



CDIE

Impact Evaluation

United States Agency for International Development

FOOD AID IN INDONESIA Grain Helped Catalyze Broad-Based Development

Provision of American rice and other foodstuffs, together with an enlightened and unwavering domestic policy, has helped promote equitable growth in this tropical Asian nation. It has helped make the country economically strong and, for now, politically stable. But the aid has had little direct effect on reducing child malnutrition, which, while declining, still plagues a curiously high percentage of the population.

SUMMARY

Indonesia has had one of the best-performing economies in the developing world over the past 30 years. Economic growth averaged 7 percent per year between 1966 and 1994, 4.3 percent per capita. The proportion of Indonesians in poverty fell from 60 percent in 1965 to 14 percent in the early 1990s. The country shifted from being the world's largest rice importer to being rice self-sufficient by 1984.

To what extent did U.S. food aid—totaling \$1.8 billion from 1954 through 1994—contribute to Indonesia's economic success? Briefly stated, the food aid can be credited with modest but meaningful contributions to Indonesia's economic growth, especially in the early years of General Soeharto's presidency. In turn, by enhancing food security, it also contributed sig-

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nificantly to political stability. It was less effective, though, in combating malnutrition.

The effectiveness of food aid can be measured across three distinct time periods. From 1954 through 1965, during President Sukarno's tenure, there is no evidence food aid helped improve Indonesia's economy. However, during the early Soeharto period (1966–73), food aid played a major role in supporting the reform efforts of the new president's economic team and substantially helped augment Indonesia's hard-currency reserves. Food aid again became marginal after 1974, when Indonesia's oil revenues increased.

The U.S. food aid program was large in absolute terms but small in relation to Indonesian food consumption. Except for the early years of the Soeharto government, it made up less than 1 percent of the grain supply. Indonesia was one of the top five recipients of U.S. food aid from 1973 through 1992. And the United States has been Indonesia's largest donor of nonemergency food aid. Of the \$1.8 billion of food aid, 86 percent came as rice and wheat under PL 480, Title I (government-to-government assistance). Title I shipments ended in 1989, and Title II (project-specific) shipments ended in 1996.

The benefits of economic growth have been widely shared in Indonesia, and the Soeharto government's growth strategy was central to this achievement. Its highest priorities were increasing food production, maintaining stable rice prices (at a level higher than world prices), and investing in rural infrastructure. Initially, the beneficiaries were poor smallholders, largely rice producers; over time, the majority of low-income people benefited.

Indonesia under Soeharto refused to resort to deficit financing. That meant that local currency generated from Title I sales provided critical additional spending for development purposes. Had these funds not been available, the development budget would have been reduced by a

like amount—as much as one third, in the early 1970s. Much of that money was invested in activities with a high payoff (green revolution technology together with irrigation facilities and rural roads) that led to increased rice yields.

The Title II food-for-work component of U.S. food aid was also successful. It supported labor-intensive rural infrastructure development in the late 1960s and early 1970s. These village-based activities encouraged public investment that favored poor people and poor areas. As a result, Indonesia's peripheral regions felt they were participating in the country's overall development. When oil revenues began pouring in during the mid-1970s, this model was transformed into the "Inpres" program, a government-supported cash-for-work program. This major effort has been credited with creating rural prosperity by generating income and by improving infrastructure.

In Indonesia, rice is critical to political stability. In 1965, rice production in Java was no higher than before World War II, and per capita rice consumption had fallen 15 percent since 1960. U.S. rice provided under PL 480 in the precarious post-Sukarno years was vital. It helped close the cereals gap and maintain rice price stability.

Although U.S. food aid contributed to Indonesia's economic growth and political stability, its direct impact on child malnutrition appears limited, except in the most severe cases. The prevalence of child malnutrition did decline from 51 percent in 1986 to 40 percent in 1994. Still, that is much higher than would be expected for a country with a 1994 per capita income of \$880. However, food aid may have helped indirectly improve nutritional status of children under 5 with mild to moderate malnutrition by encouraging mothers to attend integrated village health posts. These centers dispense a varied combination of immunization services, nutrition education, family planning, and child-development counseling.

BACKGROUND

From 1954 through 1994 the United States provided over \$1.8 billion of food aid to Indonesia under the Public Law 480 program. Most of this, almost \$1.6 billion, or 86 percent, was provided under Title I—government-to-government concessional aid. The rest, over \$200 million, was provided under Title II—project-specific aid (see figure 1). In addition, a small quantity of food aid (\$2.2 million) was provided in 1979 under section 416(b) of the Agriculture Act of 1949.

Indonesia began receiving Title I assistance in 1956 and continued to receive it every year—except 1957 (perhaps because of oversupply the previous year), 1965 (when an attempted coup led to the decline of President Sukarno), and 1974 (when there was a worldwide grain shortage). The magnitude of the program fluctuated over the years, peaking in 1969 at \$175 million. The program ended in 1989 at \$14 million. Almost half (48 percent) of the Title I program consisted of rice; 46 percent consisted of wheat, wheat flour, or bulgur wheat (wheat processed so as to facilitate cooking).

Under Title II, the main commodities supplied were bulgur wheat, wheat flour, and wheat (65 percent), rice (13 percent), and soy-wheat flour and soy-corn milk (5 percent). Indonesia has received Title II food aid every year since 1954. The largest Title II program (\$25 million) was in 1970; the program ended in 1996.

The United States has been Indonesia's largest donor of nonemergency food aid, contributing well over 50 percent of the total in most years from 1969 to 1993. On average, the United States

provided 63 percent of all the food aid Indonesia received during the 20-year period 1973 through 1992. In addition, food aid has consistently been an important component of the U.S. economic assistance portfolio to Indonesia. During 13 of the 40 years under consideration, it was the largest single element.



From 1973 through 1992 Indonesia ranked among the top five recipients of U.S. food aid in terms of tonnage (the others were Bangladesh, Egypt, India, and Pakistan). However, it ranked near the bottom (46th out of 50) when measured as a percent of domestic grain consumption. In fact, U.S. food aid accounted for less than 1 percent of the total grain supply in Indonesia during most of the period 1962 through 1989.

The main exception was the six years 1968 through 1973 (see figure 2). During those early years of the new Soeharto government, U.S. food aid was particularly critical; it constituted more than 5 percent of the grain supply in 1969.

Thus, the U.S. food aid program in Indonesia was large in absolute terms but small in relation to Indonesian food consumption. This is important to keep in mind in assessing the impact of the program—economic, social, and political—and in determining how the program contributed to sustainable development.

Objectives of the U.S. Food Aid Program

The Indonesia Title I and Title II food aid programs shared the same objectives as similar programs in other countries.

Title I (Government-to-Government Concessional Aid)

Annual agreements between the United States and Indonesia stipulated the amount and type of commodities provided under Title I as well as the loan terms, usually a 20-year repayment period at 2 percent interest. Indonesia's national food logistics agency, Badan Urusan Logistik (BULOG), managed the commodities, distributing them to local markets through commercial channels and receiving the local currency generated from their sale.

BULOG then transferred the sales proceeds to the Finance Ministry, where they were commingled with general government revenues and used to support development activities, including self-help measures specified in the Title I agreements. Thus, the program helped meet the country's food security needs as well as the government's budgetary needs. Originally, Title I food aid was administered by the

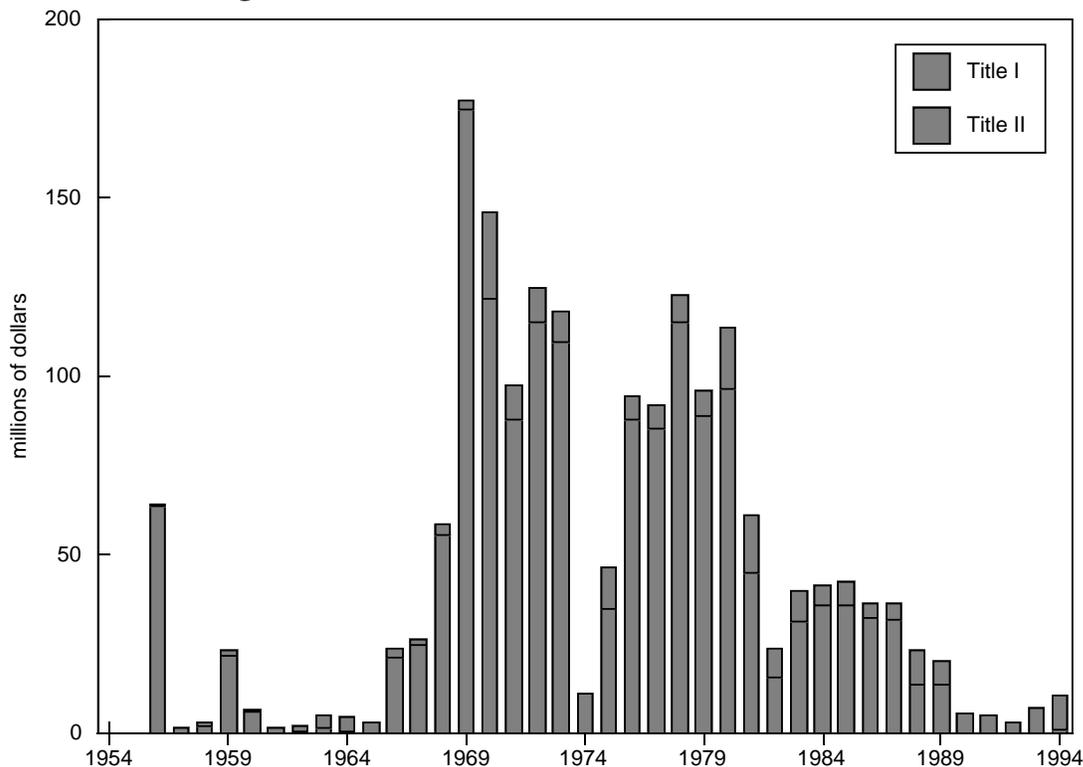
agricultural attaché assigned by the U.S. Department of Agriculture. Then, in 1983, USAID assumed direct responsibility. The Agency linked food aid more closely to specific policy concerns and, jointly with the government of Indonesia, allocated the local currency to fund self-help measures and USAID-sponsored development assistance projects.

In 1987 the Mission integrated the Title I program with its agricultural and rural sector policy-support program. This program emphasized reducing pesticide subsidies, reducing transportation and licensing costs, and improving the efficiency of rural capital markets.

Title II (Project-Specific Aid Administered by PVOs)

USAID carried out the Title II programs through American private voluntary organizations (PVOs) and their Indonesian counterparts, or nongovernmental organizations (NGOs). The

Figure 1. U.S. PL 480 Food Aid to Indonesia, 1954–94



Source: U.S. Overseas Loans and Grants.

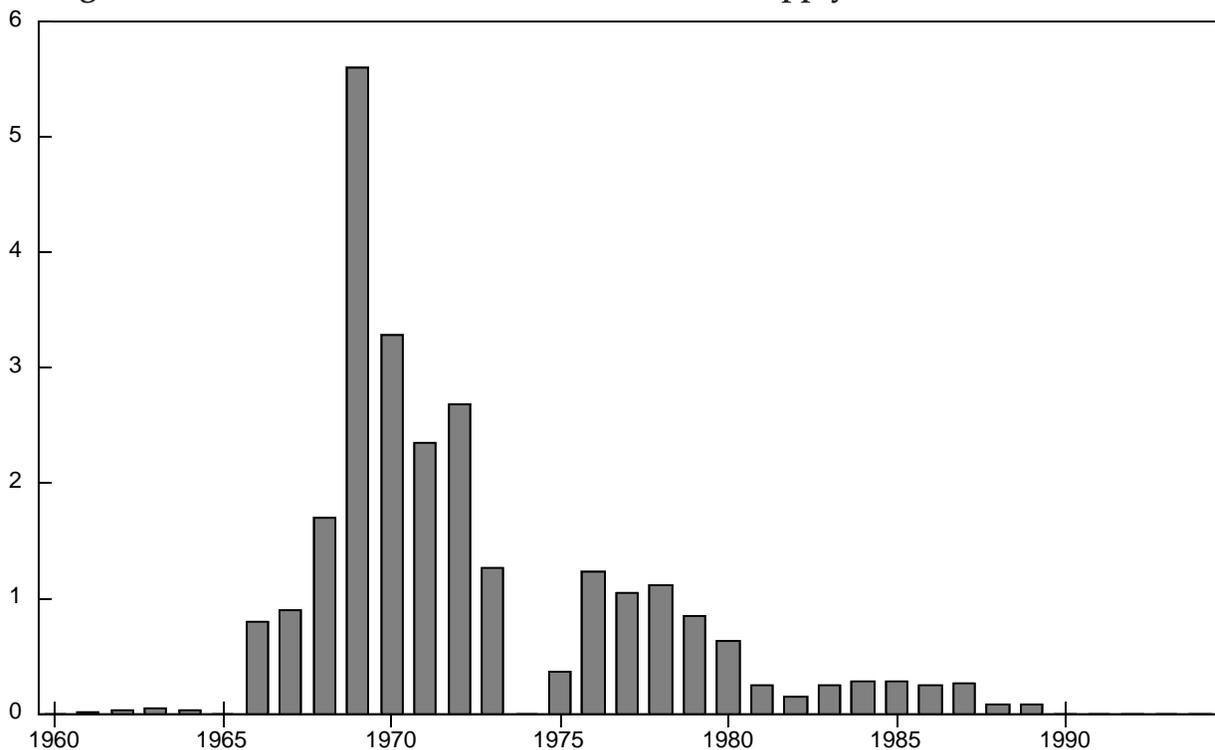
PVOs acted as brokers between the donor (USAID) and the implementers (local Indonesian NGOs). Although Catholic Relief Services managed most of the programs, CARE, Church World Services, and the National Cooperative Business Association (formerly, the Cooperative League of the United States of America) were also active. In most cases, the NGOs were independent local institutions that had well-established missions. To carry out food for work, maternal and child health, or monetization, they established working relationships with the district government and the village head in the targeted areas. They also were responsible for reporting results of the programs.

Food for work. The food-for-work program sought to alleviate poverty and to construct public works. In return for food, chronically unemployed and underemployed members of poor communities worked to create community assets such as roads, bridges, and irrigation canals needed to support agricultural and rural development.

Maternal and child health. The maternal and child health program strove to improve health and nutrition conditions of rural communities, especially of children under 5 and pregnant and lactating women. Title II funding enabled relief organizations to supply nutritious food to these groups and also to improve the quality and amount of services offered by village health-delivery posts, called *posyandu*.

Monetization. Title II food aid was monetized under two programs to fund development activities. One was managed by the National Cooperative Business Association. It monetized food aid to create and support local Indonesian cooperatives active in agricultural production, aquaculture and marine fishery, and light industry and manufacturing. The goal was to strengthen and improve the management systems of village cooperatives. The second program was managed by CARE and Catholic Relief Services. It used monetized food aid to support development of water and sanitation systems to

Figure 2. Title I Food Aid as a Percent of Grain Supply, Indonesia, 1961–94



Sources: USAID, UN Food and Agricultural Organization, International Foundation for Science Yearbook.

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increase the access of rural communities to reliable and safe water supply and sanitation facilities. The communities' willingness and ability to mobilize local resources ensured that these facilities would be self-financed and self-maintained, a secondary objective.

The Indonesian government has parallel institutional structures to implement both rural infrastructure activities (the Labor-Intensive Public Works Program) and health sector programs (the Family Nutrition Improvement Program, or UPGK). The Labor-Intensive Public Works Program, created in 1974, is the government's largest such program. Like food-for-work programs, it provides short-term employment for the rural poor during slack periods and creates rural infrastructure. The UPGK aims to decrease the number of people suffering from nutritional deficiencies, particularly children under 5 and pregnant and lactating mothers. It also treats vitamin-A deficiency in preschool children and anemia in pregnant and lactating mothers.

During a three-week period in May and June 1996, USAID's Center for Development Information and Evaluation evaluated the U.S. food aid program in Indonesia. A six-person team examined the economic, political, and social effects of the program and identified its principal beneficiaries. This impact evaluation reports on the team's findings.

ECONOMIC IMPACT

Indonesia has been one of the best-performing developing countries over the past 30 years. But until 1965, when an abortive communist coup foreshadowed the decline of President Sukarno and the ascendancy of General Soeharto, nothing in the country's history suggested that sustained rapid economic growth was likely, or even possible. Anthropologists such as Clifford Geertz considered Java—which holds two

thirds of Indonesia's people—to be in a Malthusian trap, incapable of feeding itself or of maintaining its existing level of living standards. Economists such as Benjamin Higgins were nearly as gloomy.

The U.S.-trained economic team that took over management in 1965 inherited a chaotic economy. Inflation was 650 percent, food shortages were rampant, and the country was in effect bankrupt. The Soeharto team quickly restored a semblance of order to government and instituted a long-run strategy for the country's development. Economic policy embraced three elements: a balanced budget, rural investment, and free convertibility of the currency.

In combination, the three provided a sound overall policy framework and made possible economic growth averaging 7 percent a year from 1966 through 1994, or 4.3 percent per capita. Gauged in 1992 dollars, per capita income rose from \$207 in 1965 to \$880 in 1994. The record on poverty reduction is even more impressive. By one income standard, the proportion of Indonesians in poverty fell from 60 percent in 1965 to 14 percent in the early 1990s.

The emphasis on agriculture and rural investment was an important element in the country's outstanding economic performance. It led to fast growth in rural incomes and greater equality in income distribution. The rural investment paid off in increased rice production, as the country shifted from being the world's largest importer to rice self-sufficiency by 1984. This occurred despite large increases in domestic rice consumption, as per capita daily caloric intake rose from 1,800 to 2,600.

Effects of Food Aid

There are four main channels through which food aid could have had an economic impact at the aggregate level: 1) by providing additional real resources to Indonesia, 2) by pro-

viding additional budgetary resources for development purposes, 3) by providing leverage for USAID to induce policy changes, and 4) by helping develop an effective rural public works program. The role of food aid in each area is discussed below.

Resource Transfers

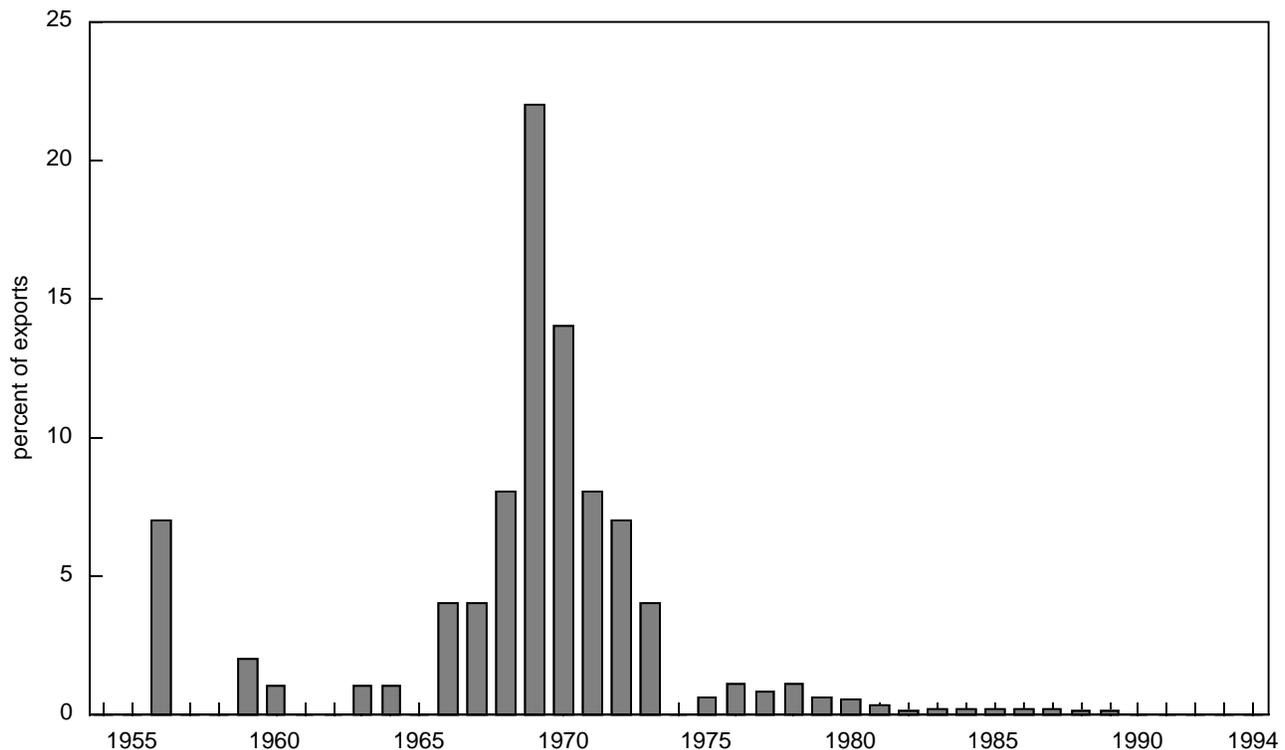
Overall, PL 480 food aid has added less than 1 percent to the foreign exchange Indonesia earned from its exports. But its importance varied over three distinct periods: 1) the Sukarno era (1954–65), when food aid was a marginal addition to Indonesian resources, 2) the early Soeharto era (1966–73), when food aid provided a substantial addition to foreign exchange resources; and 3) the later Soeharto era (1974–95), when, following the oil crisis, food aid again became marginal. Figure 3 shows the time profile of food aid in relation to Indonesian export earnings. In constant dollars, 12 percent of all U.S. food aid was provided during the Sukarno

period, 54 percent during the early Soeharto period, and the remaining 34 percent after 1973.

Sukarno period (1954–65). There is no evidence that food aid made any contribution to Indonesian growth during the Sukarno period. Economic policy had an adverse effect on sustained growth. The government operated without developing sound budgets and used administrative controls for much of its resource allocation. Food prices were kept low to favor urban consumers, and food aid would only have made this policy easier to maintain. However, food aid resources were limited during this period (see figure 1).

Early Soeharto period (1966–73). A number of high-level Indonesian officials and U.S. academics were interviewed on the role of food aid during this period. They were unanimous in their view that food aid played a major (some used the term “crucial”) role in supporting the reform efforts of Soeharto’s economic team.

Figure 3. U.S. Food Aid as a Share of Indonesian Exports, 1955–94



Sources: USAID; U.S. Overseas Loans and Grants; World Bank.

Without a large economic assistance program from the United States, of which food aid constituted over half, the Soeharto government could well have failed.

Later Soeharto period (1974–95). As shown in figure 3, food aid has provided only a marginal contribution to Indonesian foreign exchange resources since 1974. It fell from less than 1 percent of export earnings in 1975–80 to less than 0.1 percent during the 1980s. Such flows could hardly have made the difference attributed to earlier food aid.

Budgetary Effects

The local currency counterpart funds from Title I assistance were administered by the Indonesia National Planning Agency as part of the country's development budget. The counterpart funds flowed into an account that included money from other donors, and government budgetary procedures were used to track and account for expenditures. USAID attempted early on to determine the specific uses of the counterpart funds, but the government largely resisted these efforts. Both sides agreed the funds should support rural investment, but the National Planning Agency had considerable flexibility within general categories. Only in a few specific cases, such as rural electrification, could USAID identifiably be associated with any change in priority.

Indonesia has, since 1966, steadfastly refused to use deficit financing, and this has meant there was always a "hard" budget constraint. Only if additional money was available would additional government spending take place. The effect of this policy was to ensure that the local currency counterpart funds did provide additional spending for development purposes. Had counterpart funds not been available, the development budget would have been reduced by the same amount. During the early 1970s, food aid counterpart appears to have accounted for as much as one third of the development budget.

Thus, food aid did permit additional development spending. Because government investments were of relatively high quality, the resources provided by food aid had a high payoff for the Indonesian economy.

Policy Leverage

Food aid was not used as leverage to induce policy change in Indonesia. During the Sukarno period, the United States had no influence on government policy, and Sukarno frequently denounced U.S. policy.

After Soeharto took control, the U.S. government accepted Indonesian policies as satisfactory and used food aid to buttress them. This is not to say there may not have been times when U.S. officials encouraged actions by the Indonesian government on economic or political issues. In fact, that did happen, and the evidence suggests the Indonesian government listened when U.S. officials spoke. Nevertheless, there was never any explicit policy conditionality for U.S. food aid, nor were there cases where U.S. food aid was withheld to enforce policy action.

Rural Public Works

Although it did not leverage policy reform, food aid was an important factor in the government's approach to rural infrastructure development. During the late 1960s, district-level government was given food aid to undertake labor-intensive public works during slack agricultural seasons. Projects were selected and administered with the sole requirement 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.)

The success of this approach led the Indonesian government to institutionalize it as a form of revenue-sharing in 1970. Under government management, workers were paid in money rather than food, a shift made feasible when

oil revenues came on-stream in the mid-1970s. 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 since been credited with producing rural prosperity both by generating incomes and by improving rural infrastructure.

Potential Negative Effects

According to Indonesian policymakers from the era of high levels of food aid, the government was quite satisfied with this form of assistance. But there were some problems, including short-run uncertainties associated with supply. In 1970, for example, food on its way to Indonesia was diverted to Vietnam.

This was a case of U.S. political priorities undercutting Indonesian import supply management on very short notice. Similarly, the United States was unable to provide meaningful amounts to Indonesia during the worldwide rice-supply crisis of 1974.

When food aid is supply driven, the mix of commodities available as food aid is determined by the commodities that happen to be in surplus. The efficiency of food aid is diminished by the inclusion of commodities that would not otherwise have been imported. The major example of this in Indonesia was bulgur wheat, especially in the years 1968–73. Bulgur wheat was an unknown commodity considered suitable only as animal fodder.

People on food-for-work projects may generally prefer payment in cash to payment in kind. However, when Indonesia’s hyperinflation was not yet under control, Title II food commodities had a major advantage over wage payments in cash. Money was losing its value instantaneously and continuously, and recipients valued payment in kind as a reliable and credible form of real remuneration.

Food aid did not appear to have distorted the structure of Indonesian imports. Until 1984 the country continued to be a major food importer. Moreover, because of the government’s emphasis on domestic food production, food aid was never allowed to reduce incentives to producers.

That Indonesia kept rice prices above world levels ensured that food aid would not have a disincentive effect on domestic production. It also helped redistribute income to rural producers from urban consumers (in contrast to many developing countries that do the opposite).

SOCIAL IMPACT

The food aid program in Indonesia could have had three kinds of social effects: 1) an effect on nutrition; 2) an effect on attendance rates at posyandu, the community health centers; and 3) an effect on the communities in which the food aid programs were implemented.

Nutritional Effect

It is unlikely that food supplementation alone had a direct or sustainable impact on improving the nutritional status of children under 5 with moderate to mild malnutrition. However, the rate of severe malnutrition in children has fallen substantially in Indonesia since 1970. Moderate and severe malnutrition (when a child’s weight is 80 percent or less of the norm for the child’s age) decreased from 51 percent to 40 percent from 1986 through 1994. However, a moderate-and-severe malnutrition rate of 40 percent is much higher 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.

This may reflect in part the criteria health post personnel in Indonesia use to assess nutritional

status. A child is considered nutritionally healthy as long as he is gaining weight—regardless of his nutritional status as defined by international standards of weight for age. Traditional practices that do not provide adequate nutrition for infants and small children during weaning may also contribute to Indonesia's relatively high rate of malnutrition.

Comparing the results of the centers supported by the Family Nutrition Improvement Program—the UPGK—with the results of centers supported by Title II yields this conclusion: except for the most severe cases, food aid has had a limited effect on malnutrition. As noted, the major objective of the UPGK was to improve nutrition at the village level. In the 1980s village “weighing posts” were integrated with other primary health care and family-planning services into posyandu.

In 1986 the UPGK was supporting 124,000 posyandu staffed by village volunteers known as *kader*. By 1989 the number of posyandu had nearly doubled, to 230,000. The health centers are located in almost every village in all 27 provinces of Indonesia.

UPGK-supported posyandu are of two types. The *basic* program weighs children monthly. It also provides immunizations, food supplements, nutrition education, vitamin-A and iron tablets, family planning, and supplementary feeding (ended in 1990 as a cost measure). The *complete* UPGK posyandu program includes all the elements of the basic program plus a rehabilitative feeding component for children who fail to gain weight. It provides 400 to 500 calories per malnourished child every day for three months.

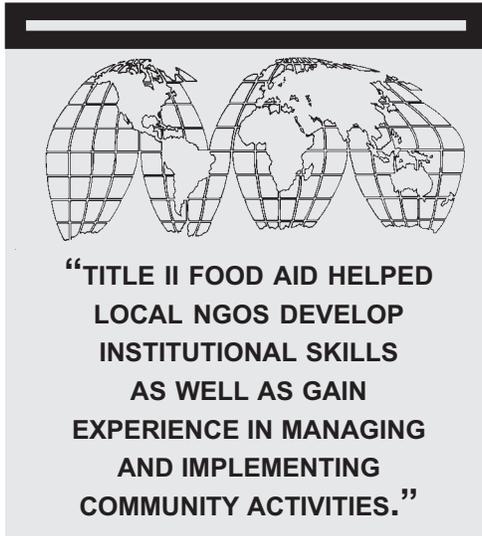
Title II maternal and child health activities concentrated on enhancing the quality and number of services provided through posyandu. The program funded infrastructure improvements and trained kader to weigh children and counsel mothers. It also provided four kilos of rice and two kilos of wheat–soy blend, valued at about \$1.55 in 1996, to each participating mother once a month.

The rice ration was consumed by the entire household, not just the intended beneficiaries (lactating mothers and children under 5). Therefore, it met the needs of a family of five for only two to three days.

Similarly, the wheat–soy blend, although intended only for children, was often consumed by the whole family.

Therefore, it is unlikely the food aid supplements had any significant effect on the nutritional status of children under 5. Nor did these relatively small rations, provided only monthly, reduce family food expenditures by any significant degree.*

A 1982 USAID-funded evaluation compared nutritional outcomes of UPGK-supported programs with Title II–supported programs. It concluded that UPGK-supported maternal and child health activities had a greater impact than Title II activities on reducing the number of children under 5 with mild or moderate malnutrition.



*In contrast, food-for-work programs served to increase food consumption among poor people, obviating their need to purchase the dietary staple. The ration given to each participant was large enough to cover the rice needs of a family of five during the work period. Food for work involved no specific target with respect to malnutrition.

However, Title II–supported activities had a greater impact on reducing the number of children under 5 who were *severely* malnourished. No other studies comparing the programs have been conducted; thus, these conclusions cannot be confirmed.

Several studies have concluded that posyandu in general have been an important factor contributing to reduced malnutrition rates in Indonesia. A 1990 UNICEF-supported study, for example, attributed half the change in nutritional status to the posyandu programs established throughout the country in the late 1980s; the other half was attributed to increased incomes.

Other studies, though, note significant weaknesses in the posyandu program. These weaknesses may contribute to the persistently high rate of mild to moderate malnutrition (in the face of progress noted). They include high kader turnover rates; uneven quality of services and counseling provided by kader;* targeting of 4- to 5-year old children instead of 1- to-2-year-olds; use of weight gain rather than nutritional status to measure malnutrition; and the absence of a significant proportion of children from any posyandu activities.

Food Aid and Posyandu Attendance

Food aid may have contributed indirectly to nutritional improvements by encouraging mothers to attend posyandu. During the 1970s, attendance rates for Title II–supported maternal and child health programs were three to

four times greater than for UPGK-supported programs. After the UPGK expanded its efforts, differences in attendance rates continued, but they were not as large.

A 1989 evaluation funded by Catholic Relief Services found, for example, that the attendance rate at Title II–supported centers averaged over 70 percent compared with 63 percent at centers not supported by food aid. A 1996 CRS evaluation reported average attendance rates increasing to more than 80 percent at centers with food aid compared with only 60 percent at centers without food aid.

Indonesian counterparts to Catholic Relief Services staff explained to the CDIE evaluation team that food supplementation played a significant role in increasing attendance at posyandu. Extensive fieldwork conducted over the past 15 years has produced substantiating evidence of this. This conclusion was not, however, fully supported during site visits in Central Java and Lombok. Not one of the 16 mothers interviewed gave food aid as a reason for attending. Instead, the mothers said they participated to learn about their children’s development and to receive counseling and immunization services. This suggests that food distribution today is not as important as it was in encouraging attendance at the centers.

Impact of Food Aid On Local Communities

The food-for-work and the maternal and child health programs had important social benefits. Title II food aid projects helped local NGOs develop institutional skills as well as gain experience in managing and implementing community activities. But most local NGOs cannot support themselves through internal income-generating activities, and they lack the ability to request grants or other forms of external funding. Some Title II–supported posyandu did develop income-generating ac-

*In some cases, for example, the kader were trained to interpret health charts differently under the two respective programs, UPGK and Title II. This caused confusion among the kader and resulted in inconsistent reporting of data to both the participants and the government. In other cases, UPGK staff and their counterparts in Catholic Relief Services were unaware of each other’s food supplementation activities.

tivities, which sometimes became financially self-sustaining enterprises.

The assets created by food-for-work projects provided social benefits to local communities beyond the employment they generated. This was particularly true when the projects were chosen by the community, as they were better supported, managed, and maintained. The social benefits typically included increased access to government health services and schools and increased skill development of participants.

FOOD AID AND POLITICAL STABILITY

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. According to this theory, threats of communist power seizure in any one country in Southeast Asia were related to the outcomes in other nearby states.

Historical Perspective

Upon independence from the Netherlands in 1949, Indonesia faced extraordinary economic and governance difficulties: Income per capita was notionally under \$100. Communications between the vast number of islands (17,000—6,000 inhabited) were poor. People in the outer islands resented Javanese dominance. The widespread and culturally diverse population groups had seldom been unified in a self-governing polity, and education and preparation for administration had been grossly neglected. Yet despite these fundamental problems, for 15 years following independence, economic management was subordinated to political mobilization. President Sukarno pursued a course of economic nationalism, increasingly aggressive anti-Western rhetoric, and military threats against what was then Malaya.

In 1965, in an atmosphere of economic crisis, several army generals were assassinated in a coup attempt launched by the Indonesian Communist Party. General Soeharto, not caught in this web, took leadership of the army and crushed the coup. A bloodbath ensued in which Communist Party ranks throughout the islands were annihilated. Estimates of the number killed run as high as 500,000. Indonesia's economy was then in worse shape than it had been at independence. Hyperinflation was in progress. Most critical was the skyrocketing price of rice.

These events took place against a backdrop of open warfare or guerrilla insurgencies throughout the region, most notably the war in Indochina. The new regime in Jakarta recognized that restoring economic stability (in the short run) and putting the country on a development path (for the long run) were essential to political and social stability. Fulfilling these objectives was also necessary if the government was to consolidate and legitimize its own position.

The overarching goal of U.S. assistance was to help the new government realize these objectives and avoid a reversion to the policies of the Sukarno era. The government's ability to accomplish these ends rested, to a considerable extent, on Soeharto's appointment of a small group of U.S.-trained economists to positions of economic management. Indonesia's outstanding economic growth since then has resulted from the continuity of the sound policy framework they designed and from Soeharto's long, uninterrupted tenure.

Food Insecurity: The Destabilizing Potential

Rice was one of the keys to domestic stability in the critical years of the late 1960s and early 1970s. Rice production in Java in 1965 was no higher than before World War II. Per capita rice consumption fell 15 percent from 1960 to 1965 as imports declined because of a foreign ex-

change shortage. Under the severe balance-of-payments constraints of those years—the country lacked foreign currency to buy rice from abroad—aid financing was essential to meet the country's cereals gap. Rice the United States provided under PL 480 was an important factor in closing that gap. It took several years before the government succeeded in creating an efficient system for rice procurement, storage, stock management, and distribution. Nonetheless, the system worked well enough, with aid-financed and commercially procured rice imports, to maintain rice and general price stability for the first six years.

In 1972–73 the country's susceptibility to rice shortages and price rises, and the politically destabilizing potential of food insecurity, were demonstrated again when domestic and international rice production dropped sharply. Indonesia was caught unprepared. By late 1972 rice prices had doubled in parts of the country.

The drop in U.S. production left the United States unable to supply Indonesia—then the world's largest rice importer—with meaningful quantities. U.S. food aid was halved in 1973 and fell to zero in 1974 (see figure 2, page 5). The deteriorating economic situation triggered an outpouring of student demonstrations over a variety of grievances in addition to the rice crisis: inflation, corruption, and foreign investment, especially Japanese. The demonstrations culminated in street violence, and some deaths, in January 1974.

Unlike many developing countries at the time, Indonesia put high priority on agriculture and

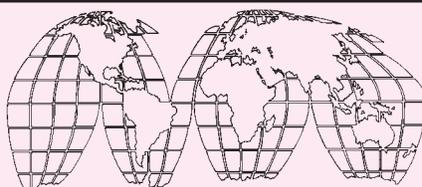
on raising farm income. Two factors in 1973–74 created the basis for ultimately eliminating rice instability as a problem for Indonesian governance: 1) the rise in oil prices (in 1973, and again in 1979) greatly increased the country's import capacity, and 2) high-yielding rice varieties were introduced. Domestic production did not catch up with consumption until 1984, but the combination of oil revenue (easing the country's import constraint) and rising payoff of agriculture policies and programs gradually reduced the need for, and the role of, U.S. program food aid until its phaseout in 1989.

Food aid made two other significant contributions to political stability, though not of the magnitude of the Title I commodity transfers. First, food-for-work projects in the late 1960s and early 1970s initiated the decentralized village-based rural

works model that later became the Inpres program, the country's major (oil revenue-financed) mechanism for resource transfers for rural development.

This massive program of fiscal largesse created a sense among Indonesia's peripheral regions (with some conspicuous exceptions) that they were participating in, and incorporated within, the country's overall development. The program thus contributed significantly to Indonesia's relative political stability.

Second, food aid provided a basis for American technical inputs and policy advice directed toward improving the efficiency of the food distribution system and the price stabilization program of the late 1960s and early 1970s, as well as toward the drive for rice self-sufficiency.



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Future Prospects

Compared with the experience of most other countries that achieved independence following World War II or compared with its own history of turbulence under Sukarno, Indonesia has maintained remarkable social and political stability. However, the growing wealth and economic complexity, the emergence of a middle class, and the rising level of general education have not been accompanied by significant political evolution. Indonesia continues 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.

Besides the regional discontents (such as East Timor, which seeks autonomy), students, journalists, and others have been critical of certain shortcomings in Indonesia's development. They point to problems such as corruption, concentration of industrial ownership among a small group close to the president, and an establishment political philosophy that generally interprets expression of basic political or institutional disagreement as destabilizing behavior.

Indeed, the government has not allowed truly independent political parties to exist. Critics have had few avenues for political expression other than demonstrations in the streets that, on rare occasions, have ended in violence and in great shock to the elites. Uncertainties over succession to Soeharto, and the limitations of the formal procedures for legitimate transfer of power, also pose serious problems for long-run political stability.

In sum, economic progress under sound economic management has created the basis for Indonesia's successful emergence from highly unstable and mismanaged beginnings. Scholars of Indonesia and leading participants in the country's economic management credit U.S. aid, and rice aid in particular, as having played a vital role in the precarious post-Sukarno years.

After those initial years when adequate rice supplies helped restore economic and political stability, U.S. food aid (and U.S. aid generally) can be credited with modest but meaningful contributions toward sustaining the growth that has underpinned the country's relative political and social stability. In the long run, maintaining social and political stability will depend on domestic political evolution in a context where food aid is no longer pertinent.

FOOD AID AND EQUITY

U.S. food aid supported Indonesia's equitable growth strategy—especially during the initial years of the Soeharto government—in three ways: 1) it differentially benefited poor food producers and consumers, 2) it targeted rural and other disadvantaged regions of the country, and 3) it strengthened health services in poorer communities and income-generating activities of women.

Poor Producers and Consumers

The benefits of economic growth have been widely shared in Indonesia over the last three decades. From 1970 through 1995, incomes of the poorest segment of the population grew substantially faster than incomes of the wealthiest (see table 1). At the same time, the portion of people in absolute poverty was reduced from 60 percent of the population to 14 percent. The World Bank concluded that Indonesia had one of the most favorable records of income distribution of all countries reporting such data in 1990.

Although poverty reduction was widespread throughout the country, the populous Javanese provinces still contain the majority of poor people. And although equity was improved, mean per capita incomes in the western provinces of Sumatra and Java continue to be substantially higher than in the eastern provinces.

Income-distribution analyses (using “Gini coefficients”) were done in 1984 and 1993 within each of Indonesia’s 27 provinces. They show a stable and relatively equitable distribution of income, although incomes in the poorest fifth of the population lost some ground between 1980 and 1990.

Why was growth so equitable, and what did food aid have to do with it? Of central importance was Indonesia’s growth strategy. Initiated in 1966, the strategy placed highest priority on increasing food production, maintaining stable rice prices, and investing in rural infrastructure—all basic elements of a food security strategy.

Land distribution was relatively equal, which meant successful implementation of the strategy was likely to benefit the bulk of the poor: smallholders (largely rice producers) and low-income food consumers. (The two were often one and the same.)

Because rice prices were maintained above world levels, on average, rice producers were the initial beneficiaries. Applying high-yielding varieties boosted outputs, and real incomes of poor smallholders grew threefold. As the domestic food supply increased, prices stabilized at a lower level—thereby enhancing household food security.

Especially in the late 1960s and early 1970s, U.S. food aid helped support successful implementation of Indonesia’s growth strategy. In 1969, more than 5 percent of the Indonesian grain supply was provided under PL 480 Title I, enabling the government to maintain stable rice prices. In addition, the local currency generated from the sale of food aid was invested in rural infrastructure needed to complement—indeed, permit—improvements in agricultural productivity. Irrigation canals were rehabilitated and extended, roads widened, bridges built, food storage facilities constructed, and flooding controlled.

Table 1. Income Distribution and Growth, Indonesia, 1970 and 1995

Income Quintile	Income Shares (%)		Per Capita Income (constant US\$)		Annual Growth (%)
	1970	1995	1970	1995	1970–95
1 (poorest)	6.6	8.7	99	435	6.1
2	7.8	12.1	117	605	6.8
3	12.6	15.9	189	795	5.9
4	23.6	21.1	354	1,055	4.5
5 (richest)	49.4	42.3	741	2,115	4.3
Average			300	1,001	4.9 ^a
Ratio (line 5 ÷ line 1)	7.5:1	4.9:1			

^aAverage growth rate = $\left(\frac{PCI_{1995}}{PCI_{1970}}\right)^{1/25} - 1$.

Source: Work in progress by Peter Timmer.

Note: 1970 income data are from Indonesian government survey data. 1995 figures are based on projections using the newly revised national income accounts.

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. Title I agreements required specific self-help measures in areas such as

- Producer price incentives (1967, 1968)
- Agricultural research and education (1968, 1977, 1985)
- Agricultural input supply and credit (1967, 1968, 1977)
- Improved grain marketing and storage (1977)
- Road construction and maintenance (1967, 1984, 1985, 1986)
- Irrigation rehabilitation (1982, 1984, 1986)
- Agricultural cooperatives (1982–86)
- Rural electrification (1984, 1985)

Poor Geographic Regions

Both the Indonesian government and U.S. PVOs implemented food-for-work programs funded with U.S. food aid. And both programs zeroed in on poor geographic regions.

Government Public Works And Employment Program

U.S. food aid played a major role in supporting the government's labor-intensive food-for-work program. This support created employment and agricultural assets while encouraging a structure of public investment that favored poor people and poor areas. Title II food aid supported the Labor-Intensive Public Works Program. During the early 1970s, a period of severe food shortage and underemployment, the United States provided food rations to one to

two million workers annually. In return, they built public works and agriculture infrastructure in rural Java.

In the mid-1970s the government replaced the food-for-work program with a cash-for-work program, using oil revenues as the source of payment. The concept of targeting a portion of public investment to meet the needs of poor areas by building public assets persists today. The Inpres account of the development budget provides hundreds of millions of dollars in block grants each year to poor undeveloped villages. It's an impressive legacy for a food aid program that cost less than \$30 million.

Food-for-Work Programs Implemented by U.S. PVOs

From its inception, food for work was viewed as a means to reach the poor, and private voluntary organizations were particularly adept at seeking out poor provinces and districts in which to undertake such activities.

Catholic Relief Services and Church World Service, which had been active in Indonesia as early as 1957, continued food-for-work programs after efforts of the Indonesian government ceased. Catholic Relief Services was by far the largest implementor of such programs and the PVO with the most experience. Over the years, Catholic Relief Services has supported nutrition, transmigration, emergency, and food-for-work programs in 16 of the poorer provinces. Regular nutrition and food-for-work programs were carried out in 12 of these provinces.*

Although criteria for selecting the poor areas were largely intuitive and often politically influenced, these provinces in 1990 were, on average, more than twice as food-poor as prov-

*North Sumatra, South Sumatra, Lampung, West Java, Central Java, East Java, West Nusa Tenggara, East Nusa Tenggara, West Kalimantan, North Sulawesi, South Sulawesi, and Southeast Sulawesi.

inces not served by the organization. That is, an average of about 12 percent of the population of the 12 Catholic Relief Services provinces were food-poor compared with only 6 percent of the 15 non-CRS provinces (see table 2).

As poverty rates in these 12 areas declined, Catholic Relief Services moved on to poorer provinces. By 1992 the organization was operating regular programs in only four provinces (Lampung, West Nusa Tenggara, East Nusa Tenggara, and West Kalimantan). These areas had an average rate of food poverty of 19 percent, nearly triple that of non-CRS provinces, at 7 percent.

Food for work represented a significant in-kind income transfer to lower income areas, if not the poorest families in those areas. This probably had a short-term positive effect on household food security in targeted villages. For one month's work, one family member could receive up to 50 kilos of rice. In 1995 that represented nearly 10 percent of the income of a five-member family in the fifth of the population with the lowest incomes.*

In 1987–88 nearly 150 food-for-work projects had been completed or were under way. These mainly involved road-building, agricultural land improvement, and water control. The value of the food aid (including insurance and freight) provided under these projects exceeded \$10 million in 1987. The food typically reached 100,000 recipients a month (including both workers and their dependents).

Two factors contributed to the projects' success. First, the projects were demand driven. And second, they were screened by local NGOs to ensure that benefits were likely in fact to materialize and that the activities would likely be maintained. These assets had an impact on agricultural productivity and food security in these areas.

*In 1995 the price of rice was 800 rupiahs per kilo, or 40,000 rupiahs per 50 kilos. Using a foreign exchange rate of 2,300 rupiahs = \$1.00, 50 kilos of rice costs \$17.39. In 1995, income for the poorest fifth of the population was \$435 a year per person (table 1), or \$2,175 a year for a family of five, or \$181 a month for a family of five. And \$17.39 is 9.6 percent of \$181.

Table 2. Catholic Relief Services Food Aid Programs, Indonesia, 1970–96

Period	Food Poor (%) ^a 1990	Underweight (%) ^b	
		1978	1992
Provinces With CRS Regular Programs			
1970–96	12.1	56.2	42.5
1992–96	18.6	59.0	47.7
Provinces Without CRS Regular Programs			
1970–96	5.7	51.0	38.3
1992–96	6.8	52.5	38.9

^a The food poor are those who subsist below the food poverty line, defined as the cost of the minimum food basket for households typically of the lowest 15 percent expenditure group. See World Bank, *Public Expenditure, Prices, and the Poor*, 1993, p. 129.

^b Under 80 percent of weight for age for children under 5; average calculated from gender-disaggregated data reported by the Ministry of Health.

Health Services and Income-Generating Activities

Maternal and child health programs supported by Title II food aid improved primary health care services in the same poor provinces and remote communities as the food-for-work programs. These programs probably slightly improved the equity of health services delivery and health and nutrition outcomes. Although food supplementation, as such, generally failed in the late 1970s to reduce the prevalence of mild to moderate malnutrition among children under 5, it did help severely malnourished children.

Then in the mid-1980s, Indonesian NGOs (counterparts of Catholic Relief Services) began to improve the capabilities of community health volunteer women (*kader*) and physical facilities of the *posyandu*. The food aid encouraged mothers to attend the *posyandu*, and the capacity of counterparts to support *posyandu* improved. Without food aid, though, their continuing capacity to do so is in doubt.

The *posyandu* network—part of child survival programs in Indonesia in the 1980s—was more successful than any other aspect of the health system in differentially reaching the poor. By 1994, Catholic Relief Services was assisting nearly 700 *posyandu* and nearly 50,000 recipients in poor areas in the outer islands. However, this was less than 1 percent of the estimated 240,000 *posyandu* in the country.

In the early 1980s, Catholic Relief Services began helping women participants of maternal and child health programs to generate income for their families. This initiative recognized that feeding programs alone could not sustain *posyandu* or improve the incomes and food security of the poor.

By 1989, NGO counterparts had transformed mothers' contribution funds into women's savings and lending clubs. By 1994, more than 500 such clubs had been created, each with an av-

erage membership of 40 women. Loan repayment rates have been high, and most women have reported increased family incomes as a result of the enterprises they financed through the clubs.

LESSONS LEARNED

The CDIE assessment of the role of food aid in sustainable development in Indonesia suggests several lessons to help guide future programs in other countries.

1. *Economic policy.* Food aid can make a significant contribution to sustainable development when it is provided in support of a sound macroeconomic policy environment.

Soon after the Sukarno regime slid from power in 1966, Indonesia developed a sensible policy framework designed to restore economic order, initiate income growth, promote agricultural development, invest in rural infrastructure, and maintain price stability for rice. During the ensuing 30 years, the government stayed the course.

This economic policy environment, coupled with high-quality economic management, enabled U.S. food aid to be especially effective—even though in most years it represented a relatively small proportion of Indonesia's domestic grain supply. U.S. food aid programs supported the government's policy objectives by

- Freeing up foreign exchange that otherwise would have been used to buy rice commercially on the international market
- Making more money available to support development activities
- Generating employment and creating rural infrastructure (especially roads and irrigation facilities) through food-for-work projects.

U.S. food assistance was instrumental in helping Indonesia move from being the world's largest rice importer and one of the poorest countries in 1966 to rice self-sufficiency in 1984.

2. Monetization. Local currency generated from the sale of food aid can contribute to sustainable development when the money is used to support a sound, development-oriented budget or when qualified NGOs use the money to fund high-priority development activities.

In the late 1960s and early 1970s, before oil revenues became significant, proceeds generated 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, noninflationary revenue sources for funding public sector investment activities, given the government's policy against deficit financing. They were commingled with other budgetary resources and used to fund government programs designed to achieve food self-sufficiency, a goal attained in 1984.

Monetized food aid also supported rural community development activities. For example, the National Cooperative Business Association used these funds to create cooperatives involved with various income-generating activities. CARE used monetized food aid to develop water and sanitation systems in rural areas.

3. Political stability. When political stability in the short run depends on an adequate food supply at reasonable prices, food aid can provide the critical margin.

The rice crisis in 1965 was an important factor undermining the Sukarno government. The incoming government of President Soeharto recognized that rice price stability and supply adequacy were critical, since no government could stay in power if it was unable to ensure

an adequate rice supply at reasonable prices. Accordingly, it emphasized development of the agriculture sector and creation of a rice security system. At the same time, the United States resumed food aid shipments to Indonesia following five consecutive years of zero or marginal assistance. The food aid was essential in stabilizing the rice market and supporting the Soeharto government.

Although the relative importance of food aid diminished greatly as Indonesia's oil-export revenues increased, those *initial* six or seven years, when the new Soeharto government was just beginning to shape key agriculture sector policies, were critical. Food aid, as the main instrument of resource transfer, provided the basis for a close and sustained U.S. association with a range of food and agriculture policy issues. So despite its higher transactions costs (it's cheaper to mail a check than to ship bulk rice) food aid was an effective vehicle for engaging the government on such matters.

4. Equity. Food aid can be an important vehicle for supporting growth strategies and public resource transfers that differentially benefit lower income groups.

Indonesia has a large agriculture sector in which many farmers have access to land. The government's strategy to achieve rice self-sufficiency differentially benefited these farmers and other low-income groups because it rested on increasing rice yields. As a result, consumer rice prices could be maintained at a relatively low level, one the poor could afford. They were not so low, though, as to undermine producer incomes and production incentives. U.S. food aid, at least in the early years, enabled the United States to help shape the government's equity-oriented growth strategy and to ensure its successful implementation.

U.S. food-for-work programs also differentially benefited lower income groups because they generated employment and created rural infra-

structure in the poorer areas of the country. Paying workers with food, rather than cash, was particularly appropriate during certain periods of hyperinflation, when a dollar's worth of rice was more valuable than a dollar's worth of rupiahs. The implementing NGOs also preferred a direct supply of food to cash because of the logistical problems in finding and buying food in Indonesian surplus areas and shipping it to the many areas of the Indonesian archipelago in need of food.

5. Nutrition. In the short term, food aid appeared to contribute indirectly to nutritional improvement by stimulating attendance at community health posts in poor communities.

Available evidence suggests that in the late 1970s and early 1980s, when Indonesia's community health services were limited, supplementary feeding programs were effective in reducing *severe* malnutrition among children under 5. However, these programs were less effective than existing government programs in reducing the incidence of *mild* or *moderate* malnutrition among children in the same age group.

Still, supplemental feeding programs may serve as a catalyst, contributing indirectly to nutritional improvement, since they appear to stimulate mothers' attendance at posyandu, the village health posts. And when mothers participate in monitoring their children's growth and nutrition education and counseling, they are likely to use good child-care practices and to accept the basic health services available. Once supplemental feeding programs end, at-

tendance rates decline only insignificantly. That suggests that what is most important is nutrition and health education—with or without supplementary feeding. The government has concluded there is little reason for it to bear the cost and effort of supplemental feeding programs through posyandu.

6. Two pitfalls: reliability and commodity selection. Food aid is not always a reliable source of food. Some food aid commodities unknown in the recipient country may be accepted only reluctantly.

In 1970, PL 480 food aid proved to be unreliable when a shipload of American grain, only two days from Indonesia, was diverted to Vietnam. The Indonesian government had to scramble, first to find a rice supplier, and then to find the money to buy the rice. Then again in 1973, when worldwide rice supplies were depressed, the United States was unable to provide significant food aid to Indonesia. Food aid dropped from more than \$100 million in 1973 to zero in 1974. These instances demonstrate the weakness of food aid that depends on "surplus" stocks in the donor country.

Although wheat is not grown in Indonesia, it is a known commodity, and demand for it increased rapidly after it was introduced. Bulgur wheat, by contrast, was an unknown commodity. Although Indonesians eventually learned to prepare it as a rice extender, they initially considered it animal food, and in some instances that is what it was used for. The government's acceptance of the bulgur reflected the dire straits the country found itself in.

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