title II food aid is sometimes monetized, the analysis below assumes none is sold on the market and instead is provided directly to those who do not consume enough food to provide adequate nutrition.

Because the food aid never enters the domestic market, it will not displace domestic production or imports and therefore will have no effect on domestic price levels. But food aid distribution systems are far from perfect and frequently people receive food aid they should not receive. In these circumstances, Title II food aid will cause food aid recipients to shift some of their consumption from domestic production and commercial imports to donated food aid. This reduction in market demand will cause the demand curve to shift inward to D_1 and prices to fall to P_1 , causing a reduction in local production (see figure C14).

Alternatively, if Title II provides subsidized food in excess of subsistence consumption, individual recipients may resell the food aid to broaden consumption choices. The resale of food aid increases market supply, so that the supply curve shifts outward to S_1 , leading once again to a decrease in price (figure C5).

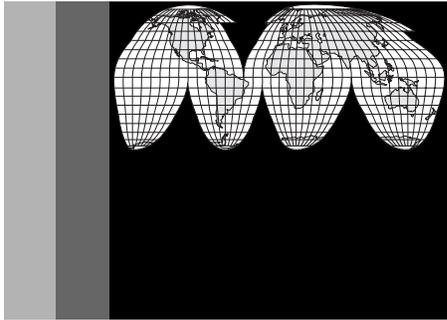


Conclusions

Food aid potentially can create a disincentive for domestic producers and increase a recipient country's dependence on external sources of food. However, proper choice of commodities and appropriate government intervention can help mitigate or avoid the disincentive effect. Title

I and Title III food aid imported under free-market conditions as a substitute for preexisting imports (the import-substitution scenario) and not in addition to existing imports generates only long-term price effects. Under the additional- imports scenario, food aid generates both direct short- and long-term price effects. If the recipient government resells the food aid at the market-clearing price, the additional revenue generated can be transferred to consumers, increasing demand and offsetting the disincentive effect. In this respect, Title III will generate more revenue than Title I.

Governments can reduce the disincentive effect of Title II food aid by providing beneficiaries with only the amount of food needed to satisfy their minimum nutritional requirements, reducing the temptation to sell the surplus on the open market. Finally, a dual price system can mitigate the disincentive effect, in part if not entirely, and the proceeds from food aid sales can be used to cover consumer and producer subsidies associated with a dual price system.



Bibliography

- Africa Watch. 1991. "Evil Days: 30 Years of War and Famine in Ethiopia." Human Rights Watch.
- Agble, R.; and others. 1995. "Nutrition and Health Status of Infants and Young Children in Ghana: Findings From the 1993 Ghana Demographic and Health Survey." Calverton, Md.: Macro International, Inc.
- Ahmed, Akhter; and others. 1995. "Joint Evaluation of European Union Programme Food Aid, Stage Two. Bangladesh: An Extended Study." Draft report.
- Baker, Janice E. 1979. *Food for Peace, 1954–1978, Major Changes in Legislation*. Congressional Research Service. Washington: Library of Congress.
- Benoliel, Sharon; and others. 1998. *Food Aid in Ethiopia*. Impact Evaluation No. 1. Washington: USAID.
- Bremmer-Fox, Jennifer; and Laura Bailey. 1989. *The Development Impact of U.S. Program Food Assistance: Evidence from the U.S.A.I.D.* Evaluation Literature. Washington: Robert R. Nathan Associates, Inc.
- Bruton, Henry; and Catherine Hill. 1991. *The Developmental Impact of Counterpart Funds: A Review of the Literature*. Washington: USAID.
- Bryson, Judy C.; John P. Chudy; and James E. Pines. 1991. *Food for Work: A Review of the 1980s With Recommendations for the 1990s*. Washington: USAID.
- Catterson, Thomas; and others. 1994. "Natural Resource Management and Title II Food Aid: An Evaluation." Report submitted to USAID/Ethiopia.
- Clapp and Mayne, Inc. 1977. "Evaluation of the PL 480 Title II Feeding Programs in Honduras." Photocopy. San Juan, P.R.
- Clay, Edward J.; and Hans W. Singer. 1982. *Food Aid and Development: The Impact and Effectiveness of Bilateral PL 480 Title I-Type Assistance*. A.I.D. Program Evaluation Discussion Paper No. 15. Washington: USAID.
- Coulibaly, Thierno Ousmane; and Choueibou Corra. 1995. "Report of the Evaluation Survey of the Doulos Community Program in Nouakchott, Mauritania." The Doulos Community.

- Denman, Vicki. 1995. "An Assessment of the PL 480 Title II Maternal Child Health Programming: Directions for High-Impact Health Programs." Catholic Relief Services. N.p.
- Echenberg, Dean; and Harrison Stubbs. 1984. "Evaluation of PL 480 Title II and PPNS Program, Senegal." Washington: International Science and Technology Institute.
- Food and Agriculture Organization. 1996. *FAOSTAT On-line Database*. Rome.
- . 1996. Food Balance Sheets. Rome.
- . 1994. *FAO Production Yearbook*. Rome.
- Fox, James W.; and others. 1997. *Food Aid in Honduras*. Impact Evaluation No. 9. Washington: USAID.
- Gargiulo, Carlos; Amy Mulcahy; and Gustavo Arcia. 1997. "Food Aid and Producer Price Disincentives." Research Triangle Institute: Research Triangle Park, N.C.
- Greenes, Thomas. 1984. *International Economics*. Prentice Hall, Inc. N.p.
- Hossain, Mahabub; and M. Mokaddem Akash. 1993. "Public Rural Works for Relief and Development: A Review of the Bangladesh Experience." Working Paper on Food Subsidies No. 7. Washington: International Food Policy Research Institute.
- International Science and Technology Institute, Inc. 1981. "Upper Volta Food for Peace/ Title II Evaluation Final Report." Washington.
- International Trade and Development Education Foundation. 1985. *The United States Food for Peace Program 1954–1984*. N.p.
- Kent, Lawrence; and Michael Pillsbury. 1997. *Food Aid in the Sahel*. Impact Evaluation No. 8. USAID: Washington.
- King. 1996. Catholic Relief Services (Ethiopia). N.p.
- Levinger, Beryl. 1986. "School Feeding Programs in Developing Countries: An Analysis of Actual and Potential Impact." Washington: USAID.
- Lieberson, Joseph; and others. 1997. *Food Aid in Ghana*. Impact Evaluation No. 3. Washington: USAID.
- Maxwell, S. J.; and H. W. Singer. 1979. "Food Aid to Developing Countries: A Survey." *World Development*. 7, 225–47.
- McClelland, Donald G.; and others. 1997. *Food Aid in Bangladesh*. Impact Evaluation No. 5. Washington: USAID.
- . 1997. *Food Aid in Indonesia*. Impact Evaluation No. 4. Washington: USAID.
- Moore, Emily C. 1994. "Evaluation of Burkina Faso School Feeding Program." Baltimore: Catholic Relief Services.

- Mora, Jos[un]; Joyce King; and Charles Teller. 1990. "The Effectiveness of Maternal and Child Health (MCH) Supplementary Feeding Programs." Logical Technical Services Corporation. N.p.
- Nathan Associates, Inc. 1990. *Food Aid Impacts on Commercial Trade: A Review of Evidence*. Washington: USAID.
- Nelson, Gordon O. 1981. "Macroeconomic Dimensions of Food Aid." *Food Aid and Development*. New York: Agricultural Development Council.
- Norton, Roger; and Carlos Benito. 1987. "An Evaluation of the PL 480 Title I Programs in Honduras." Tegucigalpa: Winrock International.
- OECD. 1996. *Public DAC Database*.
- Phillips, Margaret; and others. 1995. "The Costs and Cost-effectiveness of School Feeding and School Bonos Programs in Honduras." Tegucigalpa: USAID/Honduras.
- Rahman, Hossain Zillur; Mahabub Hossain; and Binayak Sen, eds. 1996. "1987–1994: Dynamics of Rural Poverty in Bangladesh." Dhaka: Bangladesh Institute of Development Studies
- Rogers, Beatrice L.; and others. 1995. "Food and Income Subsidies and Primary Schooling in Rural Honduras: An Evaluation of the Impact of the Bonos and PL 480 Title II School Feeding Programs." Washington: USAID.
- Ruttan, Vernon W., ed. 1993. *Why Food Aid?* Baltimore: The Johns Hopkins University Press.
- Shaw, John; and Edward Clay, eds. 1993. *World Food Aid: Experience of Recipients and Donors*. Rome: World Food Programme.
- Smith, Meredith; and Edgar Nesman. 1987. "Implementation and Impact Evaluation of the PL 480 Title II Program." Tegucigalpa: Winrock International.
- Singer, Hans; John Wood; and Tony Jennings. 1987. *Food Aid: The Challenge and the Opportunity*. Oxford: Clarendon Press.
- Stephens, Betsy; and Ronald Parlato. 1983. "Mauritania Food for Peace/Title II Evaluation." Washington: International Science and Technology Institute, Inc.
- Timmer, C. Peter. 1978. "Food Aid and Malnutrition." *International Food Policy Issues: A Proceedings*. Washington: U.S. Department of Agriculture.
- UNICEF. 1995. "Situation of Children and Women in Ghana: An Executive Summary." N.p.
- . 1996. *The Progress of Nations*. N.p.

- . 1996. *State of the World's Children*. N.p. Feldafing, Germany: Deutsche Stiftung für Internationale Entwicklung.
- USAID. 1983. *A Comparative Analysis of Five PL 480 Title I Impact Evaluation Studies*. A.I.D. Program Evaluation Discussion Paper No. 19. Washington. von Braun, Joachim; and others. 1993. *Aid to Agriculture: Reversing the Decline*. Washington: International Food Policy Research Institute.
- . 1995. "Food Aid and Food Security Policy Paper." Washington. von Braun, Joachim; and Barbara Huddleston. 1988. "Implications of Food Aid for Price Policy in Recipient Countries." *Agriculture Price Policy in Recipient Countries*. Baltimore: The Johns Hopkins University Press.
- . 1995, 1996. *U.S. Overseas Loans and Grants*. Washington. Vondal, Patricia J. 1990. *The Development Impacts of Program Food Aid: A Synthesis of Donor Findings and Current Trends and Strategies*. A.I.D. Program Evaluation Discussion Paper No. 30. Washington: USAID.
- USAID/Bangladesh. 1993. "Integrated Food for Development (IFFD) Project." Project Paper. Dhaka. Wallerstein, Mitchel. 1980. *Food for War, Food for Peace—United States Food Aid in a Global Context*. Cambridge: The MIT Press.
- USAID/Burkina Faso. 1986. "A Review of Developmental Aspects of the Cathwel Program in Burkina Faso with Options for Future Program Directions." Ouagadougou. World Bank. 1996. *Bangladesh Annual Economic Update: Recent Economic Developments and Medium-Term Reform Agenda*. Dhaka.
- USDA. *World Agriculture Trends and Indicators, 1970–1991*. Washington. World Bank. *Data Tables*.
- von Braun, Joachim. 1991. "The Links Between Agricultural Growth, Environmental Degradation, and Nutrition and Health." In S.A. Vosti, T. Reardon, and W. von Urff, eds., *Agricultural Sustainability, Growth, and Poverty Alleviation: Issues and Policies*.