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FOOD AID IN BANGLADESH A Gradual Shift From Relief to Reform

USAID's second largest PL 480 program has helped reduce poverty in one of the world's poorest nations. It has provided a basis for fruitful policy dialog and helped increase farm productivity. But high population density and a susceptibility to devastating natural disasters continue to make achieving food security a difficult goal.

SUMMARY

Since it won independence from Pakistan in 1971, Bangladesh has made substantial progress in food production. Rice production increased by 67 percent from 1973 through 1995, total food grain production by 77 percent. However, this achievement has been eroded by a high (though declining) rate of population growth—52 percent over the past two decades. And Bangladesh is among the most densely populated nations. The country's 121 million people inhabit an area the size of Wisconsin.

With a per capita income of \$220, the country is also extremely poor. Because of the widespread poverty, undernutrition is a fundamental problem. Half the country's population cannot afford an adequate diet. Although the percentage of children under 5 who are underweight decreased between 1975 and 1990 (from 84 percent to 66 percent), it has increased since then, reaching 76 percent in 1994.

CONTENTS	
Summary	1
Background	3
Economic and Political Impact	6
Social Impact	12
Food Aid And Equity	16
Lessons Learned	18

Team leader: Donald G. McClelland.
Team members: Robert Muscat, Lisa Smith, Bruce Spake.

Finally, much of Bangladesh is a flood plain. Annual floods, together with periodic natural disasters, cause crop damage and hence acute food shortages. As a result, Bangladesh continues to depend on food imports. It has been the world's second largest food aid recipient on a long-term basis since 1972.

The United States has been Bangladesh's largest source of food aid, providing over \$2.3 billion of food from 1972 through 1994, about 41 percent of the total. However, this amounted to less than 4 percent of the country's total cereal supply (except in 1974 and 1975). Of the \$2.3 billion, 71 percent was program food aid—food sold on the open market rather than distributed directly to beneficiaries. Much of the rest was project food aid that supported what grew to become one of the largest food-for-work efforts in the world.

USAID's Center for Development Information and Evaluation examined the impact of the U.S. Public Law 480 program in Bangladesh over the quarter century since independence. A four-person team visited the country during September–October 1996 to assess the economic, political, and social effects of the program and to ascertain who benefited.

The U.S. food aid program has evolved from one of immediate relief to a broad effort to raise agricultural productivity and reduce poverty—both necessary to achieving long-term food security. Using a variety of assistance mechanisms, USAID, together with other donors, supported food policy dialog and subsequent reform. Policy reform has been the centerpiece of the Agency's multiyear Title III programs. Of the Title II food-for-work programs, road construction has been the mainstay.

One important policy reform involved the public food distribution system. In 1985, 65 percent of the government's subsidized food was distributed through seven monetized ration channels, whereby food was sold, rather than given

directly to beneficiaries. These channels tended to benefit the relatively well-off among the urban population, such as government employees. By contrast, only 35 percent was distributed directly through five nonmonetized channels, such as food for work, to the poor. Partly as a result of Title III conditionalities, these ratios were reversed by 1995, when only 32 percent was distributed through monetized channels and 68 percent through nonmonetized channels.

Another reform involved food grain price policy and supply management. The government routinely procured food grains to supply the subsidized ration channels, often at below-market prices. USAID and the World Bank introduced conditions in 1978 and 1979 aimed at changing the procurement system to meet a new policy objective—improved production incentives—by establishing a floor price as part of a price stabilization plan. At the same time, an open market sales system was introduced to protect poor consumers from high rice prices. The system succeeded in keeping price fluctuations within a relatively narrow range (20 percent) from 1982 through 1995.

Since the mid-1980s, prospects for Bangladesh's economic development have begun to improve. The feared food grain gap has diminished, thanks in part to the food policy reforms supported by the food aid program. Among the ingredients contributing to the success of this experience were 1) the credible prospect that food aid would continue to be available in sufficient volume to underwrite the reforms, thus reducing the political and economic risks of reform to tolerable levels, and 2) first-class monitoring and analysis, principally by USAID and the World Bank. Equally important, food aid represented a significant resource for a country suffering severe shortages of virtually all resources. PL 480 food was especially critical from independence to 1987, when it equaled more than 10 percent of the country's export earnings.

The incidence of poverty in Bangladesh declined from 92 percent to 48 percent from 1974 to 1992, and the U.S. food aid program has contributed to this decline. In addition to leveraging policy reforms giving production incentives to farmers, it has 1) provided seasonal employment to landless laborers under a CARE-administered food-for-work program, 2) developed much of the country's rural roads network, increasing both agricultural and off-farm incomes, and 3) financed agricultural research that contributed to major productivity gains in agriculture and a 47 percent reduction in real rice prices from 1975 to 1994.

Rural roads constructed under food for work have increased access to family-planning and health services as well as primary schools. By reducing the costs to parents of sending their children to school, food aid has contributed to increased primary school enrollment, especially of girls. Although food aid has improved food consumption, it is difficult to demonstrate any significant impact on children's nutritional status.

But clearly, the food aid program has benefited the poor. Through policy conditionality, it redirected subsidized food under the public food distribution system to the poor. In addition, food-for-work programs were implemented in relatively poor geographic regions, and the commodity that was supplied, wheat, was self-targeting, at least in rural areas. The poor, rather than the rich, tended to buy it.

The Bangladesh experience offers several important lessons. It demonstrates that food aid can provide the basis for policy dialog on issues critical to achieving food security. That is partly because it reduces the risk of undertaking politically sensitive changes in food policy. It confirms that sound policy analysis is fundamental to successful policy reform. It illustrates how food aid can be successfully targeted not only to reach the poor, but also to avoid reaching the rich. It also shows how food aid and the local currency generated from the

sale of food can be used to support public sector activities needed to boost food production, improve access to social services, and reduce poverty.

Although food aid is a relatively inefficient vehicle for funding activities that require cash, this is a moot point when such aid is the only resource available. Although food-for-work projects can theoretically achieve two objectives simultaneously, both short-term relief and long-term development, this rarely occurs in practice. Finally, although food aid can discourage domestic grain production, policy changes associated with the food aid can enhance production—more than offsetting the minimally depressing effects of the imports.

BACKGROUND

The United States has provided substantial economic assistance (including food aid) to Bangladesh since its independence in 1971. Before that, from 1953 to 1971, the United States gave food aid to East Pakistan, which would become Bangladesh. This assessment examines nonemergency U.S. food aid during the quarter century after independence, 1971–96.

The U.S. Food Aid Program In Bangladesh

As a chronic food-deficit country, Bangladesh has been a major food aid recipient. From 1972 through 1994, the United States provided Bangladesh more than \$2.3 billion in food aid under Public Law 480, making it the second largest recipient in the world, after Egypt (see figure 1). Program food aid (Titles I and III) accounts for 71 percent of the total. (Title I [government-to-government concessional aid] was provided from 1974 through 1980. Title III [concessional aid tied specifically to development] has been provided from 1978 to the present.) Project-specific Title II food aid, provided since 1972,

accounts for the remaining 29 percent. At 87 percent of the total, wheat has been the principal commodity supplied. Rice constitutes 8 percent; vegetable oil, 3 percent; and other commodities (including cotton), 2 percent.

The United States has been the largest source of food aid to Bangladesh. Excluding the U.S. contribution to the World Food Program, the United States provided 41 percent of all food aid supplied to the country from 1971 through 1994. Food aid has also been a major component of the U.S. economic assistance portfolio. It has made up almost 59 percent of all non-military U.S. assistance given to the country from 1972 through 1994. Food aid from all sources has since 1971 accounted for 6.3 percent, on average, of the total cereal supply in Bangladesh (see figure 2). In six years of the 1970s, it accounted for more than 8 percent. One of those years, 1974, was a famine year, and food aid constituted more than 13 percent of the ce-

real supply. In most years, food aid from the United States has been less than 4 percent of the cereal supply.

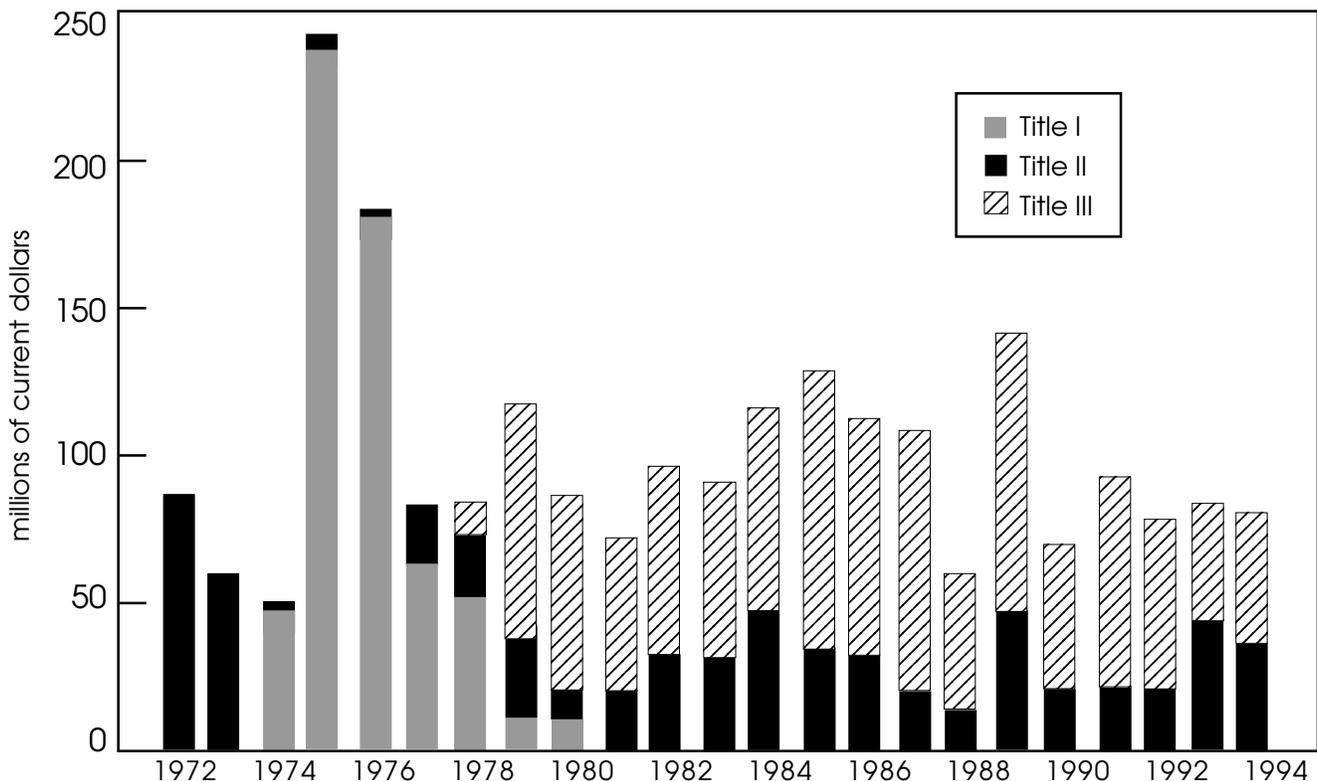
Objectives of The U.S. Food Aid Program

The objectives of the PL 480 food aid program vary depending on whether the source of the food aid is Title I, Title II, or Title III.

Titles I and III: Program Food Aid

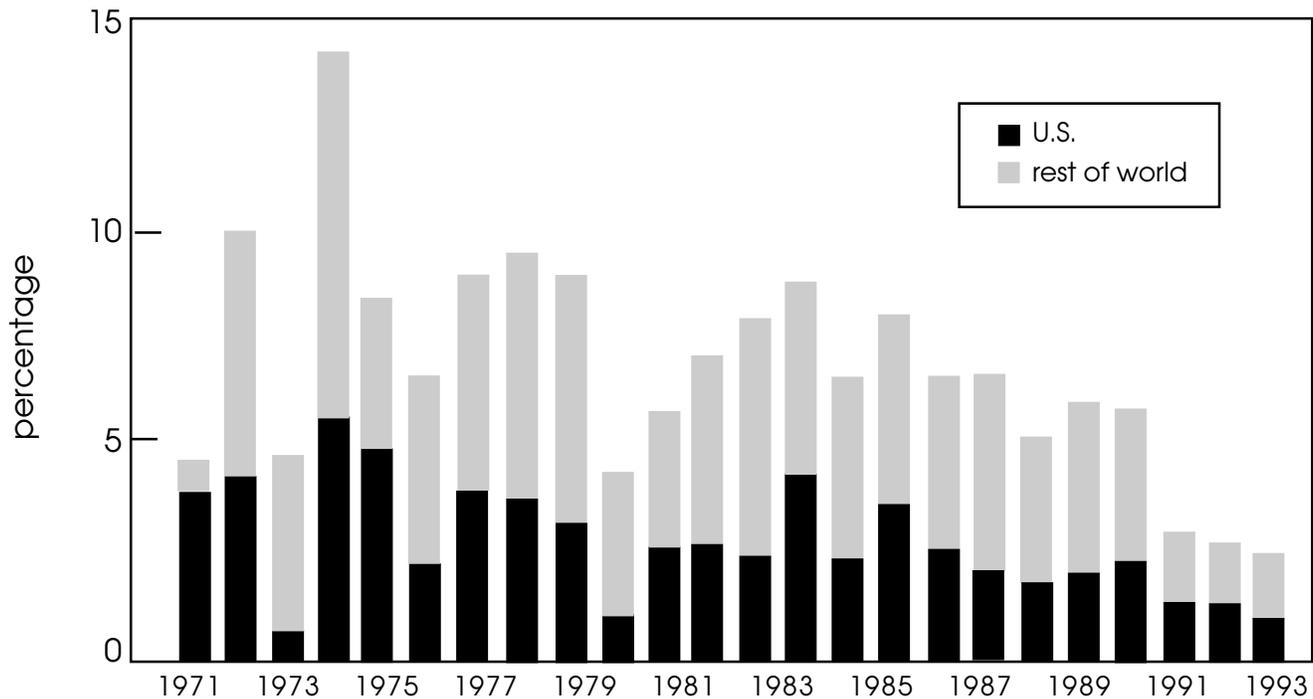
Shortly after Congress enacted Title III legislation in 1977, USAID negotiated a multiyear Title III agreement (1978–81) with the government of Bangladesh. Two more such agreements were signed in 1982 and 1987. Like Title I food aid (which was phased out in 1980), Title III provided balance-of-payments and budget support to the government.

Figure 1. PL 480 Food Aid, Bangladesh, 1972–94



Source: U.S. Overseas Loans and Grants, 1995.

Figure 2. Food Aid as a Percent of Total Cereal Supply, Bangladesh, 1971–94



Sources: 1996 Development Assistance Committee public database and Food and Agriculture Organization.

Food security was the overall objective of the Title III agreements. Toward that end they included policy conditionality in food and agriculture. Policy reforms were designed to 1) ensure that farmers had a price incentive to produce rice; 2) contain abnormal cyclical food price increases to protect poor consumers; 3) gradually eliminate consumer food price subsidies, especially those that benefited the nonpoor in urban areas; and 4) institute market pricing for food grains and liberalize foreign trade.

After passage of the 1990 farm bill, a one-year Title III agreement was signed for 1991. This was followed by a multiyear agreement for 1992–95, subsequently amended to include 1996. The United States has encouraged additional reforms under these more recent agreements, including the use of nongovernmental organizations to carry out agricultural extension activities. Sales proceeds generated under pre-1991 agreements were deposited in a spe-

cial account in the central bank. The money was used primarily to support agriculture activities (such as research to increase yields) and rural infrastructure development (such as irrigation and rural roads). Proceeds generated since 1991 have been deposited in an interest-bearing account in a private commercial bank to protect the real value of undisbursed local currency. Much of the local currency from these more recent agreements has been used to support key social services, including the government's food-for-education program.

Title II: Project Food Aid

During the first three years of the Title II program (1972–74), food aid was used almost exclusively as emergency assistance. It went to help the government feed people displaced by the nine-month war of independence. The objectives of the program changed in 1975. At that time the U.S. relief organization CARE began receiving nonemergency food aid, used to

6

implement food-for-work projects. Coordinated with the Ministry of Relief and Rehabilitation, the program grew to one of the largest food-for-work programs in the world.

Food was used to pay unemployed and underemployed workers in kind. The workers constructed rural roads and built irrigation canals and earthen dams for flood control. But given the emphasis, at the time, on relief (rather than development), inadequate attention was given to road placement and quality. Poor compaction and lack of drainage structures exposed roads to frequent washouts during monsoons. Some roads disrupted migratory paths of spawning fish, destroyed riverine habitats, and reduced animal and plant biodiversity. Many roads appeared to have been built primarily as an instrument of short-term employment generation rather than to meet a long-term transportation need. By 1983 it was clear that many of the earthen roads made little economic or environmental sense.

Accordingly, the United States authorized two special consignments of food aid under legislation that permitted food to be monetized, or sold, rather than given in kind to beneficiaries. (The legislation was sections 202 and 206 of Title II.) The money thereby generated and a substantial sum of Title III local currency were then used to construct bridges and culverts. With the installation of these structures, the earthen roads became more durable and environmentally sound.

In 1993 CARE began a five-year program called Integrated Food for Development Program. Working with the Ministry of Local Government and Rural Development (rather than the Ministry of Relief and Rehabilitation), CARE is monetizing as much as 85 percent of Title II food. The money is used to continue constructing bridges and culverts for existing roads and to meet CARE's other operational expenses. The remaining 15 percent is used to pay unskilled labor in kind.

Thus the emphasis of the Title II program has shifted 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). As a result, the negative environmental effects and below-potential development effects have diminished. The Bangladesh experience raises the question, though, of whether food for work can be used to achieve, simultaneously, both short-term relief objectives and long-term development objectives. It also raises the question of whether it would be more efficient to use dollar aid to finance local costs directly than it is to use food aid. Food aid involves substantial additional transactions costs, making it more costly than simple currency conversion to obtain the same amount of local funds.

ECONOMIC AND POLITICAL IMPACT

At independence in December 1971, Bangladesh faced daunting prospects, more so than virtually any other country in the world. The United Nations classified it as one of the "least developed" countries and, in 1973, as one of the "most seriously affected" by the oil shock. The World Food Program called it a "food priority country." And in 1974, Secretary of State Henry Kissinger termed it an "international basket case." The civil war with West Pakistan had caused immense destruction of life and property. Bangladesh emerged bankrupt and totally dependent on external support for its immediate survival.

Food: The Central Problem

The Bangladeshi people faced dire living conditions. Life expectancy was under 50 years. In 1974, 92 percent of the population fell below the poverty line, defined as daily intake of less

than 2,122 calories. The extremely low per capita income (around \$70 in the mid-1970s) put Bangladesh among the very poorest of developing countries. The population at independence was 73 million. Today, 121 million people live in an area the size of Wisconsin. That density is comparable to everyone in the world—5.8 billion people—living in the United States.

Adding to the problems of structural poverty and high population density is the country's location and deltaic geography. They expose it to highly variable weather and recurrent storm and flood disasters that on occasion have caused enormous loss of life. In 1974, the third year of independence, several hundred thousand people died from famine caused by unusually heavy flooding and crop destruction. The government had installed a relief system designed to reach 30 million people (nearly 40 percent of the population at the time, a magnitude indicating the extent of the country's exposure to food insecurity). But the system was unable to respond effectively to the crisis.

The reasons were many. They included inadequate government stocks, delays in PL 480 shipments (resumed only when Bangladesh ceased trading with Cuba, in conformity with U.S. aid legislation), the global supply squeeze on PL 480 food aid that year, the country's extremely limited import capacity and foreign exchange reserves, an inadequate internal distribution system, and, of course, the collapse of purchasing power by those most seriously affected by the floods.

The immediate need was to ensure an adequate aggregate food supply, effective food distribution to the most needy, and a strengthened capability to cope with natural disasters. This central need to ensure food security dominated all areas of government responsibility—except its responsibility for encouraging increased food grain (mainly rice) production. In this context, food aid played a central role in donors' efforts to help Bangladesh.

The Evolving Role of Food Aid: A Thumbnail Sketch

The U.S. food aid program evolved over time from providing immediate relief and survival to supporting a broad effort to raise agricultural productivity and promote reforms necessary for long-term food security. U.S. food aid to East Pakistan began in 1954 under the surplus disposal and export market mandates of the PL 480 legislation. PL 480 food aid was the main source of food grains moving through the government's marketing system at the time. In 1959, amendments to the law permitted local currency generated from sales of PL 480 commodities to be used for development objectives. In East Pakistan the local currency was used to finance rural roads and embankments using labor-intensive methods. The program also generated substantial employment for people who would otherwise have been idle in the agricultural lean seasons.

During the initial independence years, the United States provided large-scale food grants to help meet the emergency needs of the post-civil war period. It also dispensed \$300 million (in 1972–73) from a special relief appropriation to repair food-related infrastructure, re-provision farmers, and finance agricultural inputs. Despite the setbacks of the 1974 flood and famine, the United States and other donors concluded by 1975 that emergency post-independence needs had been met and that food aid and related programs should shift to address long-term problems of food security.

USAID concluded that population planning and agricultural production were the highest priority programs and that food aid would continue to be essential until economic development yielded a strengthened balance-of-payments position and import capacity. This process would take many years even under optimistic assumptions. The average growth rate in food grain production over the previous decade had been only 1.5 percent, whereas

population was growing at 2.7 percent. If these rates persisted, the gap between food grain production and consumption (based on an “entitlement” concept of 2,310 calories per day) was projected (in 1974) to grow to 9.7 metric tons from 5.8 million metric tons by 1985. Merely to maintain the then inadequate average caloric intake would require 300,000 metric tons more annually, at least. In the mid-1970s, that was as much as 20 percent of annual food grain imports.

Government and donors realized that production incentives and improved production technology were essential. Reforms in the food import, distribution, and pricing systems, which had been fully managed by government under a command system dating from the 1940s, were also long overdue. The stage was set for food policy reform to become a focal point of USAID attention.

Food Aid and Food Policy Reform

Using a variety of mechanisms, including food aid, USAID, together with other donors, supported food policy dialog and subsequent reform. In the early 1970s USAID used aid-financed fertilizer imports and PL 480 Title I self-help provisions to reform the government-managed fertilizer distribution and pricing system. Analyses by USAID in 1975–76 and the World Bank in 1977 identified a broad range of food policy issues. Many were put on the agenda of the Bangladesh donor consortium in 1978. Food policy reform became the centerpiece of a set of conditions attached to USAID’s multiyear Title III program in 1978. Later Title III agreements (1982 and 1987) also addressed policy issues to reflect the effects of earlier steps and changing conditions.

At the same time, the Agency began to strengthen the government’s policy analysis capacity to reduce its dependence on external analysis and advice. In 1980 the government

had, at World Bank insistence, created a Food Planning and Monitoring Unit. Subsequently, USAID funded a policy analysis project under which the International Food Policy Research Institute (IFPRI) provided technical assistance to strengthen the unit’s capabilities. As required under a later Title III agreement, the government agreed to fully fund the unit. It then became a permanent part of the civil service.

Over time the Agency initiated or supported a food policy agenda that included reforms in several areas. Among them: the ration system, price stabilization and supply management, and private food grain marketing. These reforms affected the entire grain sector in Bangladesh, even though U.S. food aid was less than 4 percent of the food grain supply in all but two years—a clear demonstration of how food aid can be an efficient development tool.

The Ration System

The government’s Public Food Distribution System began operations in 1943 during the Bengal famine. It was originally designed to guarantee a minimum quantity of cereals at controlled prices to urban consumers. Over time it grew to consist of 12 subsidized distribution channels, each targeted to a particular group. Seven of the channels provide monetized food and five provide nonmonetized food (see table 1).

Historically, relatively well-off urban dwellers were the principal beneficiaries of monetized cereals distributed. These groups included government employees; the armed forces, police, and jail staffs; large employers of industrial workers; and certain government-approved flour mills. Benefits of the seven monetized channels largely bypassed the rural population and the urban poor, whose need for subsidized food was greatest. In contrast, the five nonmonetized channels have tended to benefit the poor through specific programs including food for work, vulnerable group development, food for education, and relief.

Under USAID's first Title III agreement (1978), PL 480 food could no longer be sold through ration channels targeted to the middle class. Instead, it could be sold only through the ration channel designed to benefit the rural poor (those not required to pay tax) or through open market sales (a monetized channel that benefited the population at large, rich and poor alike). Subsequent Title III agreements and amendments included conditions designed to

reduce or eliminate subsidies for the major urban ration channels. By the late 1980s the reduced subsidies had made these ration channels unattractive to the middle class. This became evident as a large proportion of the middle class turned to the open market to meet their food grain needs. In 1992 the ration channel designed to benefit government employees in six urban areas was unofficially closed.

Table 1. Share of Food From the Public Food Distribution System Directed to Various Subsidized Channels, Bangladesh, 1984–85 and 1994–95

Channel/Beneficiary	Share (000 mt)	Share (%)	Share (000 mt)	Share (%)
	1984–1985		1994–1995	
Government employees in six urban areas	282	11.0	0	0.0
Rural poor	465	18.1	0	0.0
Armed forces, police, and jail staffs	113	4.4	173	11.0
Other government employees	388	15.1	9	0.6
Large employers	63	2.4	17	1.1
Open-market sales	201	7.8	226	14.3
Flour mills	156	6.0	81	5.1
Other	0	0.0	4	0.3
Total monetized	1,668	64.8	510	32.4
Food for work	452	17.6	500	31.7
Vulnerable group development	231	9.0	184	11.7
Test relief	116	4.5	97	6.2
Gratuitous relief	107	4.1	30	1.9
Food for education	0	0.0	174	11.0
Other	0	0.0	80	5.1
Total nonmonetized	906	35.2	1,065	67.6
Grand Total	2,574	100.0	1,575	100.0

Sources: World Food Program, *Bangladesh Foodgrain Digest*, various issues; cited in Ahmed, Puetz, and others, "Joint Evaluation of European Union Programme Food Aid, Stage Two. Bangladesh: An Extended Study." Draft Report, 1995.

The government also abolished the rural ration channel. This followed on the heels of a 1992 IFPRI analysis showing that it cost 6.6 takas to transfer 1 taka's worth of benefits to the target household. (The taka is the Bangladeshi unit of currency; it equaled about 2½ cents in 1996.) Abolishing this channel saved the government an estimated \$60 million annually, the subsidy required to run the program. As shown in table 1 and discussed in a later section, "Food Aid and Equity," these changes in the ration system had the effect of benefiting relatively more food consumers who were poor.

Price Stabilization And Supply Management

Since ration rice was sold below consumer prices, the government often undertook compulsory procurement

below wholesale supply market prices to limit the budget burden of the consumer subsidies. In this way, domestic procurement served to supply the ration system rather than to stimulate increased food grain production. USAID and the World Bank introduced conditions in 1978–79 aimed at changing the procurement system to meet a new policy objective: improved production incentives. The conditions required establishment of a floor price as part of a plan to stabilize prices.

The government recognized that the ration system had been a weak instrument for cushioning net rice-buying consumers (80 percent of the population) from seasonal food grain price increases (especially after harvest failures). It agreed to use price stabilization not only as a postharvest price support mechanism but also, through open market sales, as a mechanism to contain “lean season” grain price rises. This system of counterseasonal use of the government’s buffer stock succeeded in keeping price fluctuations within a relatively narrow range (20 percent) between 1982 and 1995.

The mechanism of open market sales has become less important in the 1990s as a means of reducing consumer food grain prices in the lean season. This is because the expansion of double and triple rice cropping has increased production, thereby moderating the traditional dry-season price rise.

At the same time, the policy success of procuring rice at a floor price has had an unforeseen consequence. It has caused stock management problems and increased the budget deficit in years when unusually good harvests caused low market prices, triggering large-scale government purchases.

However, the smoothing-out of grain production during the year has enabled the government to reduce procurement prices as well as the size of government rice stocks.

Private Food Grain Marketing

Since the 1943 famine, successive regimes had been convinced that the high-risk circumstances and presumed destabilizing behavior of private grain trade necessitated a highly regulated food management system. Private traders were made ineligible for bank credit. They were restricted in the volume of grain they could hold in stock. And they were precluded from moving grain between districts. This changed with the 1987 Title III agreement. Under it, the government agreed to relax its restrictions on both internal and external private grain trade.

The success of these food policy reform measures included a number of key ingredients. Among them: 1) The credible prospect of continued food aid in sufficient volume to give the government confidence that external resources would be available to underwrite the reforms. That reduced political and economic risks to tolerable levels. 2) First-class monitoring and analysis, principally by USAID and the World Bank. 3) Institutional continuity of the USAID field Mission. 4) Coordination among donors, especially Canada, the EUROPEAN Union, the United States, and the World Food Program.

Food Aid and Political Stability

Because of their political sensitivity, food policy reforms were implemented only after careful analysis and persistent persuasion. With USAID urging the authorities to sail into uncharted policy waters, the responsible government officials were often reluctant to proceed, or they proceeded only slowly. This was not surprising, given the potential risks from their perspective.

They feared that 1) loss of direct controls might leave the government unable to cope with an unpredictable, disastrous food crisis with potentially destabilizing political consequences, or 2) reductions in subsidies to politically active

groups (the main beneficiaries of urban ration channels) might lead to instability and threats to the government in power.

Aside from rivalries within the political elites and the country's weaknesses in governance, it was generally feared that chaos in the food regime would be the greatest threat to the country's social and political stability. The fear was not without justification, as the great majority of Bangladesh's population live on the edge of subsistence.

That such a threat has not materialized since the 1974 rice crisis can be credited in part to the substantial role of food aid. The aid augmented available grain supplies needed to back the efficiency reforms over more than two decades. It also buttressed the USAID approach of implementing the reforms incrementally, especially the reduction in ration subsidies. The alternative, rapid and comprehensive reforms, would have imposed substantially reduced benefits all at once. It risked political instability.

Another reason chaos has not emerged in the food system is that the political leadership has come to appreciate the political sensitivity of rice prices. The Awami League was in power from independence in 1971 until the assassination of its leader, Sheikh Mujibur Rahman, in 1975. It was returned to power only in the recent (1996) election, after 21 years in opposition. Throughout this entire period, the Awami League had been vulnerable to criticism for having lost control over rice prices in 1974. The Bangladesh experience underscores the importance of food price stability (partly ensured by food aid) in contributing to political stability.

Turnaround in Economic Prospects

Since the late 1980s the prospects for Bangladesh's economic development have begun to improve. Growth of gross domestic product has risen to over 4 percent. It had averaged 2.3 per-

cent in the 1970s. Investment as a percent of GDP, which hovered at 11 to 12 percent, had risen to 14 to 15 percent by the early 1990s. The feared food grain gap has diminished, with total production increasing from 10.2 million metric tons in 1973 to 18.1 million in 1995. Per capita production increased from 136 kilograms to 149 kilograms during this same period. Two key factors were associated with agricultural growth: implementation of food policy reforms and adoption of high-yielding varieties. Both were facilitated by increased use of fertilizer, irrigated acreage, and other modern production techniques.

Another factor was food aid. It has been a significant resource for a country suffering severe aggregate resource constraints. From independence until 1987, PL 480 food aid was especially critical. It equaled in value more than 10 percent of the country's export earnings (in some years, substantially more than 10 percent) (see figure 3). Since then, food aid has been less significant, averaging about 5 percent of export earnings. PL 480 wheat helped relieve the country's balance-of-payments constraint. It substituted in part for commercial food grain imports that would have been necessary to satisfy demand. Thus it allowed the import of items essential for development. In the 1990s, foreign exchange reserves have risen to comfortable levels. By 1994, reserves were enough to buy eight months' worth of imports.*

Finally, despite the many signs of economic emergence, the claim that Bangladesh had reached food self-sufficiency in 1993 has proved

*Although international assistance has been critical as an addition to Bangladesh's domestic resources, official development assistance receipts per capita have been well below levels provided to most countries classified by the World Bank as low-income. In 1993, for example, 37 of 43 low-income countries had higher receipts (generally by a factor of 3 to 5) than Bangladesh, which received \$12 per capita. Bangladesh's official development assistance as a percentage of gross national product was similarly well below that of most other low-income countries.

premature. (In that year excellent harvests produced a one-year surplus, stimulating serious analysis of the country's rice-export potential.) Production since 1990 has varied from year to year with no clear sign of resumption of the rising trend of the 1980s. Nonetheless, the overall effectiveness of the food production effort stimulated by food policy reforms is clear. The World Bank in 1990 described the reforms as "well conceived, purposefully designed," using instruments "apposite and consistent."

SOCIAL IMPACT

The most direct social effects of U.S. food aid in Bangladesh are associated with the Title II food-for-work program administered by CARE. While providing seasonal employment to landless laborers, this program also contributed to the development of an extensive rural road network. From 1985 to 1994, 60,200 miles of earthen roads (68 percent of the country's rural roads)

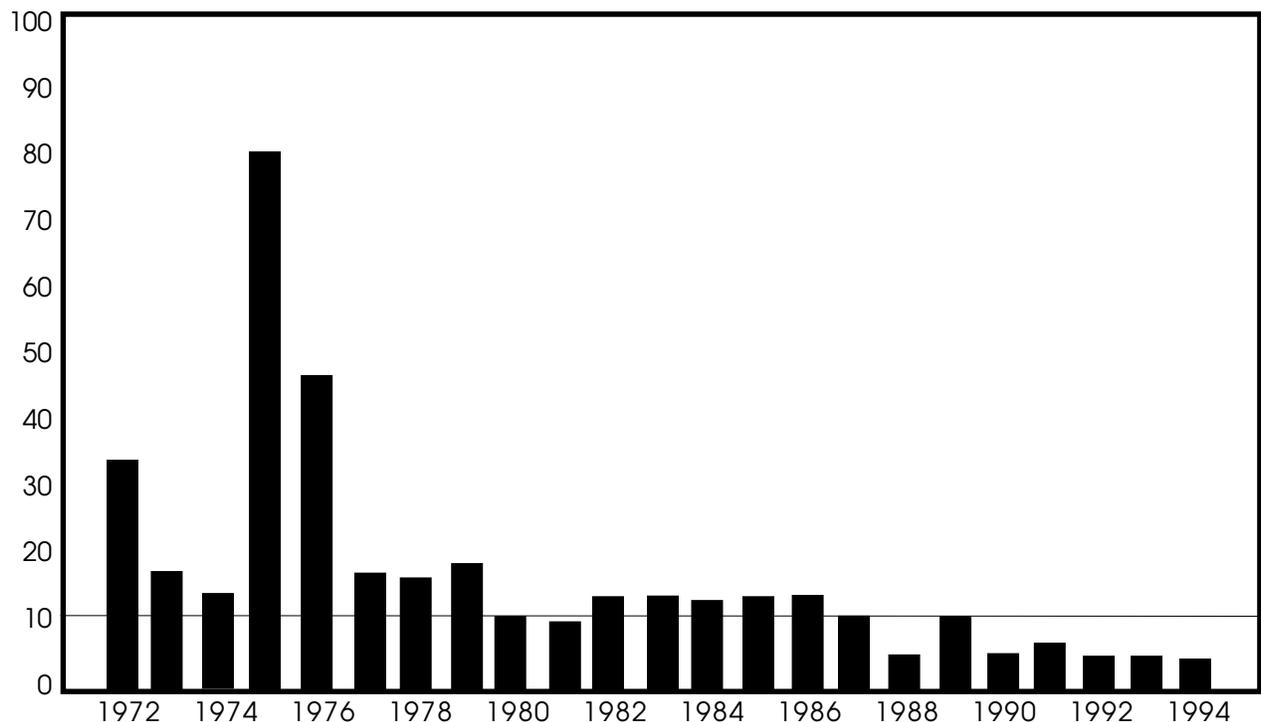
were rehabilitated through the program, and 9,910 bridges and culverts were constructed. Since then, more than 1,500 miles of rural roads have been upgraded annually. The food-for-work program and the road network it has helped to establish have helped reduce poverty, improve food consumption, reduce population growth, and increase primary education.

The Title III program has also had important social benefits. Economywide policy reforms induced by food aid have helped reduce poverty and increase food consumption. In addition, local currency has been invested in agricultural research, rural sanitation, and primary school education.

Poverty Reduction

Although Bangladesh still has one of the highest poverty rates in the world, and although the number of poor people (around 52 million)

Figure 3. PL 480 as a Percent of Export Earnings, Bangladesh, 1972–94



Source: International Financial Statistics Yearbook, 1995, and U.S. Overseas Loans and Grants, 1995.

remains high (owing to rapid population growth), the incidence of poverty declined during 1974–92 from 92 percent to 48 percent. The U.S. food aid program has contributed to this decline. It has 1) provided short-term employment under the food-for-work program; 2) developed much of the country's rural road network, increasing both agricultural and off-farm incomes; 3) leveraged policy reforms that gave production incentives to, and improved the incomes of, farmers; and 4) financed agricultural research that has led to major productivity gains.

Employment Generation

The short-term effect of the food-for-work program was to provide employment for people of landless rural families during the slack agricultural season. The program was self-targeting, since it provided a relatively low wage and required arduous manual labor that would be performed only by those in dire need of employment. Over two decades, the national program employed hundreds of thousands of workers annually, most of them men. It provided employment for about 10 percent of Bangladesh's total agricultural wage labor in the late 1980s. (The CARE program accounted for about half of this.) A study by IFPRI estimated that the program provided as much as 37 percent of additional income to the households of participating workers.

Rural Infrastructure

The greatest and most sustainable gains in poverty alleviation have come not from employment generation 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 and extreme poverty by 6.2 percent. Conversely, where transport facilities were less developed, extreme poverty increased by 5 percent over the same period. Another study found that households in Bangladeshi villages

with physical infrastructure (such as roads) in conjunction with directly productive infrastructure (such as irrigation canals and flood-protection embankments) have incomes more than 60 percent higher than those without such infrastructure.

Transportation infrastructure provides access to markets, administrative centers, financial services, and basic human services. Villages with better-than-average access saw production levels 30 to 40 percent higher than villages with worse-than-average access. Similarly, land under irrigation was 105 percent higher; fertilizer use, 92 percent higher; farm-gate price for rice, 7 percent higher; income per acre for field crops, 20 percent higher; household income, 20 percent higher; wages of landless laborers, 36 percent higher; and number of female workers, 135 percent higher.

Evaluations of the CARE-administered program confirm these findings. Food-for-work rural roads have led to reduced travel times and transport costs. They have brought about lower input costs for major crops and increased the use of new farm technology (including high-yielding varieties, chemical fertilizers, and irrigation equipment). And they have increased agricultural production and producer surpluses. All of these advances contribute to increased household incomes. The evaluation team's interviews with both land-owning farmers and those engaged in off-farm employment confirm that rural people themselves believe the roads have yielded significant benefits in the form of increased incomes.

Policy Reform

As noted earlier, the government had been procuring food grains at below-market prices to minimize the adverse budgetary effect of its subsidized ration channels. This policy benefited urban political constituencies at the expense of rural food producers. Title III food aid was provided on the condition the government

would rectify this bias by procuring grain at a predetermined floor price, thereby increasing farmers' production incentives. In short, the government began to use grain procurement as a tool for supporting postharvest producer prices rather than as a means of feeding the rationing system. Improving the rural-urban terms of trade through such economywide policies helped increase the incomes of large numbers of rural people. That stimulated both agricultural and off-farm employment.

Local Currency Investments

Finally, local currency investments in agricultural research helped fund the development of high-yielding varieties of rice suitable for Bangladesh. In 1973 only 11 percent of the country's cropland was planted in high-yielding varieties; by 1995 this had increased to 54 percent. As a result, rice production increased by 67 percent, and total food grain production increased by 77 percent during this period. The high-yielding varieties have helped alleviate poverty by making possible the production of an additional rice crop during the traditionally slack agricultural season. The result has been to increase employment and incomes.

Food Consumption and Nutrition

The U.S. food aid program has improved food consumption in Bangladesh, but it is difficult to demonstrate any significant effect on children's nutritional status. According to the World Bank, the number of people consuming less than 2,122 calories a day dropped from 63 million in 1974 (92 percent of the population) to 52 million in 1992 (47 percent of the population). (That number, 2,122 calories a day, is the threshold for absolute poverty.) The U.S. food aid program contributed to this improvement in at least four ways.

First, by augmenting the aggregate food supply, food aid has helped Bangladesh meet its

food needs at the national level. That is a necessary, though not sufficient, condition for meeting food consumption needs at the household level. Second, Title III conditionality has led to a redirection of subsidized food from middle-class people to poor, food-insecure people. Third, the system of open-market sales has mitigated abnormally high cereal price increases. That has probably increased food consumption by those dependent on the market.

Finally, food aid-supported investments in agriculture have contributed to a 47 percent reduction in the real price of rice from 1975 through 1994. This is especially true of investments to increase rice productivity by development (through agricultural research) and diffusion (through road building) of high-yielding varieties. Rice represents 70 percent of total calories consumed in Bangladesh. Such a reduction in rice prices has likely led to a substantial increase in food consumption.

Studies of the food-for-work program show that it, also, led to increased food consumption by augmenting food available to participants' households. One reason it increased food consumption as much as it did is that the program provided food for work rather than cash for work. An IFPRI study found that when wages were paid in cash, 48 percent of the incremental income was spent on food; when wages were paid in wheat, the marginal propensity to consume food was greater, 61 percent.

Several other studies of the consumption effects of targeted food aid confirm that the marginal propensity to consume food is substantially higher with an in-kind transfer than with cash. Finally, poverty reduction in areas near food-for-work roads probably contributed to improvements in household-level food consumption as well.

Children's malnutrition rates in Bangladesh are among the highest in the world, though there has been marked improvement over the past two

decades. In 1975, 84 percent of children under 5 were underweight; by 1985, the rate had fallen to 72 percent; and by 1990, it was 66 percent. (Since then, though, the rate has increased, reaching 76 percent in 1994.) The percentage of children stunted, a measure of long-term nutritional well-being, declined in rural areas from 70 percent in 1991 to 62 percent in 1996. It declined in urban slums from 72 percent to 66 percent.*

In Bangladesh, as elsewhere, the two most important immediate causes of children's malnutrition are insufficient dietary intake and poor child health. Although the road network that was built and maintained under the food-for-work program may have contributed to increased household-level incomes and food consumption, the evaluation team found no evidence it affected children's nutritional status.

Indeed, several studies have shown that increased household-level income and food consumption do not translate into improved children's nutrition. The reason has to do with high levels of child illness and inappropriate child-care and feeding practices. As a case in point, children of food-for-work participants showed no significant improvement in nutritional status.

Although no corroborating studies have been undertaken, it is possible the U.S. food aid program has contributed to national-level improvements in children's nutritional status through two means. First is improvements in children's and mothers' health (see below), both of which are associated with improved children's nutritional status. Second is the open-market sales system. It reduced the magnitude of seasonal spikes in rice prices. These increases have been shown to lead to significant increases in children's malnutrition.

*Underweight (weight-for-age), stunting (height-for-age), and wasting (weight-for-height) are defined as two standard deviations below the mean on the normalized distribution curve using National Center for Health Statistics/World Health Organization reference values.

Population Growth and Health

The food-for-work road construction program has helped improve health and reduce population growth in Bangladesh by increasing access to social services. While still bleak in the aggregate, some health indicators have improved significantly over the last 20 years. For example, infant mortality has been halved, from 150 per 1,000 live births in the mid-1970s to 77 in 1994. Life expectancy, by contrast, has increased only slightly, from 57 years in 1980 to 58 years in 1994. Fertility has decreased from 7.0 children in the 1960s to 3.4 in 1994. Increased contraceptive use, from 8 percent in 1978 to 45 percent in 1994, has been the major determinant of rapid declines in fertility.

Access to reproductive health services (made possible by roads) has been a major factor in increasing contraceptive use. Currently 50 percent of Bangladeshi communities have access to modern methods of contraception owing to visits by a family welfare agent or access to a health facility or both. Family welfare agents provide contraceptives, family-planning information, and basic health care door to door. This is important in Bangladesh, where more than 18 percent of women are unable to leave their homes to visit a health clinic because of cultural restrictions on their mobility.

Even then, only 38 percent of married women were being visited by family welfare agents in 1994. That's possibly because traveling in remote areas and areas flooded by monsoon rains is difficult and may reduce field worker visitation rates. Women living closer to towns, where health facilities are located and from which health workers travel, are more likely to use modern family-planning methods than those living in remote areas. In areas where roads have been constructed under food for work, health workers cite improved transportation as a reason for increased use of health and family-planning services. This drives home the point that roads are essential for access to these services.

Finally, local currency invested in the government's health and family-planning programs contributed to health improvements and fertility declines. From 1989 through 1994, the equivalent of almost \$4.3 million of local currency generated from the sale of food aid was invested in village sanitation projects designed to improve rural health. Since 1994, almost \$21.9 million has been invested in the country's family-planning program.

Primary Education

By increasing access to primary schools and reducing the costs to parents of sending children to school, food aid has contributed to increased enrollment. A strong link exists between road availability and attendance at primary schools in Bangladesh. By 1986, for example, enrollment had nearly doubled in primary schools located near roads that had been reconstructed under food for work in 1984. One third of the increase could be attributed to the roads. In some cases these roads were constructed or extended specifically to allow people from remote villages to reach a school easily. Road users confirmed that roads constructed or rehabilitated under the food-for-work program enabled or facilitated sending their children to school.

However, many children of primary school age from poor families are unable to attend school because their parents need their meager earnings to supplement family income. A government-administered food-for-education program was launched in 1993 to help improve this situation. It is implemented in unions (collective rural village units) that are educationally and economically backward. Within those unions, it is targeted at distressed female-headed families, day laborers, low-income professionals, and the landless. These are all groups that have particular difficulty sending their children to school, because of the high value they place on their children's work. Targeted fami-

lies not covered by other similar programs can receive food for sending their children to school. Those who do so receive wheat—15 to 20 kilos per month. It helps compensate the parents for what their children would have earned.

A 1994 IFPRI evaluation found the program effective in targeting poor families. Although 12 percent of the beneficiaries meet none of the eligibility criteria, average per capita income of these ineligible households was about \$118 per year, making them nonetheless very poor. The program has been highly successful in increasing school enrollments, promoting attendance, and reducing dropouts. By 1996, only three years after it began, it was operating in 25 percent of the most disadvantaged unions countrywide, serving more than 16,000 primary schools and almost 2 million households. For the household to receive wheat, the program requires that if one child goes to school, all the children must go. As a result, enrollment rates for girls, who often were not sent to school, have increased. Before the program, enrollment rates for girls were about half those of boys; now they are about two thirds those of boys. Thus the benefits of the program accrue differentially not only to primary school-age children who are poor, but also to girl children who are poor.

FOOD AID AND EQUITY

To what extent did the U.S. food aid program differentially benefit the poor? As noted above, the incidence of poverty in Bangladesh has decreased dramatically. In 1974, fully 92 percent of the population lived in absolute poverty (consuming less than 2,122 calories a day); by 1992, the poverty incidence had fallen by almost half, to 48 percent (see table 2). The number of people in absolute poverty, though large because of rapid population growth, still decreased over the 18 years, from 63 million to 52 million. The U.S. food aid program contributed to reduced poverty in Bangladesh by targeting food

distribution and supporting investments to stimulate agricultural growth.

Targeted Food Distribution

The U.S. food aid program was targeted so as to benefit the poor. Targeting occurred primarily through three mechanisms: 1) reducing and redirecting the food subsidy program, 2) carrying out food-for-work programs in relatively poor regions, and 3) supplying a self-targeting commodity.

Food Subsidy Program

The government and the donors have always agreed on the need for subsidized food for poor people. The question was how to achieve this common objective. USAID's approach was to reduce the quantity of food distributed through ration channels that benefited privileged and politically influential groups, primarily in urban areas. The Agency sought to redirect this food to ration channels that benefited the needy, most of whom lived in rural areas. The redirection occurred in two ways.

First, an increasing share of food aid was distributed through nonmonetized ration channels, two of which the United States supports. Title II supports food for work, and Title III supports food for education. As a result, the share of food distributed through monetized chan-

nels was halved, from 65 percent in 1985 to 32 percent in 1995 (see table 1, page 9). Conversely, the share distributed through nonmonetized channels (those reaching the poor) nearly doubled, from 35 percent in 1985 to 68 percent in 1995.

Second, USAID used food aid agreements to negotiate a progressive elimination of subsidies from most of the monetized ration channels. Partly as a result of these conditionalities, the quantity of food distributed through the entire public food distribution system (both monetized and nonmonetized channels) declined by 39 percent from 1985 to 1995, from almost 2.6 million metric tons to 1.6 million metric tons (see table 1). At the same time, the quantity of food distributed through nonmonetized channels increased by 18 percent, from 900,000 metric tons to 1.1 million metric tons over this period. Most of this increase occurred through the food-for-education and food-for-work programs. The poor benefited from the redirection of subsidized food, and the government benefited from the reduction of subsidized food (because fewer tax revenues had to be expended—revenues that served only to benefit the middle class).

Geographic Targeting

CARE launched food-for-work projects in Bangladesh in 1974, and in 1996 the program covered 319 of the country's 460 thanas, or sub-districts. For the most part, these 319 thanas are relatively poor. In the context of road building, CARE deliberately excludes environmentally fragile regions as well as regions where infrastructure development would be too costly. Over the years, CARE has paid in-kind wages for almost 135 million person-days of work, benefiting an average of 375,000 landless laborers and their families annually.

Table 2. Poverty Incidence, Bangladesh, 1973–74 and 1991–92

Poverty Incidence	1973–74	1991–92
Total population (millions)	68.6	108.7
People in poverty (millions)	63.0	51.6
People in poverty (percent)	91.8	47.5

Sources: World Bank, 1996. *Bangladesh Annual Economic Update: Recent Economic Developments and Medium-Term Reform Agenda*. Dhaka: World Bank.

Road construction and repair work is strenuous and unattractive. Those with alternative employment opportunities would not accept such work, especially with “wages” paid in food. Because food-for-work projects were implemented during slack employment seasons in poor areas where unemployment was high, alternative employment opportunities were generally not available, especially for the landless. By their very nature, then, the food-for-work projects were self-targeting and therefore likely to reach the very poor.

Self-Targeting Commodity

By the end of the 1970s, U.S. food aid to Bangladesh consisted mainly of wheat rather than rice. Several studies suggest that wheat is an “inferior” good in rural areas of the country. This means that as household income increases, the demand for wheat decreases. This attribute tends to make wheat a self-targeting commodity, since the poor, rather than the rich, will tend to buy it. However, this attribute no longer applies in urban areas. There, wheat is a customary food, and wheat products such as bread and chapati (a flat bread) have become an integral part of the diet.

Investments in Agricultural Growth

U.S. food aid programs supported agricultural growth, indirectly benefiting the rural poor. Since independence, Bangladesh has stressed increased rice production to achieve cereal self-sufficiency. This has resulted in substantial progress, with rice production up by 67 percent from 1973 through 1995 and total food grain production up by 77 percent.

U.S. food aid contributed to agricultural growth in Bangladesh in two ways. First, it was used to leverage, and then support, critical food policy reforms, especially incentive prices for farmers, to stimulate increased food production. Second, the proceeds from the sale of food com-

modities were used to help fund key elements of the government’s investment budget. These local currency proceeds were significant, amounting to over \$920 million from 1979 to 1996. Most of this money, 80 percent, was invested in the agriculture sector (including rice research) and rural infrastructure development (mainly irrigation, flood control, and road construction).

Agricultural growth resulting from these 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 70 percent of total caloric intake. Agricultural and rural growth also stimulated increased employment opportunities, both farm and nonfarm, benefiting the poor who were unemployed and underemployed. Operators, and in some cases owners, of rickshaws (the principal means of transporting surpluses from villages to local markets) were among the principal beneficiaries.

LESSONS LEARNED

1. Food policy reform. Food aid can be the basis for policy dialog on issues critical to achieving food security.

Food aid may appear to be an inherently weak instrument for exercising policy leverage (withholding it would be seen as “punishing the poor”). But the Bangladesh experience suggests it can be highly successful. USAID used multiyear food aid agreements to chip away at economic policies adversely affecting the food sector and to introduce new policies to enhance food security. The reforms included gradually eliminating much of the urban-biased food subsidy system; introducing a buffer stock plan to

stabilize rice prices; encouraging private traders to market food grains and NGOs to carry out agricultural extension; and strengthening government food policy analysis. According to one senior Bangladeshi government official, U.S. food aid was the catalyst that prompted the government to do what it should have done—and in the long run would have done—to reform food policy. This was partly because the United States was providing a substantial portion of the country's cereal import requirements. It was also because the United States (the donor) could take the political heat for requiring certain unpopular reforms.

2. Food policy analysis. Sound policy analysis is fundamental to successful policy reform.

The reforms negotiated under the PL 480 agreements were based on solid analysis, much of it carried out by USAID. Especially valuable were the Mission's strong professional staff with excellent analytic capability and good diplomatic skills together with the long, continuous tenure of its local professional staff.

USAID sought to institutionalize an equally solid analytical capability within the government. The 1987 Title III 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 IFPRI.

A subsequent Title III agreement was conditioned on the government's agreeing to fund the unit from the "revenue" budget, not the "development" budget. The unit was thus institutionalized as a permanent part of the civil service.

3. Political risk reduction. Food aid of significant magnitude can give policymakers a sense of "peace" and act as a cushion, reducing the risk a government faces when undertaking politically sensitive changes in food policy.

In countries like Bangladesh, where 48 percent of the people subsist below the poverty line,

food prices are politically sensitive. Absent a sufficiently large food stock, it would have been politically (as well as physically) impossible for the government to implement the policy reform program, especially the component dealing with open-market sales.

Of course, food aid is not always dependable. This was exemplified in the early 1970s when the United States, as required by law, withheld food aid to Bangladesh because the government was exporting jute to Cuba.

4. Targeting. Food aid programs can be targeted to reach the poor—and to avoid reaching the rich.

It is difficult to fine-tune targeting in countries like Bangladesh with a large population (121 million), almost half of whom live below the poverty line, and where the rich control food distribution. Nonetheless, the U.S. food aid program has, with some success, targeted the poor.

CARE-administered food-for-work projects are implemented in relatively poor thanas. The government-administered food-for-education program not only targets poor households that satisfy certain means tests but also differentially benefits poor girls of these households. The commodity supplied as food aid, wheat, was initially self-targeting because only the poor would purchase it. Finally, the subsidized ration channels that previously had benefited the middle class are no longer operating, partly because of conditions agreed to under food aid.

5. Relief versus development. In principle, food-for-work projects can achieve two objectives simultaneously: short-term relief and long-term development. But in practice they do not.

In Bangladesh, the early food-for-work projects were relief biased. Their primary objective was to feed people, and the roads were viewed as an ancillary benefit. Because of this bias, the roads were poorly designed. Bridges and culverts were not installed to permit natural drain-

age, some of the roads washed out during the annual floods, and others caused environmental damage. Thus, elements needed to make food for work successful as a tool for short-term relief (namely, using highly labor-intensive methods, zeroing in on the neediest locales, and responding rapidly to urgent needs) sometimes impeded creation of technically and economically sustainable development structures.

Over time, the food-for-work projects became development biased. Food aid was monetized to obtain cash to build bridges and culverts that were needed to protect the environment and ensure that the roads could withstand floods. A larger number of poor probably benefited from the better quality roads, at least in the long run. But in the short run fewer poor benefited because fewer unskilled laborers were employed to build the earthen roads.

6. Efficiency of food aid. Food aid is a relatively inefficient vehicle for funding activities that require cash.

The relative efficiency of providing food aid—directly through food or indirectly through monetized food—depends on the objective of the program. For some programs, food as a means of payment can be more effective than money. For example, when food-for-work participants in Bangladesh are paid in wheat (rather than an equivalent amount of cash) more food is consumed in the household, even though large numbers of recipients sell a portion of their rations.

By contrast, when food aid is monetized to achieve an objective that could have been real-

ized with straight financial aid, the additional transaction costs of the food aid reduces its effective value. (It's cheaper to mail a check than to ship bulk grain.) Eighty-five percent of Title II food aid in Bangladesh is now monetized to fund construction of bridges and culverts and to meet CARE's other operational expenses; only 15 percent is used to pay unskilled labor in kind. In this case, food aid is an inefficient mechanism for purchasing materials and paying skilled labor compared with dollar aid. Of course, such a comparison loses its relevance when the food aid resource is not fungible with non-food aid resources.

7. Agricultural and rural development. Food aid and the local currency generated from the sale of food aid can support public sector investments needed to boost food production, improve access to social services, and alleviate poverty.

In Bangladesh, food for work was used to build rural roads, critical for transporting agricultural inputs (such as fertilizer and seeds) and marketing the harvest. In addition, over 80 percent of the local currency was used to support agriculture-related investments, including development of high-yielding rice varieties and rural infrastructure. These investments helped boost rice production from 10.1 million tons in 1973 to 16.8 million tons in 1995 and to reduce real cereal prices by 47 percent. Rural roads have also improved access to social services (including family planning, health care, and education). They also have helped alleviate poverty (by stimulating both farm and nonfarm employment).

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