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Impact Evaluation

United States Agency for International Development

FOOD AID IN THE SAHEL
$1 Billion Investment Shows Mixed Results

Grain shipped to this drought-prone region has fed people in desperate need. Despite a slow start, food aid has since the mid-1980s encouraged policy reform, coaxed better grades from schoolchildren, and taught mothers about health and nutrition. But ambiguities abound, and little evidence exists of major strides in sustainable development.

SUMMARY

Over the past 38 years the United States has provided $1 billion in food aid to the West African nations of Burkina Faso, Cape Verde, Chad, the Gambia, Guinea–Bissau, Mali, Mauritania, Niger, and Senegal. Lying in or along the drought-prone region known as the Sahel, they are among the poorest countries in the world.

About half of American food aid donations have supported emergency programs, including those administered by the World Food Program; these programs fall outside the scope of this assessment. The other half of American food aid has supported long-term development activities including 1) food policy reform leveraged by program food aid, 2) investments in food security using counterpart funds, 3) employment generation and infrastructure development with food for work, 4) nutritional improvement through maternal and child health programs, and 5) educational improvement through school feeding programs.

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The record of this aid is mixed. Programs that sought long-term outcomes have had difficulty generating measurable results. Some, such as maternal and child health programs, have largely failed to achieve their principal objectives, in this case nutritional impact on young children. Others, such as school feeding programs, have generated positive and measurable results but present challenges in sustainability. Still other programs, such as those dealing with policy reform and food for work, have succeeded in many cases, but the full effects are difficult to measure because of problems of attribution and potentially negative side effects.

Program food aid and economic policy reform. Poverty reduction depends more on growth-producing economic policies than on food aid donations. The United States has provided $166 million of food aid over the past 20 years to Sahelian governments to promote improvements in economic policies, especially in agriculture. This has proved challenging because of an internal contradiction: food aid tends to strengthen state agencies and facilitate state intervention in food markets at the same time the role of the state needs to be reduced to encourage private sector–led growth.

In the early 1980s, USAID's efforts were often confounded by this contradiction. But by the mid-1980s, when conditionalities became directed at market liberalization, food markets had become more efficient. Because many of the policy reform successes in the Sahel were achieved through coordinated action of USAID and other donors, it is inappropriate to attribute the changes solely to USAID.

Program food aid and counterpart funds. Local currencies generated through the sale of program food aid have been invested in a wide variety of activities. Some have yielded positive returns (such as tree planting to stabilize dunes); some have yielded negative returns (financing state marketing agencies); and some have yielded ambiguous returns (strengthening an agricultural marketing board). Ambiguities have also arisen about the ownership and fungibility of counterpart funds. This has often led to disputes on how to program the money, account for it, and report on its uses.

Food for work. Overall, food for work has a good record as a tool to target food to the poor during severe droughts in the Sahel. Its record as a tool for longer term development, however, is mixed and poorly documented. In some cases, food for work has served to build useful public works, but in others it has created low-quality infrastructure of limited value. In some cases it has facilitated community development projects, but in others it has weakened the spirit of self-help necessary for genuine community initiative.

Maternal and child health programs. MCH programs have a long but generally weak record in the Sahel. Most have been managed by Catholic Relief Services. Evaluators have consistently failed to find a positive nutritional impact from these programs. This could be due to at least two factors: 1) there *is* no nutritional impact or 2) there are methodological problems. Failure to show measurable results led to the closure of most maternal and child health programs in the Sahel by the late 1980s.

The MCH experience did show, however, that children under 2 are generally more likely to benefit nutritionally, and in a measurable way, from targeted feeding than are older children. It also showed that MCH education programs (as distinct from nutrition improvement programs) generally improved mothers' knowledge and practices about health and nutrition.

School feeding programs. American food aid supported only two school feeding programs in the Sahel, and information is available only on the larger one, carried out in Burkina Faso for over 30 years. Evaluators found evidence that this program had a positive impact on children's nutrition, attendance, and academic achievement.

BACKGROUND

The hot, parched region known as the Sahel sprawls across the nine West African nations of this report: Burkina Faso, Cape Verde, Chad, the Gambia, Guinea–Bissau, Mali, Mauritania, Niger, and Senegal. With an average per capita income of only $324 and a life expectancy of 47 years, these countries are among the poorest in the world. They are bound together by shared problems of low rainfall, frequent drought, and proximity to the southern edge of the advancing Sahara.

An estimated 90 percent of the Sahelian population is engaged in agriculture, but food production is insufficient for local needs. Since 1960 the United States has provided $1.032 billion in food aid to these nations.

The Sahel became known internationally mainly because of the terrible famines it suffered in 1973–74 and in 1984–85, disasters that killed tens of thousands of people. It was during these periods that the Sahel received the largest shipments of food aid. But under Public Law 480, American food aid has flowed to the region each of the past 38 years under a variety of programs, with famine relief being only one among many objectives.

The United States has been by far the largest bilateral supplier of food aid. It has provided about a quarter of the total flow, or about four million metric tons of commodities.

This food aid has been delivered to the Sahel through six types of programs, some managed directly by USAID, others by private voluntary organizations (PVOs), and others by the UN's World Food Program.

1. *Emergency programs.* Food aid, consisting mainly of wheat, sorghum, corn, and rice, has been distributed to populations devastated by drought and famine. Emergency programs have been managed through partnerships between USAID and PVOs. Twenty-one percent of American food aid to the Sahel has consisted of such emergency distributions.

2. *Maternal and child health programs.* U.S. food aid has been distributed by PVOs to mothers and their babies at health centers throughout the Sahel. At the centers, staff provide nutritional education, weight monitoring, and supplementary food rations. Fourteen percent of U.S. food aid to the Sahel has been distributed in this way.

3. *School feeding programs.* In Burkina Faso and the Gambia, Catholic Relief Services has distributed PL 480 food aid to primary schools. School administrators use it to provide regular meals to students, with the goal of increasing attention and attendance. PVOs have also provided food aid to orphanages and other institutions that serve the indigent. These programs represent 13 percent of American food aid to the region.

4. *Food-for-work programs.* PVOs have used PL 480 to hire and pay poor people to do manual labor in the construction of rural roads, soil and water conservation works, and other projects. Food-for-work programs have attempted to provide employment and income to the poorest of the poor, while building useful infrastructure. Usually workers are paid with food rations, but over the past five years several PVOs have "monetized" their food aid. They sell it on local markets and use the proceeds to pay cash wages to workers. Food for work, including monetization, represents 9 percent of PL 480 uses in the Sahel.

5. *Government support and policy reform programs.* USAID has provided food aid directly to Sahelian governments to encourage them to liberalize their economic policies, with the goal of improving opportunities for agricultural and economic growth. Under these programs, known as Title I, Title II section 206, and Title III, USAID has allowed recipient governments

to sell the food aid on local markets, after agreeing to two sets of conditions. The first consists of reforms to economic policy; the second consists of commitments to invest the proceeds of food aid sales in programs that enhance national food security. Government support and policy reform represent 16 percent of PL 480 assistance to the Sahel.

6. *World Food Program.* The United States has provided food aid annually to this UN organization for use in a variety of initiatives in the Sahel, including emergency feeding, school feeding, maternal and child health centers, and food for work. Twenty-seven percent of all U.S. food aid to the Sahel has been delivered through the World Food Program.

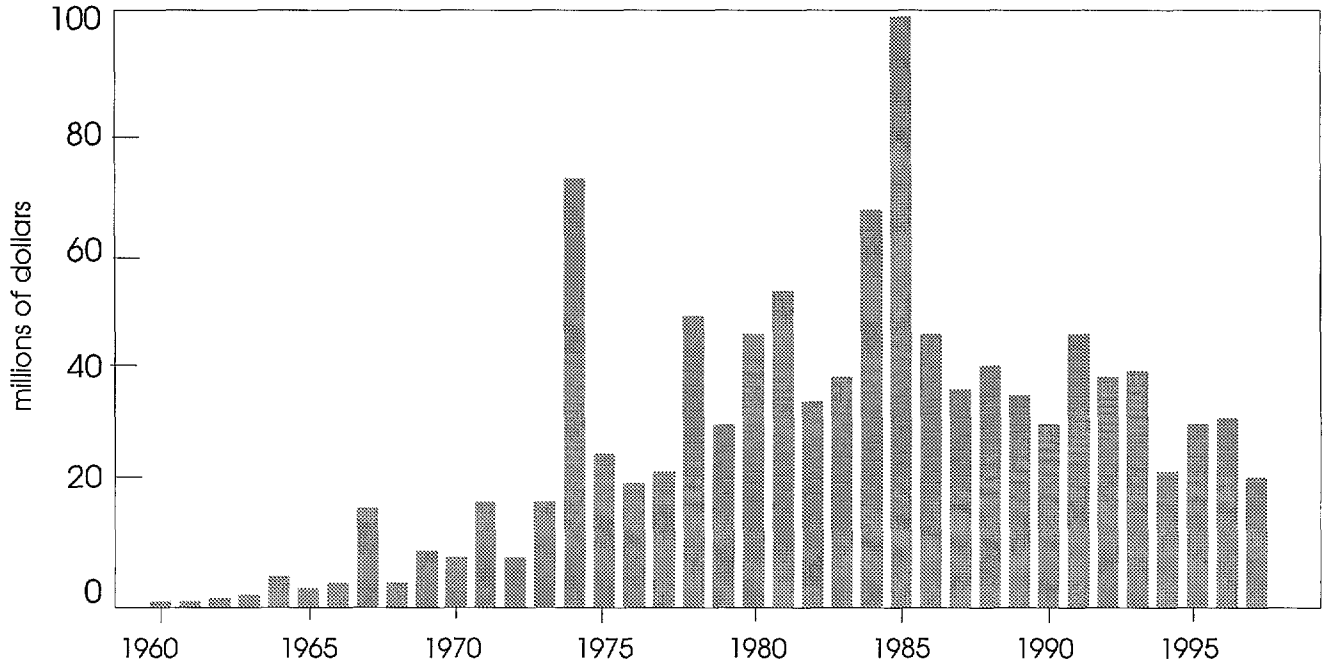
The scope of work for this case study excludes that part of U.S. food aid destined for emergency relief operations or distribution by the World Food Program. The study is based on a review of 75 evaluations of individual programs in the nine Sahelian states, general reports on food aid, statistical sources, and interviews with USAID officials who worked in Sahelian programs and are currently based in the United States.

STATISTICAL OVERVIEW

American food aid flows to the Sahel are presented in figure 1. Deliveries were highest during the famines of 1973–74 and 1984–85. Before the first famine, deliveries averaged about $5 million annually, but since 1974 they have averaged more than $30 million a year, including transportation costs.

The different programs under which U.S. food aid has been delivered are shown in figure 2 as portions of the total value of just over $1 billion. Food aid that is provided directly to governments to support policy reform is generally called *program food aid,* whereas food aid that is provided to private voluntary organizations

Figure 1. U.S. Food Aid Levels to the Sahel, 1960–97



Sources: U.S. Overseas Loans and Grants, 1995; *1997 USAID Congressional Presentation;* Food for Peace 1997 Provisional Data

(PVOs) for maternal and child health, school feeding, and food for work is generally called *project food aid.*

About 25 percent of all food aid to the Sahel is donated directly by the United States, the largest bilateral donor. Of all American development assistance to the Sahel, about a third has been in food aid. Burkina Faso and Senegal have been the largest recipients of U.S. food aid in the region, but on a per capita basis Cape Verde tops the list. Table 1 on page 6 presents some summary statistics.

ECONOMIC EFFECTS

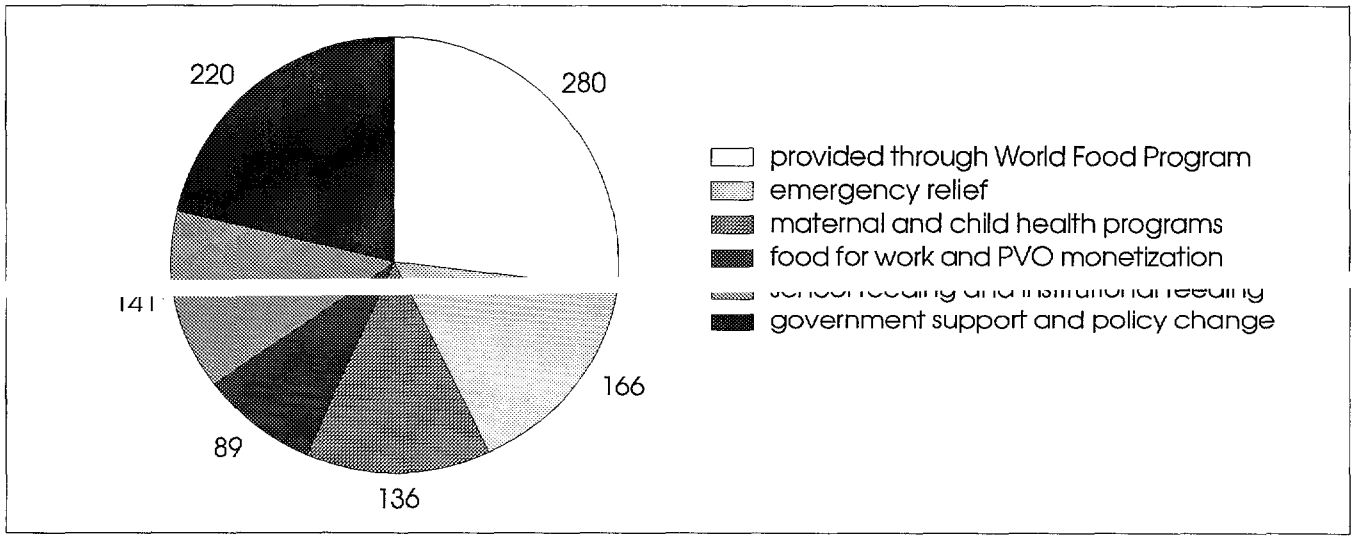
American food aid has had four major types of economic effects in the Sahel: 1) potential effects on agricultural prices; 2) budget support for recipient governments, allowing for foreign exchange savings and increased public sector spending; 3) policy effects through conditions associated with food aid; and 4) development effects through infrastructure created by food-for-work projects. Three of these effects are discussed below. The issue of food for work is deferred until later in the evaluation, as its goals and results have been primarily humanitarian rather than economic in practice.

Potential Effects On Agricultural Prices

Critics of food aid have asserted that it floods local markets with foodstuffs, driving down producer prices for farmers and harming incentives to produce. To analyze this criticism we must distinguish between emergency food aid, project food aid, and program food aid.

Emergency food aid is distributed to people who are unable to buy food because of disasters. Providing free food to such people normally does not significantly affect agricultural prices because such destitute people do not have purchasing power and are therefore outside the normal food market. Similarly, project food aid is destined for distribution to people with very limited purchasing power—poor mothers, schoolchildren, and the very poor. Project food aid to such people probably does

Figure 2. U.S. Food Aid to the Sahel by Program, 1960–97, By Value in Millions of Dollars



Note: Total is $1.032 billion.

Sources: U.S. Overseas Loans and Grants, 1995; Food for Peace 1997 Provisional Data.

not cause major market disruptions, because these people represent only a limited amount of solvent demand for food and the amounts distributed to them are usually minor. Both emergency food aid and project food aid probably have exerted some downward pressures on food prices in the Sahel at times, but the evaluation literature makes little mention of these effects and generally concludes that they have been minor, localized, and temporary.

Program food aid is different, because the food is sold on commercial markets to consumers with real purchasing power. It therefore has the potential to drive down market prices significantly. Whether it actually drives down prices depends largely on whether it is *in addition to* or *in substitution for* other food imports. If it is additional, program food aid increases the overall supply of food in the market and almost necessarily drives prices down. If, by con-

Table 1. Selected Food Aid and Economic Indicators

	Gross National Product per Capita, 1994, in Dollars	Years of U.S. Food Aid	U.S. Food Aid 1960–97 In Millions Of Dollars	U.S. Food Aid As a Percent of All U.S. Economic Aid 1960–97	Percentage of All Cereal Consumption Covered by Food Aid 1971–94	Percentage Of Cereal Imports Covered by Food Aid 1971–94
Burkina Faso	300	1962–97 *(36)*	241	60	3	31
Cape Verde	930	1975–97 (23)	73	51	38	40
Chad	180	1962–97 (36)	94	32	5	41
The Gambia	330	1965–97 (33)	51	29	7	17
Guinea–Bissau	240	1976–97 (22)	28	28	10	27
Mali	250	1965–97 (33)	129	19	4	27
Mauritania	480	1960–97 (38)	99	49	18	24
Niger	230	1964–96 (33)	94	16	4	32
Senegal	600	1962–97 (36)	223	26	5	12
Average	**393**[a]	**(32)**	**115**	**34**	**10**	**28**

[a]Weighted average of $324.

Note: 1996 and 1997 food aid figures are provisional.

Sources: U.S. Overseas Loans and Grants, 1996; World Bank Development Indicators; UN Human Development Report, 1996; 1997 USAID Congressional Presentation; The World, 1995 (the Third World Institute); OECD Public Development Assistance Committee database, 1996; Food and Agriculture Organization on-line database, 1996.

trast, it simply substitutes for other imports, it does not increase net food availability and does not significantly affect prices.

Most analysts have concluded that program food aid in the Sahel has served as a substitute, at least in part, for commercial food imports. An independent study of food aid in Senegal, for example, concludes that the government "mainly uses food aid to substitute for commercial imports." An analysis by Peter Timmer, writing in a U.S. Department of Agriculture publication, suggests that program food aid imports "substitute on roughly a dollar-for-dollar basis for commercial food imports," and "such imports do not represent a net addition to national food supplies, and hence do not have a disincentive price effect on producers. . . ."

Budget Support For Recipient Governments

The U.S. government provides program food to recipient governments, which sell it on their own markets, generating large amounts of money to supplement their budgets. The United States has provided Sahelian governments with $166 million worth of program food aid over the past 20 years. This sum includes food provided on concessional or grant terms under Title III and Title II section 206 ($127 million) and food provided on soft-loan terms under Title I ($39 million). All countries have been recipients except Niger and Guinea–Bissau.

Program food aid has been popular with Sahelian governments because it has increased their budgets, allowing them to expand public expenditures or reduce deficits without raising new taxes. Moreover, program food aid has represented not just more money in public coffers but more *foreign exchange* in public coffers. This is because in many cases recipient governments have substituted program food aid for their own commercial imports of food, thereby saving the foreign currency they would have had to expend on such imports.

In countries such as Cape Verde, the Gambia, and Mauritania, limited availability of foreign exchange has often been a binding constraint on imports; therefore, the fact that food aid has freed up foreign currency has increased the importance of such aid. It has allowed these governments to directly import additional goods or to facilitate increased imports by allocating the foreign exchange to private importers. In countries that use the Communauté Financière Africaine franc as their national currency (Burkina Faso, Chad, Mali, Senegal), the fact that the money saved has not been in the form of foreign exchange has not been as critical, because the CFA franc has been freely convertible.

When the United States provides budget support through program food aid, it generally attaches two sets of conditions. The first relates to how the extra money is spent, and the second relates to changes in the recipient government's policies. The first set of conditions, known as local currency programming, is discussed below. Policy conditions are taken up in a later section.

USAID has influenced how governments spend the money generated from program food aid through negotiated agreements. The Agency specifies the government programs or projects to which the extra money should be allocated, usually favoring agriculture. Although program food aid increases the amount of foreign exchange available to a government, USAID traditionally has not attempted to influence how this money is allocated. Instead, it has concentrated on how local currencies generated from the sales of the food are spent. These local currency generations are often called *counterpart funds.*

The extra public expenditures that counterpart funds have made possible have had economic effects worth noting. These include funding agriculture and forestry projects, financing grain-mar-

keting activities, and reducing government indebtedness. Uses of local currencies are discussed below, starting with the largest recipient.

From 1980 through 1994, the Agency provided $87 million worth of program food aid to **Senegal.** The government sold the food on the local market and used the generated money to fund a large number of projects to develop agriculture and forestry. Funds were also used to pay off the government's outstanding debts to banks caused by bad agricultural loans. USAID did not conduct detailed evaluations of these projects individually, making it difficult to assess their economic effects. A summary evaluation conducted in 1987 concluded that "needed infrastructure was built; important policy studies were undertaken; the natural resource base was conserved; pilot projects were launched; and policy reforms were reinforced." A 1991 audit, however, concluded that the use of counterpart funds to pay off old debts was unlikely to renew banks' interest in the agricultural sector, as it was intended to, and it was unlikely to help poor farmers.

Mauritania received $13.9 million in program food aid during 1980–89. The food was sold to generate local currency, which was used to pay

- Costs incurred by the government's cereals marketing agency during the monetization process
- Construction of warehouses for the government's cereals marketing agency
- Construction of 279 kilometers (173 miles) of rural roads
- Statistical studies (including a Living Standard Measurement Survey)
- An agroforestry project implemented in cooperation with the Peace Corps
- Ancillary costs associated with organizing food-for-work projects

Evaluations of these investments conducted in 1984 and 1989 concluded that the allocation of local currency conformed with the programs' goal of increasing food security and rural development. But the evaluations did not examine the *effect* of the investments. Instead, they examined administrative and policy reform conditions, especially problems related to accounting for the counterpart funds. This was an area of constant tension between USAID and the government of Mauritania. More time was probably spent on accounting disputes than on discussions about the substance of agricultural investment or policy reforms.

Cape Verde received $18 million worth of program food aid from 1982 through 1990. The government monetized this food and used the local currency proceeds to fund construction of soil and water conservation works—large schemes designed to create employment for the poor while improving the natural resource base. USAID provided funding for international technical assistance and supplies for these schemes, while the government used counterpart funds to pay the workers' wages. As a result,

- Four thousand rural laborers were employed annually.
- Some 4.2 million trees were planted on 23,000 hectares (89 square miles) of land.
- Two thousand check dams and 11 catchment dams were constructed.
- Six thousand meters of irrigation canals were built.
- More than 240 kilometers (150 miles) of road was repaired.

USAID granted **Burkina Faso** $6.5 million worth of program food aid during 1980–84. The local currency generated was provided to the state cereal-marketing agency for construction of warehouses and financing of annual cereals purchases on local markets in an attempt to

support farm-gate prices. Only scant information is available on the effectiveness of these investments, but there is reason to be skeptical. By the mid-1980s most donors had moved away from supporting state intervention in cereals markets, promoting instead a more liberalized approach. This topic will be taken up later in this evaluation.

The Agency provided **Mali** with $9 million worth of program food aid during 1984–89. The government monetized the food aid and then pooled the currencies with funds generated from other donors' food aid for use in a coordinated effort to restructure the country's cereals markets. Originally, the local currencies were allocated to the state grain-marketing agency to allow it to pay higher prices to farmers. But after a few years of great difficulty in supporting farm-gate prices, the programming of local currencies shifted away from the state agency and toward private and cooperative cereals traders. Thus, local currencies were used to

- Provide credit to farm cooperatives, enabling them to purchase grain from their members and hold it for later sale
- Establish a rolling credit fund for private merchants for use in grain storage operations

These investments had mixed results. Some borrowers played the market smartly and repaid the funds; others played the market less successfully, incurring losses and struggling with repayment. Both programs, though, helped signal the donors' commitment to support private alternatives to state marketing.

USAID granted **the Gambia** about $9 million worth of program food aid from 1986 through 1989. The local currencies generated were allocated primarily to the recapitalization of the Gambia Produce Marketing Board, a state agency. USAID agreed to this allocation of currencies with an eye to preparing the board for eventual privatization—a goal achieved after long delays. A 1991 evaluation concluded that the local currencies helped settle arrears between the board and the banking sector, contributing to greater order in public finance. The evaluation praised the contribution the program made in promoting policy reform. This is discussed below.

Chad received $8.1 million worth of program food aid. The counterpart funds generated were used to buy local cereals to constitute an emergency food security stock for use by the government only in emergency situations.

Guinea–Bissau and **Niger** did not receive program food aid from the United States.

Policy Effects

In the Sahel, as in other parts of the world, USAID has set conditions in its agreements to provide program food aid. The Agency requires recipient governments to make specific policy changes deemed to promote economic development. The influence these conditions have had on government policies is part of the overall impact of program food aid. In the Sahel these conditions originally aimed to increase official producer prices as an incentive to expand agricultural production. Later, the conditions shifted away from the concept of official prices and promoted liberalization of agricultural markets. The results of the major programs are discussed below.

In **Senegal** the first Title III program agreement (1980–84, $28 million) required that the government make a number of policy changes, including increasing official farm-gate prices for peanuts and cereals. The government met these requirements and entered into a dialog with USAID over agricultural policy in general. As a result, USAID initiated a second program of food aid deliveries worth $37 million. The new agreement set a number of conditions, including deregulation of domestic cereals markets

and progressive privatization of input distribution. On the whole, USAID's conditions were met and Senegal's agricultural policies were liberalized. It would be incorrect, though, for the Agency to claim all the credit for these changes. Since 1980 the World Bank and the International Monetary Fund (IMF) had incorporated cereals-marketing liberalization in their list of structural adjustment conditions. Nonetheless, U.S. participation in the liberalization dialog was substantial, and the PL 480 programs increased USAID's leverage.

In 1992–94 USAID granted the government a third multiyear program of food aid. The $22 million program was associated with conditionality for the reform of policies relating to forestry and rice marketing. Liberalization of the rice market was achieved largely in the last two years, greatly facilitated by the 1993 devaluation of the local currency, the CFA franc. According to a 1996 USAID report, "successful privatization of long-grain rice in 1993 under the PL 480 Title III program . . . [is] significantly improving the efficiency of rice marketing in Senegal and promoting greater food security."

In **Mali**, USAID used food aid to influence government policy on domestic cereals marketing. The Agency provided $9 million worth of program food aid during 1984–89. The government monetized the food and then pooled the currencies with funds generated from other donors' food aid for use in a coordinated effort to restructure the country's cereal markets—the Program to Restructure Cereal Markets, known by the French abbreviation PRMC. This program is considered a major success.

The program proceeded in two phases. The first phase emphasized increasing producer prices and liberalizing access to the grain trade. Until 1980, the government had pursued a socialist ideology that involved a state monopoly in all grain trading. By 1981 all players recognized that this system had stifled production and generated corruption. It had, moreover, helped only the privileged urban classes to buy grain at low official prices. The donors made a proposal: if the government would increase the prices it paid farmers and end its monopoly, the donors would supply food aid to the government for five years. That would allow it to maintain low prices for its urban constituencies while paying incentive prices to farmers. The government agreed, and the donor-supported liberalization process was under way. Grain began to flow more freely around the country, and farmers were encouraged by more remunerative prices.

During the second phase, in exchange for further food aid, the government agreed to liberalize the prices of coarse grains altogether and to overhaul the state marketing agency. The agency agreed to end interventions intended to stabilize grain prices (these were expensive and unsuccessful) and concentrate on managing an emergency food security stock. Similar conditions set down by the IMF strengthened the government's resolve to carry out the reforms.

A 1993 USAID-sponsored review of PRMC judged it a success and made additional observations worth noting:

> The guaranteed flow of food aid and the creation of the common fund sold the reforms to the government. . . . These elements made it easier for policy champions to win over the President to the reform, and allowed the President to appease those of his allies who opposed the reforms. . . . Although the resources of the PRMC might appear small, particularly relative to WB/IMF structural adjustment loans, they helped the government to calm urban consumers at a time when salaries were frozen under WB/IMF conditionality.

In **the Gambia,** USAID linked food aid to policy reform from 1986 through 1989 under a program that provided $9 million worth of food aid. Under the agreement, the government committed to liberalize rice and fertilizer marketing, increase prices paid to groundnut farmers,

and announce a plan and schedule for privatizing the Gambia Produce Marketing Board.

USAID's food aid donation was part of a larger donor effort to support policy reform in the Gambia. The conditions laid down by the Agency overlapped to a large degree those laid down by the IMF and World Bank. The results were positive, but they cannot be attributed solely to USAID. Nonetheless, a 1991 evaluation commissioned by USAID concludes that the food aid program helped liberalize rice and fertilizer markets and led to a Gambian commitment to privatize the marketing board.

Counterpart funds generated from the food aid helped recapitalize the board, allowing it to pay increased prices to groundnut producers. The funds may also have increased the board's attractiveness for eventual privatization. The evaluation also points out that during 1986–89, the performance of the groundnut sector improved substantially, owing to liberalization and favorable weather conditions.

In **Mauritania**, USAID used food aid to leverage policy reform during 1982–89 under two programs. Local currency was generated through the sale of $13.9 million worth of food. In the first agreement the Agency obtained a commitment from the government to increase the prices paid to farmers for wheat and sorghum by its state marketing board as a means to boost domestic production. In the second agreement, the government agreed to promote private sector participation in grain marketing, begin liberalization of agricultural inputs marketing, and reduce the amount of free food distributions, particularly at harvest times.

USAID's 1989 evaluation of the Mauritania program concluded that the government met most of the conditions, if unevenly: "The price of imported wheat is at import parity; a gradual and controlled liberalization in agricultural input markets and cereal markets is taking place; and free food distributions have declined." The evaluation noted, however, that the World Bank began extensive structural adjustment negotiations with the government during this period, and its policy reform agenda was taken more seriously by the government.

Much less information is available about other efforts to use program food aid to leverage policy changes. In **Burkina Faso** a program in the early 1980s concentrated on reforming the state marketing agency, trying to shift its efforts from protecting consumers to encouraging farmers. In **Cape Verde,** USAID linked its food aid program to government commitments to increase maize prices for domestic producers. And in **Chad** program food aid was used to ease the creation of an emergency food security stock. USAID did not use food aid for policy reform in **Niger** or **Guinea–Bissau**.

Overall, program food aid agreements appear to have had a significant and positive effect on agricultural policy in much of the Sahel. Provision of food aid earned USAID a place at the table for policy dialog and caused Sahelian governments to consider seriously the role of higher prices in encouraging production and the role of the private sector in making food marketing more dynamic.

Program food aid, however, also had negative effects on policy, particularly in the late 1970s and early 1980s. During this earlier period, program food aid may have served to strengthen state cereals marketing monopolies more than it facilitated their liberalization. Program food aid was handled almost exclusively by government marketing agencies, which sold the food and subtracted their expenses from the proceeds. The food aid thus provided important financial support for these agencies and tended to reinforce their dominant position.

In some cases, program food aid may also have postponed economic adjustment more than it facilitated it. The aid probably helped governments sustain overvalued exchange rates, for example, hurting agricultural competitiveness

and exports. And large flows of program food aid may have allowed governments to underinvest in agricultural production, sustain inappropriate state marketing agencies, and substitute counterpart funds for improvements in local tax collection systems.

These negative effects were significant in the 1970s and early 1980s, but by the mid 1980s USAID had become more adept at using food aid as a lever for policy reform and coordinating with the structural adjustment initiatives of the World Bank and the IMF. The Agency's food aid programs began to support more effectively liberalization of Sahelian agricultural policies and the involvement of the private sector. As a result of these and other pressures, governments had significantly liberalized their agricultural policies by the late 1980s and early 1990s. There is some evidence this liberalization increased agricultural productivity in the region, although the effect is difficult to quantify.

THE EFFECT OF FOOD AID ON POLITICAL STABILITY

Many believe that food aid can provide political support to a regime by helping ensure food availability at acceptable prices and thereby avoid instability that could lead to a regime change. Some degree of political stability is considered a precondition for economic development.

The applicability of this thesis to the Sahel is difficult to judge. No documented cases exist in which American food aid was rushed to a Sahelian government to shore it up at a time of instability caused by shortages. Nor have there been cases where American food aid was suddenly cut off, triggering shortages or regime changes. Moreover, the literature on food aid in the region makes little mention of political effects.

That said, it is plausible that food aid provided some support to existing political regimes. Program food aid freed up foreign exchange for governments to import other goods. It generated budget support through local currencies that could be spent on politically popular domestic projects. In the 1970s and early 1980s, food aid helped support state marketing agencies in several countries that supplied subsidized food to civil servants and other urban constituencies.

At the same time PL 480 programs can be said to have supported existing governments in the Sahel, they can also be accused of helping to weaken them. Difficult policy reforms associated with Title II and Title III programs, such as increasing food prices, may have weakened political support for certain regimes in the late 1980s. Such effects, however, were probably minor, because 1) PL 480 policy conditions were usually incremental and 2) they generally were less stringent than the conditions laid down by the IMF and the World Bank. Demonstrators have taken to the streets in Mali, Niger, and Senegal to protest agreements between their governments and the IMF but not to protest PL 480 agreements with USAID.

In sum, the effect that American food aid has had on Sahelian political changes probably has been minor. And, conversely, Sahelian political changes seem to have played no major role in determining levels of American food aid to the region. PL 480 has flowed to nearly every type of regime in the Sahel, ranging from pro-American dictatorships to pro-Soviet dictatorships to democratic administrations. After a wave of democratization and multiparty elections in the Sahel in the early 1990s, overall levels of U.S. food aid did not increase.

SOCIAL AND NUTRITIONAL EFFECTS

American food aid has had direct social and nutritional effects in the Sahel through four types of programs: 1) emergency distributions, 2) food for work, 3) maternal and child health programs, and 4) school feeding programs.

All these programs fall under PL 480 Title II and involve direct, free distribution of food by PVOs. The effects of these programs are considered below, with the exception of emergency distributions, which are outside the scope of this evaluation.

Food for Work

Food for work (FFW) has been used extensively in the Sahel as a means to achieve two objectives: 1) to provide food or income to poor, underemployed people, particularly during the difficult preharvest months known as the hungry season, and 2) to create infrastructure such as roads or schools that is useful to longer term development.

Food-for-work programs have been managed by the World Food Program and a variety of PVOs in the Sahel, including Catholic Relief Services, CARE, Oxfam, and Africare. Many of the programs have their origins in the emergency distributions of 1984–85, which in many cases were later transformed into FFW projects. The FFW approach has been popular for several reasons:

- It does not have the same welfare stigma associated with free-food handouts.
- It is effective for targeting the poorest people—only those who are unemployed or very poor are willing to work for food rations, which are valued at less than market wage rates.
- The public works created through FFW can have positive development effects.

A worldwide review of food for work conducted by USAID in 1991 concluded that FFW is generally successful in reaching poor areas and targeting poor people; it is a useful device for identifying the needy in emergency situations; but the public works created have been of mixed quality, and administrative problems have abounded.

About 9 percent of American food aid distributed in the Sahel has been used in food-for-work programs administered by PVOs. Roughly 10 percent more was distributed through programs run by the World Food Program. Unfortunately, these programs have rarely been evaluated, making it difficult to assess their effects in a systematic way.

In **Niger** in the early 1980s, many small FFW projects were initiated as drought relief measures by PVOs such as CARE and Catholic Relief Services. Most had emergency status, with a limited emphasis on sustainability of assets generated. In 1985 there were 180 small community-based projects under way. One of the largest, with 800 participating households, was managed by CARE to promote soil conservation and irrigation development.

Interestingly, CARE's attitude toward FFW in Niger had shifted by the mid-1980s. In a 1985 report, the organization's director explained: "The FFW program was appropriate during the drought, but no longer. We were paying farmers to help themselves in a self-help project. It just didn't make sense." When CARE announced plans to phase out food support, farmers went on strike, and "it took almost two years for the people to get used to the idea of working without food compensation." The director added, "I would never use food aid with anything [designed] to encourage community participation. You have just got to separate the two."

In **Chad**, CARE's experience was similar. FFW was considered a highly effective mechanism during the emergency years of 1984–85, because it funneled food to the poorest drought victims. Afterward, though, the appropriateness of many of the assets created with FFW was questioned. CARE/Chad decided to end FFW during nondrought periods. The organization wanted to be sure people were working because they believed in the agricultural or forestry initiatives they were undertaking, not to receive food rations.

FFW has been widely used in **Burkina Faso** by both Africare and Catholic Relief Services. From 1968 until 1991 CRS disbursed 17,000 tons of food annually for dry-season FFW projects. The projects involved mainly well-digging, erosion control, and construction of dams, schools, and dispensaries. The projects were organized on the village level, with a village committee defining and managing each initiative. CRS provided a ration of 24 kilograms of cornmeal per worker per month.

A 1986 evaluation concluded that most projects succeeded and that FFW played a crucial role. It attributed the good results to Catholic Relief Services' emphasis on food rations as a means to create a worthwhile asset, rather than as a means to create employment. It also praised CRS's bottom-up approach (project ideas were initiated by the villagers) and the fact that only limited quantities of food were provided.

Overall, food for work has a good record as a mechanism to target food to the poorest during severe drought and other emergency situations in the Sahel. Its record as a tool for longer term development, however, is mixed. Many projects have been designed in a rush during emergency periods, with more emphasis on creating temporary employment than on building worthwhile infrastructure. As a result, the longer term development impact has been limited.

Maternal and Child Health Programs

PVOs have distributed large amounts of Title II food aid in the Sahel through maternal and child health programs, representing about 14 percent of all American food aid delivered to the region. These programs have sought to 1) improve the nutritional status of poor mothers and their babies, 2) improve the health and nutritional knowledge and practices of mothers, and 3) generate supplemental income or food through gardening or small enterprises.

The programs generally consist of monthly meetings of participants selected from poor villages during which MCH staff weigh the mothers' babies to monitor their nutritional progress. The staff provide a lecture or lesson to the gathered mothers about health or nutritional themes, such as how to treat diarrhea. In some cases the mothers are encouraged to participate in a small cooperative enterprise or garden. Lastly, each mother is provided with a food ration such as soy-fortified cornmeal to take home for supplemental feeding of the child (7 to 15 kilograms per family).

The impact of these programs has proved difficult to measure in most of the Sahel, and results appear to be mixed. Programs once existed in Burkina Faso, Chad, the Gambia, Mali, Mauritania, and Senegal, but currently operate only in two countries: the Gambia and Mauritania.

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

self-selection," the evaluation found that it was "not possible to attribute this association solely to the program." The evaluation asserted that mortality rates in the most vulnerable age groups were consistently lower for program participants than for nonparticipants. But there was no significant difference in growth, as defined by weight for age, between participants and nonparticipants of similar age and economic status from the same villages.

Burkina Faso was the site of the second largest MCH program in the Sahel, also managed by Catholic Relief Services. The program distributed $37 million worth of Title II commodities during 1969–88 in 162 centers. It reached 75,000 children and their mothers every month.

A 1981 evaluation reported that the program was providing food rations to participating families, that mothers were receiving health and nutrition education, and that children's weight was being monitored. The evaluators added, however, that it was difficult to verify if these accomplishments were actually contributing to the overall goal of ensuring an adequate rate of growth in the enrolled children. To evaluate impact, they collected statistics on the nutritional status of 416 children enrolled in 13 of the centers and compared them with statistics for a control group of 390 comparable nonparticipants.

The evaluation team found that for the age group 7–12 months, no statistically significant difference existed between the two groups. There was also no significant difference between the two groups of children 13–24 months. This may reflect the fact that (according to mothers' interviews) 68 percent of the children were still nursing. This finding is consistent with the average reported weaning age of 2 years.

For the children 25–36 months, the rates of both acute malnutrition and moderate malnutrition were considerably lower among program participants, although only the difference in the rate of moderate malnutrition reached statistical significance. The evaluators also found strong reason to believe that the children were not consuming more than a small amount of the food ration. "When all the evidence is considered together," they reported, "it seems fairly clear that the food ration is being shared among the household, and this is certainly the usual finding with the take-home feeding programs." Moreover, as reported by the mothers interviewed, education did not appear to have the desired effect on the behavior of mothers. This finding suggested the education program needed a major strengthening and reorientation.

Similarly, a 1986 evaluation by the USAID Mission described the program as "unable to demonstrate any nutritional impact." However, it considered "methodological problems" to be the most likely reason for this finding, rather than the possibility the program actually *had* no impact.

The third largest maternal and child health program was in **Mauritania**, where Catholic Relief Services distributed more than $27 million worth of Title II food aid from 1960 through 1987. Originally conceived as a vehicle for charity, the program was formally transformed into a food and nutrition program in 1978. By 1983 it was operating out of 23 MCH centers and served 50,000 beneficiaries—about 14 percent of all Mauritanian children under 6.

In 1983 the program was evaluated. The analysts found that the program reached large numbers of poor mothers and their children, but they ran into problems in measuring impact and concluded, "The effect of the ration on the nutritional status of participants is not known."

In 1987 Catholic Relief Services pulled out of Mauritania. A new American PVO took over six MCH centers operating in and around the poorest neighborhoods of the capital, Nouakchott.

The PVO, named the Doulos Community, has run these centers from that time until today. In 1995 its program was evaluated through a survey of participants and a nonparticipating control group. The survey could not find a connection between participation in the program and nutritional status. It concluded, "The length of enrollment in the program has no influence on the child's nutritional progress."

The survey did, however, demonstrate the positive, and likely long-term, effect the program's educational component had on mothers and their health practices. Many participating mothers improved their technique for and extended the duration of breastfeeding. They adopted proper weaning procedures, such as using weaning foods less likely to be consumed by the family. And they demonstrated superior knowledge about treating and preventing childhood illnesses.

In the Gambia, Catholic Relief Services has operated a maternal and child health program since 1975, distributing more than $20 million in Title II commodities in 630 villages. A 1988 evaluation found the health education component was something the mothers accepted only in order to receive the food supplement. Oil and rice distributed to the women were consumed by the entire family, with commodities lasting only two days. The assessment also noted that the growth-monitoring component was not adequately used to educate mothers on the significance of faltering growth in their children. Finally, the evaluation found that education training given to community program managers and health educators was inadequate.

In 1995, Catholic Relief Services recognized that many of its MCH programs had failed to show measurable nutritional impact. In a study, the organization argued that 1) such impact is difficult to demonstrate because of methodological problems in defining control groups and in using weight-for-age ratios as a proxy for nutritional status, and 2) short-term nutritional results are not an appropriate objective for MCH programs—it is unrealistic to expect measurable results from food rations that are usually shared by the family at home.

The paper concluded that MCH programs are more likely to show nutritional impact if they target children under 2, who show more physical response to nutritional improvements. The paper also argued that programs are more likely to show positive impact when their educational components are developed to help mothers improve their health and nutrition knowledge and practices.

School Feeding Programs

About 13 percent of American food aid to the Sahel has been distributed to primary school students through school feeding programs managed by Catholic Relief Services. The food is usually prepared and served at the school as a free lunch. The objectives are to 1) increase school enrollment and attendance, 2) improve nutritional status, and 3) improve the cognitive or academic performance of the schoolchildren. CRS also has been involved in feeding at other institutions in the Sahel, institutions such as hospitals, orphanages, and centers for abandoned women.

School feeding programs have operated in only two Sahelian countries, but they have lasted for 10 years in the Gambia and for 35 in Burkina Faso. The Burkina program has distributed more than $100 million worth of Title II food aid, and it continues to operate today.

No evaluation of the Gambian school feeding program could be located, but three were found on the program in Burkina Faso. The first, conducted in 1981, is favorable:

We found evidence that the school feeding program is having a positive effect on the nutritional status of the children, or to be more precise that the lack of it was correlated with a deterioration in nutritional status.

The conclusion is based on a comparison of the nutritional status (weight-for-height ratios) of 3,000 students who were receiving the school lunch with 3,000 who were not. It found both the prevalence of wasting (low weight for height) and moderate malnutrition were significantly higher among the latter group. The evaluation suggests that consumption of the school lunch may almost double the amount of food the children consume on a daily basis. It also cites teachers' opinions that the lunch helped increase school attendance and improve children's learning abilities and attention spans.

The second evaluation was conducted in 1986. It involved no statistical tests but expressed support for the conclusion of the earlier evaluation on nutritional status and positive effects on attendance and alertness in class. This evaluation, though, asks an additional question: "How long can this go on?" It recognizes a positive effect on students but points out there is no progress toward self-sufficiency for the schools and no exit strategy for Catholic Relief Services. It suggests the organization should provide more support to schools to grow their own food for use in lunch programs as a potential path to sustainability.

The third evaluation was conducted in 1994. It concluded that as a result of the school feeding program in Burkina Faso, 1) attendance increased between 10 and 20 percent in sample schools; 2) a significantly higher number of children were promoted in and a significantly lower number dropped out from the program schools in comparison with nonprogram schools; and 3) the exam success rate in the 10 most vulnerable provinces was 45 percent in program schools versus 38 percent in nonprogram schools. These results helped USAID decide to continue funding for the program through 1997.

EQUITY AND TARGETING ISSUES

Two questions frequently arise in relation to food aid: 1) Was it targeted to the poor? And 2) did it contribute to equitable growth—that is, economic growth that benefits the poor? In the Sahel these questions can be best answered by looking at the operation of the various mechanisms that delivered American food aid.

In the case of emergency aid, there is a consensus in the literature that PL 480 reached the poor, mainly by targeting areas hardest hit by the worst droughts. Emergency aid, though, is not a subject of this assessment.

Food-for-work programs were targeted specifically at the poor. Evaluations of these programs are spotty, but those available indicate the programs largely succeeded in providing support to people with few alternatives to the relatively low wages provided in the form of food.

As for maternal and child health distributions, the evaluation literature suggests that targeting was based mostly on geography. Centers were established in poor rural villages and poor urban neighborhoods, and applicants for participation were not screened further to check their individual poverty status. It was assumed, probably correctly, that targeting at the village or neighborhood level was sufficient, and that further attempts to separate the "poor" from the "nonpoor" would cause more harm than good. Evaluations of MCH programs in the Sahel may criticize the programs for failing to prove nutritional impact, but they do not criticize them for missing the poor; the millions of rations distributed through this mechanism went mainly to poor mothers and their families.

School feeding programs were less well targeted. In **Burkina Faso,** students in almost all primary schools benefited from the program at one time. Later, students at urban schools were dropped because they were less likely to be poor than their rural counterparts.

Overall, the program probably increased attendance and learning among all types of children in Burkina Faso, thus contributing to human capital development. But the program did not direct its efforts exclusively at the poor. Other institutional feeding programs run by Catholic Relief Services did narrow their scope to truly indigent people, such as residents of hospices, orphanages, and shelters for abandoned women.

Distributions of program food aid generally did not concentrate on the poor, nor were they designed to do so. This food aid was sold in markets to whoever had purchasing power. Most analysts agree that program food aid did little to drive down food prices; therefore, it did little to directly help poor consumers. Evidence presented by Peter Timmer suggests that because program food aid tends to substitute for commercial imports it "does not represent a net addition to national food supplies, and hence does not have a disincentive price effect on producers or a consumption (i.e., nutritional) impact on consumers."

In **Mauritania,** USAID tried to use program food aid to directly benefit poor consumers, but the results were unsatisfactory. In the mid-1980s the Agency provided Mauritania with 18,000 metric tons of red sorghum, a product considered inferior by consumers and therefore eaten only by the poor. The Agency hoped the sorghum would give the poor an inexpensive way to obtain needed calories. But a 1989 evaluation concluded the initiative failed to meet its objectives, because a large portion of the subsidized sorghum was purchased for animal feed by relatively well-off livestock owners.

U.S. legislation provides that counterpart funds generated through the sale of program food aid be programmed in ways to help the poor. In some cases in the Sahel, counterpart funds helped the poor directly, as in **Cape Verde** where they were used to create employment in public works projects. Other times they did not help the poor directly. In **Senegal,** for example, they were used to pay off old government debts to the banking sector. In still other cases their effect on the poor was ambiguous. In **the Gambia** they were used to strengthen an agricultural marketing board. Overall, the uses of counterpart funds in the Sahel were too diverse to allow a generalization about their impact on the poor.

Policy reform initiatives associated with program food aid were the mechanism through which PL 480 was most likely to contribute to equitable growth. In general, the initiatives helped liberalize agricultural markets throughout the Sahel and more efficient resource allocation. These reforms, in combination with a devaluation of the CFA franc used in six of the Sahelian countries, have borne fruit in recent years and led to increases in production and in economic growth. The problem of attribution, however, remains intractable. It cannot be stated with any certainty what part of these production increases is attributable to the liberalization. Nor can it be ascertained what part of the liberalization is attributable to the policy conditions laid down by USAID in its PL 480 agreements.

LESSONS LEARNED

Overall, the record of American food aid to the Sahel is mixed. The programs have been a learning experience, with more recent efforts improving on those of the past. Lessons learned are summarized below.

1. ***Program food aid and economic reform.*** **Program food aid is a double-edged sword. Recipient governments can use it to facilitate growth-inducing reforms, or they can use it to finance statist policies, support overvalued currencies, and postpone change.**

The aid is most likely to succeed in promoting reforms when it is provided to governments

clearly committed to reform and when it is clearly linked with policy changes that emphasize growth led by the private sector. Coordination is also important. Experience also shows that USAID has been more successful in using program food aid to promote reform when it has coordinated closely with other donors, particularly the World Bank.

In the long run, poverty reduction depends more on growth-inducing economic policies than on food aid donations. Programs such as Title I, Title II section 206, and Title III have tried to leverage the latter to achieve the former. This has proved challenging because of an internal contradiction: food aid tends to strengthen state agencies at the same time the role of the state needs to be reduced to encourage private sector–led growth. In the early 1980s, when PL 480 policy reform was first used in the Sahel, USAID's efforts were often confounded by this contradiction, and food aid continued to facilitate state intervention in food markets, though at higher prices than had been customary. By the mid-1980s USAID had learned from these early experiences. The Agency improved its approach and began to use food aid more effectively to promote policy reform.

2. *Program food aid and counterpart funds.* **Monetization of program food aid has resulted in significant budget support for recipient governments.**

The counterpart funds associated with program food aid have been invested in a wide variety of activities. Some, such as tree planting to stabilize dunes, yielded positive returns. Others, such as financing Burkina's state marketing monopoly, yielded negative returns. And for some the return was ambiguous, as with paying off Senegal's banking debts. USAID's participation in the programming of these counterpart funds has allowed their uses to be tracked and steered in the direction of government projects deemed positive for rural development.

Although there is little doubt the funds have been appreciated by recipient governments and have helped finance public goods, one must wonder whether USAID's involvement in their programming has been worth the costs. In reviewing evaluations of PL 480 policy reform programs, one is struck by the amount of time, ink, and goodwill that has been spent on debates between USAID and national governments over the uses of counterpart funds. Ambiguities about the degree of U.S. control over these funds and their inherent fungibility have consistently led to disputes on programming.

Detailed accounting and reporting requirements have confused governments that would prefer to integrate the funds into their normal budgetary processes. The confusion and administrative complexities absorb too much time on both sides and may hurt a government's capacity to develop its own public investment procedures. By supplying program food aid only to governments with budgeting systems in which it has some confidence, USAID may be able to simplify its counterpart programming and reduce the associated administrative and reporting costs.

3. *Food for work.* **FFW can be a useful tool for both targeting the poor during relief operations and supporting sustainable development projects. To succeed, however, FFW must be well managed and used for carefully designed projects. Moreover, donors must always be vigilant for potential behavior-distorting effects of FFW and take steps to minimize them, particularly in community development projects.**

Overall, food for work has a good record as a tool to target food to the poorest people during severe droughts in the Sahel. Its record as a tool for longer term development, though, is mixed and poorly documented. In some cases FFW has served to build useful public works, but in others it has created low-quality infrastructure of limited value. In some cases it has facilitated