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**AN ASSESSMENT OF THE IMPACT OF USAID'S  
PL-480 TITLE II AND TITLE III PROGRAMS  
ON THE POOR IN BOLIVIA**

**Strategies for International Development**

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## Preface

Strategies for International Development conducted this assessment of USAID/Bolivia's PL-480 program from FY 89 to 94 using a variety of existing studies, evaluations, and reports of the different components of the program. The assessment was carried out by Glynne Leonard, Virginia Wheaton, and Charles Patterson.

Strategies for International Development would like to thank Salvatore Pinzino and Luis Fernando Moreno for their kind help in providing the evaluations, reports, and other documents that made this assessment possible. They have obviously worked with considerable dedication for a number of years to improve the PL-480 Title II and III programs, particularly the Title II program, and they have been very successful in doing so.

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## I. EXECUTIVE SUMMARY

The PL-480 program has been USAID/Bolivia's largest single program for the period from FY 89 to FY 94. It has been a third of the Mission's portfolio during this period.

**Table 1: The PL-480 Program as a Percentage of All USAID/Bolivia Assistance to Bolivia, FY 89 to FY 94 (\$000,000)**

<u>Year</u>	<u>Development Assistance</u>	<u>Economic Support Funds</u>	<u>PL-480 Program</u>	<u>All Programs</u>	<u>PL-480 as Percentage of All Programs</u>
FY 1989	25	12	33	70	47.1 %
FY 1990	25	33	34	92	37.0 %
FY 1991	24	76 *	37	137	27.0 %
FY 1992	28	99 *	38	165	23.0 %
FY 1993	27	60 *	47	134	35.1 %
FY 1994	20	32	37	89	41.6 %
Totals	149	312	226	687	32.9 %

\* Includes \$6.2 million in FY 91, \$19.7 million in FY 92, and \$10 million in FY 93 funds which were subsequently deobligated due to shortfalls in meeting coca eradication targets.

Source: USAID/Bolivia

The Title II portion of the PL-480 program has used an average of 35,000 metric tons of food commodities each year to provide 32,000 temporary jobs a month for unemployed urban residents in more than 100 cities, hot breakfasts and lunches for 230,000 school children in nearly 3,000 primary schools, and supplementary feeding for 32,000 indigent persons a month. In addition, 19,500 metric tons of wheat flour have been sold each year and the proceeds have been used to increase agricultural development in 400 to 500 poor rural communities a year, provide primary health services in more than 700 rural communities, and provide training in business skills and credit to 3,000 women a year in poor periurban areas.

The Title III portion of the PL-480 program has sold an average of 145,000 metric tons of wheat a year and created a fund of approximately \$18 million a year to fund projects which increase food security. The monies have been used to fund the Bolivian government's counterpart contribution to USAID/Bolivia's anti-coca, alternative development program, \$8 million per year;

a special program to increase wheat production, \$4 million per year; general agricultural development, \$3 million per year; provide health services in rural areas, \$2 million per year; and protect natural resources and the environment, \$1.5 million per year.

The goal of the PL-480 program is to increase the food security of the Bolivian population. The purposes are to increase the availability of food by increasing agricultural production and productivity, increase access to an adequate diet, and improve utilization of food once it is consumed by reducing the health problems that hamper utilization.

USAID/Bolivia has four strategic objectives: expanded economic opportunity and access; improved family health; improved effectiveness and accessibility of key democratic institutions and practices; and the reduction of the degradation of forest, soil and water resources, and the protection of biological diversity. Food security is not one of USAID/Bolivia's strategic objectives, but it is a cross-cutting issue which contributes to and is affected by the achievement of each of these four strategic objectives.

The remainder of this executive summary is divided into two sub-sections. The first sub-section describes the contributions of the PL-480 program to the achievement of food security during the last six fiscal years, from FY 89 to FY 94. This discussion is organized by the three purposes of food security programs: food availability, access to an adequate diet, and food utilization. The second sub-section describes the contributions of the PL-480 program to the achievement of sustainable development. This discussion is organized by the four strategic objectives of USAID/Bolivia: economic opportunity, family health, democratic development, and environmental protection.

Strategies for International Development conducted an assessment of the PL-480 program from FY 89 to FY 94, using a variety of existing studies, evaluations, and reports of the different components of the program. This report summarizes the findings of this assessment.

#### A. Contributions to Food Security

Table 2 on the following page lists the PL-480 programs which contribute to achieving each of the three purposes of food security in Bolivia. Three Title II programs distribute PL-480 commodities to beneficiaries: municipal food for work (MFFW), school feeding, and humanitarian assistance. These are referred to as "Food" programs. The Title II program also sells, or "monetizes", 19,500 tons of wheat flour a year. The approximately \$6 million in proceeds are used to fund agricultural development, women's economic development, and rural

child survival health programs, and these are called "Monetization" programs. The Title III programs sell approximately 145,000 metric tons of wheat a year, and the \$18 million a year in proceeds are used to secure policy reforms as well as fund programs.

**Table 2: Contributions of the PL-480 Program to Food Security in Bolivia**

Purpose	Title II		Title III	
	Food	Monetization	Policy Reform	Program Funding
Increase Food Supply		Agricultural Development	Land policy reforms	Wheat production; Other agricultural production
Increase Access to Food	MFFW; School feeding; Humanitarian assistance	Agricultural Development; Women's economic development	Land policy reforms; Trade policy	Agricultural infrastructure
Improve Food Utilization	MFFW	Agricultural Development; Integrated Child survival		Community child health; Immunization program

### 1. Food Availability

From FY 89 to 94, Title III has:

saved the Government of Bolivia an average of \$18 million annually in foreign exchange  
 provided an additional average of 118-214 calories per person per day to the Bolivian diet

- tripled wheat production, raising local production to more than 17.4% of total national consumption
- increased the agricultural production and sales of more than 100,000 farm families
- encouraged a new legal structure for land ownership which would remove constraints to agricultural growth
- achieved more sustainable use of natural resources.

The foreign exchange saved has given the Government of Bolivia the opportunity to increase imports that would temporarily reduce food deprivation and increase investment that could permanently increase employment and income of the nutritionally vulnerable. The food imported under Titles II and III enables the Bolivian Government to make a minimum level of food available to the population as a whole without adding to the Government's heavy debt burden. The more than 150,000 metric tons of Title III wheat imported in 1992, which represents about 43% of the national annual wheat consumption, added an average of 177-214 calories per person per day to the Bolivian diet. As domestic production increased in 1993 and 1994, approximately 100,000 metric tons were imported each year, adding from 118 to 143 calories per person per day to the diet. From FY 89 to 94, Title II imported an average of 35,000 metric tons of food a year for direct distribution and 19,500 metric tons of wheat flour was sold each year to fund the Title II agricultural development, women's development, and health programs.

The World Bank, in its review of the Bolivian agricultural sector, concluded that there is no evidence that PL-480's importation of wheat has been a disincentive to domestic production. Production under the Wheat Production Program has tripled between 1990 and 1994, from 20,000 to 60,900 tons per year. Part of the increase is due to a 56% increase in yield per hectare over the same period for the participating farmers.

Both Title II and III have made major contributions to increasing agricultural production. Title II helps increase agricultural production in 400 to 500 poor rural communities a year. From FY 89 to FY 94, Title III has provided credit to 65,000 farm families for the purpose of increasing agricultural production. The program also funded the construction of a number of irrigation systems, access roads, and other agricultural infrastructure which directly increased the production and sales of more than 50,000 farm families. The Title III program also funded the production and distribution of certified seeds and established regional seed councils to control the quality of seed and certify them.

The insecurity of land tenure in Bolivia has exacted grave economic, social and environmental consequences, and ranks among the most serious constraints to achieving sustainable output in the agricultural sector. Because land has little or no economic

value, it is often not put to the most appropriate use. Credit to and investment in the agricultural sector are minimal, and long-term soil conservation techniques are ignored. USAID/Bolivia used Title III resources to encourage the Bolivian Government to develop a new legal structure for land ownership that will promote more sustainable use of the natural resource base. These initiatives are expected to promote agro-forestry, improved silviculture, and farming practices that assure food availability in the long run.

## 2. Access to Food

From FY 89 to 94, Title II has:

- supported agricultural development in poor rural areas
- supported safety net programs of food security
- supported women's economic development.

The Title II Municipal Food for Work Program (MFFW) pays unemployed workers in food to construct basic infrastructure, such as water lines, sanitary sewers, and paved streets in poor periurban areas. The value of the food paid does not exceed the minimum wage, and the beneficiaries are self-targeted. The program has created 104,062 person-years of employment for development projects, making accessible an additional 73,000 metric tons of food during the four-year period from FY 91 to 94.

The Title II school feeding program provided hot breakfasts and lunches for 230,000 primary school children. A recent evaluation of the program concluded that students without school feeding consumed approximately one-third of their daily requirements for protein and one-half of daily requirements for calories; students with school feeding consumed two-thirds of their daily of both protein and calories.<sup>4</sup> The Title II humanitarian assistance program provided supplementary feeding to 32,000 indigent persons a month. Together, the two programs made available an additional 30,000 metric tons of food to malnourished persons during the period from FY 91 to 94.

One of the original purposes for Title II was to put food safety nets in place when Bolivia was recuperating from the economic debacle of the early 1980's. During the 1980's, national food availability was extremely low, and food access was extremely limited for the vast majority of the population. As Bolivia strives to achieve broad-based, sustainable economic development, these safety nets -- food for work, school feeding, and humanitarian assistance -- are reduced as they are no longer needed. Since FY 89, these three programs, plus earlier food discontinued after FY 1991, have contributed 210,000 metric tons of food to people who had no other means of obtaining that food, a significant achievement at a time of great need.

The Women's Economic Development Program, while small in scope, tested several important models for reaching semiliterate, indigenous, periurban and rural women. It showed how this nutritionally vulnerable subpopulation can develop skills and use microcredit to increase its income and improve its food access.

From FY 89 to 94, Title III:

- helped the Government of Bolivia keep its commitment to macroeconomic and trade policy reforms which aid the economic development of the poor
- supported policies that promote broad-based, sustainable economic development
- increased production of alternative food and export crops
- supported rural development programs in poorer rural areas.

The Bolivian macroeconomic program contains most of the elements that most economists and major international development institutions now consider prerequisites for economic development: a non-inflationary macroeconomic policy, based on modest budget deficits and prudent monetary policy; greater openness to trade and foreign investment; and greater reliance on market forces as allocators of resources, especially in industry and agriculture.<sup>3</sup> Title III helped the Bolivian government to maintain its commitment to these reforms, thereby creating an environment for broad-based economic development which has major significance for the future well-being of Bolivia's poor.

Title III has also contributed to improved food access by supporting the Cochabamba Regional Development Project (CORDEP), which develops alternatives to coca as a source of income and employment in the Department of Cochabamba. CORDEP has provided extension services in a variety of alternative crops and constructed roads, bridges, and irrigation systems in the Chapare and the High Valleys of the Department of Cochabamba.<sup>4</sup> Improved infrastructure has a direct effect on income: labor-intensive construction activities provide direct employment, and lower marketing costs and reduced costs of inputs and household necessities yield improved returns to farmers.<sup>5</sup> CORDEP has also increased income from the production of alternative food and export crops.

As mentioned above, both the Title II and III programs have helped farmers increase agricultural production and productivity. These projects have increased both farm consumption of produce and increased farm income which in turn provides greater access to purchased foods. In addition, the Title III's Farmers' Scholarship Fund provides scholarships to poor rural youth. The training and education increased the productivity and income-earning potential of a nutritionally vulnerable group, and the fund strongly promoted this group's access to food.<sup>6</sup>

### 3. Improved Food Utilization

The Title II and III health programs provided community health services and improved water and sanitation services from FY 89 to 94.

The programs provided and/or improved primary health services in poor rural areas throughout Bolivia, reducing diarrheal diseases and respiratory infections in pre-school children. The programs also established growth monitoring of pre-school children and helped rehabilitate malnourished children. Health interventions were targeted to the two populations most vulnerable to food insecurity, rural and periurban women and their children under the age of six, because malnutrition is considered a contributing cause in over 40% of these children's mortality, and high rates of maternal mortality and malnutrition also have an adverse effect on a child's chance for survival to age six.

The Title II Integrated Child Survival program (ICS) concentrated on reducing preventable factors most statistically significant in contributing to infant and child mortality and morbidity<sup>9</sup> within the most vulnerable subpopulations. The program provided child survival services in more than 700 poor rural communities each year.

The Title III Health Program has financed all or part of three projects:

- the Community and Child Health Project (CCH)
- the Extended Program of Immunization Project (EPI)
- the control of communicable diseases (Chagas', rabies, malaria, yellow fever, tuberculosis).

These projects have shown impressive results in significantly reducing infant, child, and maternal morbidity and mortality and malnutrition. The Infant Mortality Rate in rural areas was reduced from a range of 167 to 245 per 1,000 live births in 1988 to 75 per 1,000 live births in 1994. The Child Mortality Rate in rural areas was reduced from 168.4 to 116 per 1,000 live births. Both reductions are largely due to the Title II and III health projects.

Juan Cariaga, evaluating Title III program, concluded that the health projects enjoyed the broadest coverage of all Title III projects; their benefits were distributed over a significant percentage of the most vulnerable population; and they produced the highest benefit for the least cost.<sup>10</sup>

The Community and Child Health project (CCH) constructed drinking water and sanitation systems in more than 100 rural communities. Improvements in community water supplies and sanitation were also an important achievement of the Title II

Municipal Food for Work program (MFFW). MFFW laid 751 kms of water lines and 902 kms of sanitary sewers in poor neighborhoods and the periurban areas of Bolivia's cities from FY 89 to 94.

### B. Contributions to Sustainable Development

Table 3 lists the PL-480 programs which contribute to the achievement of USAID/Bolivia's four strategic objectives.

**Table 3: Contributions of the PL-480 Program to the Achievement of USAID/Bolivia's Strategic Objectives**

Objective	Title II		Title III	
	Food	Monetization	Policy Reform	Program Funding
Economic Opportunity and Access	MFFW	Agricultural Development; Women's economic development		Agricultural production; Agricultural Infrastructure
Family Health		Integrated child survival; School feeding		Health programs
Democratic Development	MFFW			
Environmental Protection			Environmental laws and policies	Environmental projects

## 1. Economic Opportunity and Access

The Title III program gives priority to Bolivia's rural population, increasing the economic opportunity and access of farmers through a variety of programs and projects. From FY 89 to 94, Title III

- increased the production and income of more than 5,000 wheat farmers and their families
- helped 64,250 farm families increase their production of and income from a variety of crops
- constructed agricultural infrastructure which provided sustainable increases in income to more than 50,000 farm families
- supported the production and distribution of certified seed for more than 20 income-earning crops.

The Title III program provided credit and funded extension services to wheat farmers throughout the period from FY 89 to 94. Wheat production and income from that production more than tripled during this period. From FY 89 to 94, the Title III program provided \$36.5 million in credit to 64,250 farm families for the purpose of helping them increase production and productivity of both traditional crops and diversify production to include new, high-value crops. The credit was provided through commercial banks and farmers cooperatives, and it was used for inputs which helped farmers both increase productivity and diversify production.

The Title III program provided grants to increase the production and distribution of quality seed and establish certification of quality seed. Priority was given to basic staples such as wheat, soybeans, corn, rice, potatoe, barley, rye and oats, as well as high-value crops such as garlic, peas, onions, carrots, beats, and alfalfa. Grants were also given to establish or strenghten regional seed councils in Santa Cruz, Cochabamba, Chuquisaca, Tarija, Potosi, Gran Chaco, and La Paz. Technical assistance was provided in helping these councils increase the production and distribution of certified seed and maintain its quality.

The Title III program also provided funding for constructing irrigation systems, access roads, and other agricultural infrastructure in areas in which this infrastructure would result in sustainable increases in production and sales of crops. More than 50,000 farm families, or a total population of more than 250,000, benefitted from these projects.

The Title II program helped expand economic opportunity and access by

- increasing agricultural production and income in 400 to 500 poor rural communities each year
- providing business training and credit to approximately 3,000 poor urban women each year so they could start or expand their small businesses
- providing short-term employment to 32,000 unemployed residents of cities
- constructing basic infrastructure in poor neighborhoods and periurban areas of cities.

Three of the four Title II cooperating sponsors (Caritas, ADRA, and Food for the Hungry) carry out agricultural development projects throughout Bolivia. They have constructed wells, greenhouses, and irrigation systems on the Altiplano, increasing the production and sale of vegetables and rainfed crops such as potatoes. They have begun two major forestation projects on the Altiplano. In the Valleys, they have increased the production of wheat for seed and the production and sale of corn and vegetables. In the Tropical Plains, they have increased the production and sale of rice, vegetables, and dairy products. These projects have increased the production and income of approximately 25,000 farm families or 125,000 people.

The Title II cooperating sponsors also provide training in credit to poor unemployed women in the slums of the major cities of Bolivia. Approximately 3,000 women a year were helped to start or expand their small businesses and increase their income from their businesses.

The Title II Municipal Food for Work program (MFFW) has provided approximately 32,000 temporary jobs a month for unemployed urban residents. The majority of these residents were recent migrants from rural areas and the program acted as a safety net until they could find wage employment or self-employment in the city. These workers construct basic infrastructure in more than 100 cities throughout Bolivia. For example, they constructed 751 kms of potable water systems, 902 kms of sanitary sewer, and paved 1,729 kms of streets during the six years from FY 89 to 94. This infrastructure contributed to the growth of businesses and jobs in poor and periurban areas of the cities.

## 2. Family Health

Both the Title II and Title III programs made major contributions to improving family health throughout Bolivia from FY 89 to 94.

### The Title III program

- provided key financial support to Bolivia's national immunization program
- established a pilot project to prevent Chagas
- established programs to control malaria, rabies, tuberculosis, and yellow fever.

The Title III program provided funding for Bolivia's extended immunization program. Full vaccination coverage of infants rose from less than 13 % in 1988 to more than 83 % in 1994. The immunizations made a major contribution toward reducing infant mortality in Bolivia from an estimated 167 to 245 per 1,000 live births in 1988 to an estimated 75 to 80 per 1,000 live births in 1994.

Title III funding was used to establish a pilot project for Chagas control in 10 localities in the Departments of Tarija, Chuquisaca, and Cochabamba with the highest Chagas infestation in Bolivia. The program provided home improvements and education for Chagas control to 20,000 families.

Title III funding was used to carry out projects to control malaria, rabies, tuberculosis and yellow fever. The malaria control project had reached a coverage of 83 % in remote endemic areas by FY 93. The rabies elimination program worked with local anti-rabies committies to vaccinate canines.

The tuberculosis program had served more than 500,000 persons by the end of FY 94. New cases of tuberculosis dropped 13.5% during the six-year period, and the incidences of all forms of tuberculosis dropped from 222 to 120 per 100,000. The yellow fever project was carried out in the Tropical Plains in the Departments of Santa Cruz, the Beni, and Pando. More than 1,728,000 persons were immunized against yellow fever from FY 89 to 94.

The Title II cooperating sponsors carried out their intregated child survival program in more than 700 communities. More than 500,000 women and children were served by the program. The program immunized children, established oral hydration practice for children dehydrated by severe cases of diarrhea, helped prevent and control acute respiratory infections, and monitored the growth and provided improved nutrition for pre-school children. In addition, women received prenatal attentions and immunization against tetanus. 1,990 community health workers, 340 traditional birth attendants, and 62,500 mothers were trained to carry out basic maternal and child health services.

The number of children with complete vaccinations increased from 8.5 % to 87.0 % in the communities served by the program. The incidence of severe diarrhea dropped from 33.2 % to 4.4 %.

Infant mortality from acute respiratory infections dropped from 32 to 5 per 1,000. Prevalence of malnutrition in children 3 to 36 months of age dropped from 58.9% to 36.1%. Infant mortality as a whole for children under one year of age dropped from the national average of 112 to 62 per 1,000. Mortality for children from 0 to 4 years of age dropped from the national average of 114 to 89 per 1,000. Maternal mortality fell from 48 to 39 per 10,000.

### 3. Democratic Development

The Title II Municipal Food for Work program (MFFW) has increased citizen participation in municipal decision-making in more than 100 cities throughout Bolivia. Labor for public works is provided by the MFFW program. The city provides the technicians who design the projects and supervise their construction. The city will also provide the dump trucks for transporting construction materials to project sites. When construction materials such as water or sewer pipe are needed, the residents of the neighborhoods receiving the projects will often purchase these materials. The residents of each neighborhood meet together to select the public work they wish to construct for their neighborhood. They will then meet with municipal authorities to seek approval for the project. The projects, once approved, become part of the MFFW construction plan for that city.

Prior to the passage of Bolivia's Popular Participation Law in April, 1994, which provides monies for constructing public works throughout the country, cities had few resources for constructing basic infrastructure. Only major cities such as the nine departamental capitals had money for construction, and since they were the major recipients of most of the migrants from rural areas, their projects only met a small portion of the need for infrastructure in these cities. The Title II program constructed 1,500 public works a year from FY 89 to 94, and Title II was the major provider of infrastructure during this period in the great majority of Bolivia's cities. The Title II program gave citizens the opportunity to choose the infrastructure they wanted and linked them with city officials in order to secure approval for their projects. The Title II program therefore made a major contribution to increasing democratic decision-making and citizen participation in municipal decision-making.

### 4. Environmental Protection

The Title III program provided key leadership in establishing policies and programs to reduce degradation of soil, water, and forests and protect biological diversity.

From FY 89 to 94, the program

- provided assistance to fledging non-governmental organizations (NGOs) and other civic organizations active in both promoting environmental policies and carrying out programs
- established a national environmental fund
- provided support for maintaining national parks and forest reserves
- promoted the development and enactment of key environmental laws and policies.

The Title III program funded a number of Bolivian non-governmental organizations (NGOs) for the purpose of helping them promote environmental policies and carry out projects to reduce degradation of soils and water and loss of forests. This funding was crucial in helping establish an environmental sector in Bolivia and the institutional capacity to promote and enact policies and carry out programs and projects. In addition, Title III funding was used to establish a national environmental fund that had, by the end of FY 94, secured commitments of more than \$80 million for funding environmental projects.

The Title III program also provided counterpart funding to a major project which maintains Bolivia's forest reserves by training rangers and indigenous peoples living in the reserves to enforce policies which protect the reserves. The project also works with loggers to get them to replant trees as well as cut them.

The Title III program helped enact six laws and policies to halt the degradation of Bolivia's natural resources. The program helped create a national environmental defense fund, pass a new environmental law, draft regulations for that law, develop a plan to strengthen environment enforcement agencies, and develop a program to measure the impact of the *Pausa Ecologica Historica* which was a five-year moratorium on new forestry concessions. In addition, studies funded by Title III are laying the groundwork for an equitable system of forestry concessions.

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**THE TITLE II PROGRAM**

## I. EXECUTIVE SUMMARY: TITLE II PROGRAM

Title II program expenditures averaged \$20 million a year from FY 89 to 94 -- \$14 million in direct distribution of Title II commodities and \$6 million in wheat flour which was sold to fund projects which could not be carried out with donated food. USAID/Bolivia and the cooperating sponsors conducted periodic evaluations of the various components of the Title II program, but there has never been an evaluation or assessment of the program as a whole. This assessment reviews the achievements of the Title II program over the last six fiscal years, in particular the program's contributions to food security and to sustainable development.

The Title II program distributed an average of 35,000 metric tons of food a year to poor Bolivians from FY 89 to 94. Food distribution through mother's clubs and rural food for work was phased out in FY 91 and 92 and food distribution was concentrated in urban food for work and school feeding to increase the developmental impact of the program.

Table I.1: Food Distribution, FY 89 to 94 (000 MT)

Program	FY 89	FY 90	FY 91	FY 92	FY 93	FY 94
Municipal Food for Work	7.2	7.3	10.9	20.8	21.3	20.1
School Feeding	3.8	2.1	2.8	5.6	5.5	4.8
Humanitarian Assistance	2.4	2.4	2.5	2.7	2.5	2.5
Mother's Clubs	19.3	16.6	16.1	9.0	---	---
Rural Food for Work	10.6	7.6	4.4	---	---	---
Totals	43.3	36.0	36.7	38.1	29.3	27.4

Source: van Haften, *Bolivia Food Security Review*, Table A-3, and USAID/Bolivia Semi-Annual Reports.

The sale, or "monetization", of Title II commodities began FY 1989. 9,075 metric tons of wheat flour were sold or "monetized" in FY 89 and the proceeds were used to fund rural integrated child survival, women's economic development, and agricultural development projects. Funds from monetization were also used to buy Bolivian commodities (rice, vegetable oil, milk, sugar, iodized salt) for the food for work and school feeding rations. The amount of wheat flour being monetized was gradually increased each year until it reached 19,500 metric tons a year during the period from FY 92 to 94.

The use of funds from FY 89 to 94 was as follows:

Table I.2: Use of Monetization Funds, FY 89 to 94 (\$000)

Program	FY 89	FY 90	FY 91	FY 92	FY 93	FY 94
Women's Economic Development	—	—	—	0.3	0.3	0.4
Agricultural Development	0.9	0.8	2.2	2.4	2.4	2.6
Integrated Child Survival	0.2	0.5	0.6	0.8	0.9	0.9
Municipal Food for Work	0.4	0.4	0.1	0.2	0.7	0.5
Purchase of Local Foods	2.2	1.3	1.4	1.9	1.9	1.9
Totals	3.7	3.0	4.3	5.6	6.2	6.3

Sources: van Haften, *Bolivia Food Security Review*, Table A-3, and USAID/Bolivia Semi-Annual Reports.

## A. Contributions to Food Security

Poverty and food insecurity take two forms in Bolivia. The urban poor suffer from insufficient access to and utilization of food, while the rural poor suffer from low availability of food, low crop productivity, little crop diversification, and poor utilization of food. Municipal food for work, women's economic development, and the humanitarian assistance programs help solve the problems of the urban poor; agricultural development, the integrated child survival program, and school feeding help solve the problems of the rural poor.

### Urban:

**Municipal Food for Work.** The percentage of Bolivia's population living in urban areas grew from 1,925,840 in 1976 to 3,694,846 in 1992.<sup>1</sup> Much of this growth occurred in the 1980s, when the Bolivian government closed unproductive state-owned mines and the drought of 1983 and 1984 made rural life more difficult. More than 50% of urban dwellers are self-employed, and urban unemployment and underemployment is high. It can take migrants from rural areas several months to find a job or establish their own business. The municipal food for work program serves as an employer of last resort while they search for remunerative employment.

The program operates in 119 cities and towns throughout Bolivia and provides 32,479 temporary jobs a month. Assuming five members per family, the program provides food security for approximately 162,400 family members who no longer grow their food but do not yet have the income to buy an adequate diet. In addition, the program also builds useful municipal infrastructure, especially water and sewer lines, to improve food utilization in urban slums where most migrants live.

**Women's Economic Development.** A majority of those who participate in food for work programs are women. It generally takes two incomes to support a poor family in the city, and an increasing number of women are the sole support of themselves and their children. Most poor women don't have the education or skills to compete for wage labor; their only alternative is to start their own small business. The women's economic development program gives nearly 3,000 women a year training in business skills and credit to start or expand small businesses. The program helps women establish viable, income-earning businesses, and provides them and their families with effective, long-term food security. Several of the training and credit programs also give women training in early childhood education, health, nutrition, and family planning, and this training has a direct and immediate impact on the food security of the women and their families.

**Humanitarian Assistance.** The humanitarian assistance program provides food security to the most destitute residents of the cities -- street children, children in orphanages, people in old folks homes, the poor in hospitals, and others. The program provides supplementary feeding to 32,000 people a year in hundreds of institutions. Bolivia's social welfare system is rudimentary, and the supplementary feeding provided by the program gives food security to those who are completely dependent upon society for their food.

**Rural:**

**Agricultural Development.** The cooperating sponsors work in 400 to 500 of Bolivia's 12,000 rural communities, helping 25,000 farm families per year to increase productivity, diversify their production, and improve home consumption of food. To increase their impact, the cooperating sponsors stress their comparative advantages. Food for the Hungry, works in 210 communities on the Altiplano, helping farmers construct wells and greenhouses which increase production and consumption of vegetables and irrigation systems which increase the production of rain-fed crops. Caritas works to reforest the Altiplano, increase wheat production in the Valleys, and increase milk production and consumption in the Tropical Plains. ADRA also works in all three regions, helping to increase the productivity of the basic staple -- potatoes, corn, or rice -- and begin production and consumption of tomatoes.

**Integrated Child Survival.** The integrated child survival program provides primary health care services to approximately 521,000 children under six years of age and women of child-bearing age in 735 rural and periurban communities where Bolivia's Health Secretariat's services are rare or non-existent. The program reduces the mortality and morbidity of these women and children, thereby increasing their food utilization and security.

**School Feeding.** The school feeding program increases the food security of 230,000 primary school children in 2,850 schools per year, 2,660 of them in poor rural areas. A recent evaluation of the program found that students in primary schools without school feeding consumed approximately one-third of their daily requirements for protein and one-half of daily requirements for calories. With school feeding, students consume approximately two-thirds of their daily requirements for both protein and calories. In the first eight months of the 1994 school year 10% of students had dropped out of schools without the program, compared to 3% in schools with the program. The program makes a significant contribution to the food security of rural primary school children.

**Purchase of Local Foods.** Approximately one-half of the proceeds from monetization, or \$2 million, is used to buy local commodities for the food for work and school feeding rations: rice, beans, milk, sugar, vegetable oil, and iodized salt. These purchases make a contribution to food security provided from domestic food production.

## **B. Contributions to Sustainable Development**

**Municipal Food for Work.** This program makes two contributions to sustainable development. First, the program builds public works -- sewers, water systems, curbs, sidewalks, stone-paved streets, parks, and sports fields -- that transform slums into healthier places to live. This in turn encourages new businesses and other construction in these neighborhoods. Second, under the Bolivian Government's new program of sharing 20% of national tax revenues with local governments, people are encouraged to organize and participate in local decisions. The food for work program provides mechanisms for making decisions, and is thus fostering democracy and popular participation.

**Women's Economic Development.** The women's economic development program makes a measurable contribution to sustainable development. The women start or expand viable businesses in both small manufacturing and services, many of which grow to employ other persons. In addition, the programs themselves are sustainable. With careful management, after three or four years the interest earnings on the credit provided to the women covers the cost of the training and provision of the credit.

**Humanitarian Assistance.** The humanitarian assistance program is social welfare, not a development program. It helps establish a minimum diet and level of care for those who depend fully on society for their maintenance -- orphans, the mentally ill, the blind, the hospitalized, the elderly and disabled without family support, and those in rehabilitation centers. USAID/Bolivia and the cooperating sponsors maintain the program with 2,700 metric tons of food per year, or 7% of the total amount used in direct distribution.

**Agricultural Development.** The agricultural development program makes a useful contribution to sustainable development. The cooperating sponsors help farmers increase production and consumption of crops for which there are well-established markets. The increases in production, once realized, are sustained by the farmers. The program itself relies on monetization or donor funding.

**Integrated Child Survival.** This program achieves sustainable reductions in morbidity and mortality among the women and children they serve. A child immunized against childhood

diseases maintains this protection. Mothers who rehydrate a child suffering from diarrhea maintain this practice with their other children. The children served by these programs are likely to continue these health practices when they themselves are parents. The program itself relies on monetization or donor funding.

**School Feeding.** The primary school children served by the program consume two-thirds of their daily requirement for proteins and calories; children in schools without the program consume one-third of their daily protein and one-half of their daily caloric requirements. In addition, school feeding cuts the dropout rate, which contributes to long-term development. The school feeding program relies on donated food, but it is fully managed by parents, who collect the food from the warehouse of the cooperating sponsor in the capital city, transport it to the school, and prepare and serve the school breakfasts and lunches. They also pay approximately 25 cents (US) a month to the cooperating sponsor for each child in the program. Finally, local municipal governments are interested in maintaining the program and are willing to fund some program costs with tax revenue. Thus the program itself is showing signs of becoming sustainable.

**Purchase of Local Food.** The purchase of local food for the food for work and school feeding rations has increased the market for domestic products and has thereby increased local incomes.

## II. A BRIEF HISTORY OF THE TITLE II PROGRAM

Bolivia began receiving PL-480 Title II food in 1955. The program was begun by Catholic Relief Services (CRS) in conjunction with Caritas, the service arm of Bolivia's Catholic Church. CRS served as the cooperating sponsor, importing the food and supervising the program; Caritas carried out the program. From 1955 through 1981, Caritas distributed approximately 10,000 metric tons of food a year to mother and child health clubs, primary schools, orphanages, soup kitchens, and other forms of humanitarian assistance. In addition, Caritas provided food during emergencies and natural disasters.

The Title II program was expanded in 1983. The El Niño Current shifted, severe drought struck Bolivia's Altiplano, and a natural disaster became a national emergency affecting more than a third of Bolivia's population. Annual food use was expanded from 10,000 metric tons to nearly 40,000 metric tons. The Adventist Development and Relief Agency (ADRA) and Food for the Hungry (FHI) were invited to become cooperating sponsors to help spread the management burden of the expanded program. Emergency relief was programmed through food for work projects in 3,000 to 4,000 communities a year. USAID/Bolivia added a senior food aid manager and three supervisors to its staff to supervise the greatly expanded program.

Urban food for work was added in 1986 in response to the deterioration of the national economy. Bolivia instituted a major structural adjustment program in 1985. Unproductive state-owned mines were closed, and many subsidies of state enterprises were cut back. The government shrunk its payroll and put tight money policies into practice. The major cities were swollen by urban dwellers thrown out of work and by migrants from rural or mining areas. Urban food for work was begun in La Paz, El Alto, Cochabamba, Santa Cruz, Oruro, Potosi, and Sucre, creating more than 10,000 jobs a month for unemployed families in 1988 and 1989.

By 1989 the program had grown to its present volume, but not its present quality. More than half of the approximately 2,000 rural food for work projects -- for example, schools for which there were no teachers, health posts for which there were no health workers, community centers, access roads -- made no contribution to agricultural production or sustainable development. Since these areas had long since recovered from the drought of 1983, the rural food for work projects had to meet the test of sustainable development. Food was distributed to nearly 4,000 mothers' clubs to complement maternal and child health services provided through the clubs. Evaluations of the program in FY 89 and 90 indicated that the maternal and child health services were not significant, and in some cases weren't provided at all. Distribution of food through mothers' clubs was

questioned, and other alternatives for providing maternal and child health services were considered.

In addition, a portion of the operating costs of the cooperating sponsors was funded by contributions made by each beneficiary for the ration he or she received, but these contributions paid little more than the costs of supervising the distribution of the donated food. Funding was needed for the staff, transportation, supplies, and equipment needed for development programs.

Thus, in 1989 the cooperating sponsors began a combined "monetization" program. They jointly imported PL-480 Title II wheat flour, sold or "monetized" it, and used the proceeds to fund projects approved by USAID. The cooperating sponsors began the program by monetizing 9,075 metric tons of wheat flour in FY 89, and each cooperating sponsor receiving \$600,000 to \$700,000 to carry out development projects. FHI used its money to consolidate agriculture and health projects in 21 regions comprising 10 communities each in the poorest areas of the Altiplano. ADRA used its money to fund rural integrated development projects (agriculture, health, and infrastructure) in 7 regions of 10 to 15 communities each. Caritas used most of its money to establish a child survival program in the Tropical Plains and Valleys.

USAID/Bolivia commissioned several studies from May through August 1990 to determine the best use of Title II commodities. Staff of the Agriculture, Health, and Program Offices held a retreat in September 1990, to analyze the findings of the studies, and they reorganized the Title II program. As a result, USAID/Bolivia decided to end both food distribution to mothers' clubs and rural food for work programs. The programmatic use of Title II commodities was limited to municipal food for work (27,000 tons), school feeding (5,000 tons), and humanitarian assistance (3,000 tons). The municipal food for work program was expanded to other cities. The number of schools served by school feeding was expanded accordingly. Monetization funds were used exclusively for agricultural development, women's economic development (a new program created to replace the mothers' clubs), and rural integrated child survival services.

From FY 90 to 94, municipal food for work was expanded from 7 to 119 cities. School feeding was expanded from 1,400 to nearly 3,000 schools and from 112,000 to 230,000 beneficiaries. Using funding from monetization, FHI consolidated its work in the 210 communities in which it had chosen to work. ADRA expanded its rural integrated projects from three to seven, serving approximately 90 communities in the Departments of La Paz, Cochabamba, and the Beni. Caritas expanded its child survival program from 325 to 477 communities in the tropical plains and valleys and established agricultural development projects in seven regions of approximately 10 communities per region.

### III. INTEGRATED CHILD SURVIVAL<sup>1</sup>

#### A. Program Analysis

Bolivian children have an undeservedly high probability of dying before reaching age six -- the highest in the Western Hemisphere. In 1989, rural infant mortality as a whole was 112 per 1,000 and infant mortality for rural children under six was 168 per 1,000. At least 75% of these deaths could have been prevented by cost-effective and easy-to-implement measures.

The maternal mortality rate in rural areas was 48 per 10,000 live births in 1989. Estimates from ENDSA 89<sup>1</sup> data suggest a national maternal mortality rate of 33.2 per 10,000 live births for the preceding decade and explain why the rate is the highest in Latin America. Only 18% of the women reported using modern contraception. Less than two-thirds of urban women and less than one-third of rural women received prenatal care. Fewer than 43% of births were attended by a doctor, nurse or trained midwife.

The goal of the Title II Integrated Child Survival program (ICS) is to significantly reduce mortality and immunopreventable morbidity among children under age six. The program uses two strategies. (1) The program attacks the major preventable causes of mortality among Bolivian children under six: acute diarrheal diseases (ADD), acute respiratory infectious diseases (ARI), immunopreventable diseases, pre- and peri-natal problems (principally due to the mother's undernourished state and unsanitary birthing practices), and "accidents" to infants,<sup>4</sup> as well as combatting preschool malnutrition which USAID in 1988 considered a "contributing cause" in over 40% of all deaths in this age group. (2) The program constructs infrastructure which diminishes the incidence of water-borne diseases such as drinking water and sewer systems and wells.

The Title II Integrated Child Survival program had four objectives from FY 89 to 94:<sup>5</sup>

- to reduce the infant mortality rate by 40%
- to reduce the mortality rate of children under 5 by 40%
- to completely immunize 80% of children under age 6
- to reduce preschool malnutrition by 40%.

The number of communities in the program grew from none in FY 89 to 735 in FY 94. During this period, 521,000 mothers and children were served by the program. 85% of the communities were located in provinces whose average household income could not even provide 70% of minimum needs.

The program trained 1,991 community health promoters to administer oral rehydration salts, to treat ARI, and to monitor growth, as well as to refer more problematic cases to the nearest health post. 339 traditional birth attendants were trained in sanitary childbirthing practices. 62,500 mothers were trained to immunize their children, treat them in case of diarrhea or a respiratory infection, and prepare nutritious meals using economical ingredients.

Table III.1 summarizes the process indicators for the program from the baseline in FY 89 to FY 94.

Table III.1: Process Indicators for Integrated Child Survival

Process Indicators, Integrated Child Survival	FY 89	FY 94
% children diagnosed w/ADD	31.2%	4.4%
% ADD cases treated w/ORS	19.7%	98.7%
Mortality rate <6 - ADD (per 1,000)	60	10
% children diagnosed w/ARI	16.7%	5.2%
% ARI cases treated	31.6%	99.1%
Mortality rate <6 - ARI (per 1,000)	32	5
% <6 Growth monitored	0.0%	43.2%
% Children <6 malnourished	58.9%	36.1%
% Children <6 w/ complete vaccination	8.5%	87.0% <sup>6</sup>
% Women w/2 Tetanus Toxoid	24.0%	93.0% <sup>6</sup>

Source: FHI, Caritas and ADRA, *Annual Progress Reports*; program evaluations, *Semiannual Reports*.

As a result of the program, immunizations of children under six exceeded by 7 the so-called 80% 'herd immunity' among the communities as a whole. This should afford adequate coverage,

particularly within an isolated community, and a decreased incidence of immunopreventable diseases has been reported.

The knowledgeable use of oral rehydration salts to treat diarrhea among children under six increased by 400% among mothers trained, while the incidence of diarrhea decreased from 31.2% to 4.4%. Consequently, the preschool mortality rate due to ADD decreased from 60 per 1,000 in 1989 to 10 per 1,000 in 1994. Similarly, the incidence of ARI decreased from 316 per 1,000 to 52 per 1,000, while proper treatment of these diseases increased from 31.6% to 99%, with a consequent decrease in mortality from 32 per 1,000 to 5 per 1,000 in 1994.

Complementary measures taken as part of the health component include: the implementation of more than 1,545 projects for potable water and sanitary disposition of waste. In addition, more than 60 communities constructed health posts and centers.

The program's impact on its target population can be appreciated in Table III.2 below. The results for the key impact indicators were dramatic: decreases of 50 per 1,000 and 25 per 1,000 in the under one year and 0 to 4 year mortality rates; a decrease of 11 per 10,000 in the maternal mortality rate; and a decrease of 22.8% in malnutrition of children 3 to 36 months of age.

Table III.2: Impact Indicators for Integrated Child Survival<sup>1</sup>

Impact Indicators, Integrated Child Survival	National Average	FY 94
Crude Infant (<1) Mortality Rate (per 1,000 live births)	112.1	est. 62
Crude Child (0-4 yr) Mortality Rate (per 1,000)	114.1	est. 89
Maternal Mortality Rate (per 10,000 live births)	48.0	39.0
Prevalence of malnutrition in children 3-36 months	58.9 %	36.1 %

Analysis based on: USAID, *Semiannual Reports*; FHI, Caritas and ADRA, *Annual Progress Reports*; Institute for Research Development, *Maternal & Child Health in Bolivia*; ENDSA 89.

## B. Evaluations of the Program

The evaluations consulted included:

- *An USAID/Bolivia Internal Evaluation of ADRA's Maternal Child Program in La Paz*, by Deborah Caro, 1990.
- *Evaluación de Medio Término Proyecto de Supervivencia Infantil de Cáritas/Bolivia, Area III*, by PROCOSI, 1991.
- *Informe de Evaluación del 4to Año y Final, Proyecto de Supervivencia Infantil*, Food for the Hungry International, 1993.

The evaluations' major conclusions were:

1. Poor Bolivian women, with little or no formal education, find it difficult to provide health care for their children, which most want to do.
2. The most critical link in the whole chain of delivering of health services is the auxiliary nurse, who forms the liaison between the formal health system and the people it should serve. Next in importance is the community health promoter.
3. The best results occurred in communities that installed potable water and sanitary systems. These projects achieved the usual benefits of lower incidence of diarrheal disease. In addition, participation in local decision-making increased, and residents showed much higher acceptance of and involvement in the community's health services.
4. In virtually every community where the cooperating sponsors implemented child survival projects, coverage by Bolivia's National Secretariat for Health was nonexistent.
5. Bolivia's National Secretariat for Health has viewed institutional development predominantly in terms of increased personnel and commodity inputs. It has not focused on management functions and systems. The Secretariat is undergoing a restructuring in accordance with the Popular Participation Law, and it will have to become more responsive to the needs of the communities it should serve.
6. Monitoring, supervision and evaluation of projects and programs continue to need improvement in quantity and quality. Based on the data and information presented, it is not possible to calculate, for example, preschool morbidity rates for immunopreventable diseases among the program population, even though this is one of the program's objectives.

The evaluators recommended that:

1. Future Title II programs should support employment and income-generating activities for women.
2. Health promotion and education should be the central focus of all project activities and must be viewed as an interdisciplinary process at all levels, with special emphasis given to the training of rural auxiliary nurses, area supervisory personnel, and health promoters. Training in health-promoting skills -- for example, weighing infants, making home visits, following up on cases -- merit the immediate attention of the National Secretariat of Health and the cooperating sponsors.
3. Given the high percentage of pregnant women among the target populations, those cooperating sponsors who deliver maternal/child health services should implement effective, safe childbirth and family planning components as complements to their health program.
4. The cooperating sponsors should focus on strengthening ties between water and sanitation projects and child survival services.
5. The National Secretariat of Health should respond effectively to the needs of health and nutrition of all Bolivian communities.

#### IV. WOMEN'S ECONOMIC DEVELOPMENT

USAID/Bolivia began Title II funding of women's economic development projects in FY 92. The projects were intended to supplant food donations through mother's clubs with projects which would increase women's employment and income.

Three organizations have projects: FHI, Pro Mujer, and ADRA. All three organizations provide training in marketing and business management and credit through communal banks. In addition, ADRA encourages women to adopt specific income-generating activities such as communal artisan workshops, cooperative bakeries, commercial poultry production, and flower cooperatives. The Pro Mujer program is the largest.

##### A. Pro Mujer

The objectives of the Pro Mujer project are to train women in basic business skills, provide credit to them through communal banks, and provide technical assistance to other agencies. The population targeted by Pro Mujer is not currently served by any other financial institutions or micro-lending programs. The majority of women in the communal bank program cannot meet even the minimum eligibility criteria of other credit programs.

To date, Pro Mujer has trained about 3,500 women in basic business skills in El Alto. It provides credit to 1,700 women through 55 communal banks and has recently expanded its program to Cochabamba, Tarija and Sucre.

About 75% of the women who go through the training course become members of banks. The banks have a dropout rate of 5 to 10%. Women who leave the banks are replaced by friends and neighbors of members. There is virtually no default on loans.

Pro Mujer's program emphasizes training. Women are trained twice a week for six months in basic business skills. Before the women can organize a communal bank and qualify for loans, they must first present business plans that include marketing and capital requirements, projected expenses, and projected income.

Each bank averages 30 members, who elect a board of directors and form solidarity groups of 4 to 6 members to guarantee each other's loans. Loans range from \$25 to \$200 per person in the first year of the bank's existence and up to \$400 per person by the third year. The average loan was \$156 per person at the end of FY 94. Pro Mujer charges 2.5% interest per month. These interest earnings were originally left in banks to help capitalize the banks more quickly. In late FY 94, Pro Mujer began keeping these earnings to cover the costs of supervising the banks. Pro Mujer's loans are made in 16-week lending cycles.

Borrowers must deposit 10 to 20% of the amount of their loan from Pro Mujer in savings accounts. Bank members loan out their savings at interest rates and periods they set, and they use the earnings from these loans to capitalize their banks.

In FY 92, Pro Mujer also had a rural bank project in several villages in the Department of La Paz which produce wool rugs. Because of a variety of difficulties, chief among them the remoteness of the villages, these projects never became communal banks along the model envisioned by Pro Mujer. Pro Mujer turned the rural project over to Sartawi, a microlending institution operating in rural areas, which gives the women credit and technical assistance in marketing their rugs.

Pro Mujer proposed to train 960 women and establish 24 communal banks in El Alto and Cochabamba in FY 94; it trained 735 women and established 18 banks. Pro Mujer also proposed to give credit and technical assistance in small business development to 1,710 women bank members and achieved 80% of this target.

#### B. Food for the Hungry (FHI)

In FY 93, Pro Mujer trained FHI staff and helped them begin a women's micro-enterprise program with 98 women in El Alto. FHI trained women in empowerment, health, nutrition, child development, and family planning in classes held twice a week. Two FHI promoters met weekly with staff from Pro Mujer to evaluate progress and prepare lessons. The follow-on course trained the women in basic business skills and the operation of two communal banks which were modeled on Pro Mujer's banks. In FY 94, FHI expanded its program to Potosi, training two groups of women and establishing two communal banks in Potosi.

FHI decided from the outset to retain interest earnings on loans rather than letting beneficiaries use them to capitalize their banks. In this way, the beneficiaries pay for part of the training and take greater ownership of the development process.

#### C. ADRA

ADRA began a women's economic development project in FY 92 by organizing 8 communal banks, two each in El Alto, Cochabamba, Trinidad, and Riberalta. In FY 93, ADRA added another two communal banks in each region, for a total of 16 banks.

ADRA follows a process similar to Pro Mujer's, first training women in business management and then providing them with credit. During the training, the women organize themselves into Business Promotion Groups of approximately 45 women each. Each woman receives about \$100 in credit through ADRA's monetization funds and may also save money through her group.

Members must contribute 5 Bolivianos, or about \$1, to join a bank. This money is used as seed capital for additional loans. ADRA evaluated its program in La Paz at the end of FY 94 and estimated that the average monthly income of women in the program rose from 160 to 232 Bolivianos.

#### D. Evaluations

Women's Economic Development has been the focus of two evaluations, both by Deborah Caro of the Genesys project:

*Pro Mujer: An Interim Evaluation of the Communal Banking Program, June, 1993, and Pro Mujer Banking Association Program: Impact Evaluation, March 1995.*

The program was also evaluated in *Credit Facilities Available to Title II Beneficiaries in Bolivia*, by Anne Beasley, July 1992. Finally, Pro Mujer itself conducted a survey of 400 program participants in 1994.

The evaluations' conclusions were:

1. 48% of the women didn't have businesses before starting the program, but now do.
2. Of the women who had businesses before they entered the training program, 40% changed their businesses when they realized how little money they were earning for the amount of time they were working.
3. Administrative costs are kept to a minimum because the banks are small and are run by the women themselves.
4. Since the communal bank is the only source of credit for its members, and since receiving a future loan is contingent on paying back a current loan, women are motivated to establish sound repayment policies and make timely repayments.
5. In all cases, women receive business and management training before they are eligible to receive loans. This is especially important because credit can be used to finance initial business start-ups, and the training helps the business owners and bank officers assess sustainability and payback.
6. The program is achieving success by "stimulating income-generating opportunities through training, credit, and empowerment. . . ."

7. Banks often fail to come to consensus without strong help or even direct intervention from the promoter; during the first loan cycle by the third cycle the promoter plays a minor role and the banks govern themselves with true autonomy.

8. Rural banks are not likely to work as well as urban banks.

The evaluators recommended that Pro Mujer:

1. Revise its evaluation system, because it is difficult to accurately measure income as an indicator of impact. Alternative indicators such as number of employees supported by the business and value of capital investments were suggested.

2. Provide second-tier training to second- and third-year banks, particularly in business and bank administration skills, but also in legal rights, citizen participation, and reproductive health.

## V. AGRICULTURAL DEVELOPMENT

The cooperating sponsors began agricultural projects in 1984 and 1985 as part of their response to the widespread drought that affected the Altiplano and other parts of the country. Projects were scattered and the cooperating sponsors generally did not carry out enough work in a community to make sustainable increases in agricultural production. They did not have funding for agricultural extensionists or other costs associated with agricultural projects. Funding for agricultural projects from monetization was established in FY 89, once the monetization program was begun.

Three cooperating sponsors -- Food for the Hungry, ADRA, and Caritas -- carry out agricultural projects in regions of 8 to 15 communities. FHI, the first to adopt the strategy of working in small regions, reorganized its work in 1988 to serve 21 regions of 10 communities each in poor rural areas of the Departamentos of La Paz, Oruro, and Potosi. In 1989, ADRA began work in a region of 13 communities near La Paz and gradually expanded its work to 7 regions by FY 92. Caritas began working in agricultural development in FY 91, carrying out projects in 5 to 7 regions per year.

### A. Food for the Hungry, International (FHI)

All 21 of FHI's regions are in the Altiplano, and they share similar markets, climates, and constraints to increasing production and income. FHI carries out the same program in each region: family greenhouses for vegetable production and irrigation systems for field crops.

Family greenhouses permit farmers to raise vegetables for consumption and sale which cannot be grown in open fields, given the harsh climate of the Altiplano. The greenhouses are 4 by 8 meters and produce lettuce, tomatoes, cabbage, and other vegetables. Families need a well to operate a greenhouse, so the two are built together. Potatoes, oats, and *quinoa* (a variety of millet) are grown in open fields during the rainy season from November through March. Irrigation systems permit two crops a year when rains are normal and one crop when there is drought.

The results of FHI's program for FY 90 and FY 94 are shown in Table V.1.

**Table V.1: Process & Impact Indicators for FHI's Agricultural Development Projects, FY 90 and FY 94**

Indicators for FHI's Agricultural Development	FY 90	FY 94
Greenhouses Built	463 (of 16 m2)	90 (of 55 m2)
Wells Built	437	146
Village Water Systems Built	2	13
Production/ Greenhouse (Kgs)	90 kg/gr (tom.) 64 kg/gr (let.)	460 kg/gr (tom.) 280 kg/gr (let.)
Total Production (MT)	41.67 (tom.) 29.63 (let.)	20.52 (tom.) 15.62 (let.)
Irrigation Systems Built	8	39
Total Has. under Irrigation	16	110.5
Production/ Ha. (MT)	5 (potato) 7 (onion) 8 (carrot)	13.91 (potato) 32.98 (onion) 20.85 (carrot)

Source: Food for the Hungry. Note: FHI began constructing 55 m2 greenhouses rather than the smaller 16 m2 ones in FY 93.

#### B. ADRA

ADRA's regions span all three geographic zones: three are in the high valleys near to La Paz, one is in the Cochabamba valley, and three are in the Tropical Plains. The three in the high valleys help farmers increase production of potatoes and tomatoes; the one near Cochabamba helps farmers increase production of corn and tomatoes; the three in the Tropical Plains help farmers increase production of rice and tomatoes. The projects have also helped farmers begin or expand production of fruit, eggs and poultry, and other staples and vegetables, but these efforts have been sporadic and largely unsuccessful. The major activity has been to increase production, consumption, and sale of the basic staples produced in the region and the two vegetable for which there is strong demand in the market and at home -- tomatoes and onions.

The results of ADRA's program in FY 89 and FY 94 are shown in Table V.2. The table also gives a baseline for productivity per hectare prior to the start of the program.

### C. Caritas

Caritas' regions span all three geographic zones. Caritas' program, begun in FY 90, was treated more as an agricultural development fund for the most promising projects submitted by the 16 Caritas regional diocesan organizations. Between five and seven projects were funded each year, representing a variety of activities spread throughout the country. Many projects were funded for only a year; others were continued for two or three years. A 1992 evaluation of the Caritas program found that Caritas did poorly in helping farmers increase production and productivity of specific crops but performed adequately when building irrigation systems to increase productivity of all crops.

Caritas began changing the definition of its agricultural program in FY 93, stressing the three types of agricultural projects in which it has had success -- wheat production in the Valleys, forestation on the Altiplano, and milk production in the Tropical Plains and irrigation systems in all regions.

Caritas' achievements in each of these four types of projects in FY 89 and 94 are shown in Table V.3. In addition, totals are given for the four years of achievements from FY 90 to 94.

**Table V.2: Process & Impact Indicators for ADRA's Agricultural Development Projects, FY 89 and FY 94**

Indicators for ADRA's Agricultural Development	Baseline	FY 89	FY 94
<u>High Valleys:</u>			
Communities Assisted	0	13	20
Farm Families Assisted	0	730	648
Has. Potato Production Assisted by Project	0	17	11
Production/Ha., Potatoe (MT)	5.6	6.5	7.5
Production/Ha., Tomatoe (MT)	8.4	8.9	9.5
<u>Cochabamba Valley:</u>			
Communities Assisted	0	6*	8
Farm Families Assisted	0	95*	120
Has. Corn Production Assisted by Project	0	30*	39
Production/Ha., Corn (MT)	2.1	2.1*	2.4
Production/Ha., Tomatoe (MT)	7.9	8.1*	8.4
<u>Tropical Plains:</u>			
Communities Assisted	0	37	38
Farm Families Assisted	0	390	442
Has. Rice Production Assisted by Project	0	160	480
Production/Ha., Rice (MT)	1.6	2.1	3
Production/Ha., Tomatoe (MT)	12	15.5	20

Source: ADRA

\* The Cochabamba project was not begun until 1993.

**Table V.3: Process & Impact Indicators for Caritas's  
Agricultural Development Projects, FY 89 and FY 94**

<b>Indicators for Caritas's Agricultural Development</b>	<b>FY 90</b>	<b>FY 94</b>	<b>Total</b>
<b><u>Wheat Production:</u></b>			
Hectares under Production	0	1,527	1,527
Production per Year (MT)	0	1,253	1,253
<b><u>Forestation:</u></b>			
Hectares Reforested	203	398	1,354
<b><u>Milk and Dairy:</u></b>			
Family Dairy Farm Cows	0	37	171
✓ Average Daily Milk Production per Cow (liters)	0	5	--
<b><u>Irrigation Systems:</u></b>			
Systems Built	19	1	37
New Has. Under Irrigation	287	63	816

Source: Caritas

#### D. Evaluations.

There has been one evaluation of the program, *Rural Development Component, PL-480 Title II*, (August 1992), by James C. Jones and Hugo Vargas.

The conclusions of the evaluators were:

1. The cooperating sponsors occasionally exaggerate the impact of their programs. On-site visits are needed to check the validity of their data.

2. No project has had more than minimal regional impact. Adverse weather and climate are partly accountable, but poorly designed projects of the cooperating sponsors are also to blame.

3. The rate of arrears on project loans has been very high, ranging from 30% to 84%. Bad weather, volatile market prices, and scarce transportation have contributed to these late payments. Short-term loans to marginal farmers can turn into defaulted loans with a single bad harvest. There is little evidence that revolving funds can be sustainable.

4. The most successful projects adapt social science principles to local farming methods. Changes are introduced gradually, and technologies match the farmers' abilities and economic circumstances and the region's ecology.

5. The policy of using food as an incentive has led farmers to expect free services and has compromised efforts to introduce developmental projects.

6. Projects aimed at increasing production have often been too ambitious or have pursued unrealistic goals.

7. Cooperating sponsors who prize mutual aid among their beneficiaries have the most success with agricultural projects.

8. Even though some projects to market vegetables have had success, the wisdom of promoting commercial vegetable production for marginal farmers in tropical regions is questionable. The costs of producing vegetables are high because pests make costly commercial pesticides a necessity. Demand is limited, markets are far away, prices are unstable, and roads to transport crops are bad or nonexistent.

9. The use of inorganic pesticides poses great risks to health: nevertheless, if pests are not controlled, farmers in the tropics cannot produce vegetables and therefore cannot obtain the intended nutritional benefits.

The evaluators recommended that:

1. The monetization committee's delays in disbursing funds profoundly damage agricultural projects. Disbursements should be seasonally synchronized and should not be delayed. This problem is urgent.

2. Agricultural projects should be designed and funded for more than two years, and the level of funding should be correlative to the length of the project.

3. Projects which encourage slash and burn agriculture, or the production of vegetables for market by poor farmers in tropical zones, should not be funded.

4. The cooperating sponsors that promote vegetable gardens, whether in greenhouses or in open fields, must promote technologies that do not require inorganic pesticides.

5. The use of revolving funds should be suspended. If the desired outcome is income generation, loan funds should be replaced by a project modeled on FHI's, in which the Cooperating sponsor and the loan recipients share costs, and the sponsors costs are considered as seed money.

6. The monetization committee should bring the Cooperating sponsors together periodically to share information about successes, problems, and methods to overcome those problems. Workshops would be very useful in:

- (a) Greenhouse production of vegetables,
- (b) Vegetable gardens in tropical zones, and
- (c) Small-scale irrigation.

## VI. MUNICIPAL FOOD FOR WORK

### A. Program Services

Political power in Bolivia has been tightly controlled from the center. The Government of Bolivia's Popular Participation Law of 1994 (PPL) reverses this tradition by dividing the country into more than 300 municipal sections, giving them responsibility for public works and services, and distributing 20% of national tax revenue to these municipal sections on a per capita basis. Previously, 10% of national tax revenue was distributed to major cities only, and La Paz, Cochabamba, and Santa Cruz received 91.8% of these monies.

The Popular Participation Law gives the municipalities ownership of public infrastructure for health, education, sports, and micro-irrigation. Citizens participate in selecting public works and services and citizens' oversight committees are being formed to oversee the construction of public works, the provision of services, the income and expenditures of their municipal section, and the maintenance of local infrastructure.

The Title II Municipal Food for Work program (MFFW) has been one of the major impetuses for the recent surge in laws and programs to increase democracy. Originally conceived primarily as a vehicle to develop municipal infrastructure -- cobblestone streets, potable water and sewerage systems, communal areas -- the food for work program has helped develop community leaders with the grassroots skills to plan and implement community-wide projects. Citizens are becoming empowered to influence local decision-makers and even to use their personal skills in the role of decision-maker.

Food for work projects and the Popular Participation Law take advantage of a cultural tradition that has regulated Bolivian society for millennia, that of a whole community's organizing and implementing its own projects. Whether sowing or harvesting crops, raising a house for newlyweds, or cleaning irrigation canals, all members of a community who are physically able participate in that community's projects.

Municipal food for work projects serve 14 of the 15 largest cities of Bolivia as well as the capital cities or towns of 105 of the 292 municipal sections below 50,000 in population. Table VI.1 illustrates the geographic coverage of the PPL-established municipalities under the municipal food for work program, as well as the mean number of rations received by an unemployed family. The mean is much greater for families living in small municipalities than for those living in larger ones.

Table VI.1: Geographic Coverage of PPL municipalities under MFFW in FY 93

Population Size of Municipality	Municipalities				Rations *		
	Identified in PPL		Covered by MFFW		Number Provided FY 93	Unemployed Families Covered	
	No.	%	No.	%		Familias	Rations
100,000 - +	8	2.6	8	100.0	217,692	119,730	1.82
50,000 - 99,999	7	2.3	6	85.7	72,803	10,072	7.23
20,000 - 49,999	47	15.2	28	59.6	74,059	12,005	6.17
10,000 - 19,999	72	23.2	27	37.5	67,212	4,892	13.74
5,000 - 9,999	82	26.4	31	37.8	43,623	3,332	13.09
2,000 - 4,999	53	17.1	19	35.9	13,542	1,058	12.80
0 - 1,999	41	13.2	0	0.0	0	0	0.00
Totals	310	100.0	119	38.4	448,331	151,089	2.65

Sources: GOB, Ley de Participación Popular; Reports of ADRA, Caritas, and PCI.

\* A typical monthly ration consists of 22.5 kgs of wheat flour; 16.0 kgs of corn meal; 13.0 kgs of lentils or rice; 3.0 kgs of sugar and 1.2 kgs of iodized salt, for an approximate total of 55.7 kgs.

The food for work program has been successful in helping to leverage scarce local resources so that cities can construct more public works. The concrete results in meeting Bolivia's broader development needs can be seen in Table VI.2 below. The program was particularly successful in paving 1,729 kms of streets and roads and in installing 751 kms of water lines and 902 kms of sanitary sewers form FY 89 to 94.

**Table VI.2: Urban infrastructure carried out under MFPW, FY 89 to 94**

Type of infrastructure	Projects Completed	Quantity of Work
Potable water systems	335	751 kms.
Sewer systems	218	902 kms.
Street and road paving	529	1,729 kms.
Parks, sports fields, multipurpose centers	607	372 centers 689 parks
Forestation	4,012	12,590,309 trees
School Construction	215	215 schools
Low Cost Housing	273	273 houses
Other projects	2,719	
Subtotal	8,908	

Sources: *Annual Progress Reports*, ADRA, Caritas and PCI.

The food for work program has been instrumental in providing temporary employment for thousands of urban residents for whom there was no alternative source of income. The program has provided 104,062 person-years of employment since October 1989. In FY 94 municipal food for work programs employed an average of 32,479 persons per month. The National Institute of Statistics calculated that the official urban unemployment rate for the second half of 1993 was 5.9%. The program has helped ease the press of unemployment substantially.

Bolivia is a food-deficient country that in 1992 had an overall malnutrition rate of 35.5% and a mean daily per capita shortfall of about 300 calories. In 1990, the U.S. Congress's

amendments to PL-480 required that all food aid be used to help achieve food security, defined as:

When all people at all times have both physical and economic access to sufficient food to meet their dietary needs for a healthy and productive life. (*USAID Policy Determination 19*)

Allocations for Title II food for work was increased from 10,900 metric tons in FY 92 to 23,100 metric tons in FY 93. The food for work program has two strengths in increasing food security:

(1) all projects improve direct access to food by the nutritionally vulnerable; and

(2) many projects improve food security indirectly through water and sewer construction which improves the community's overall health and its ability to assimilate nutrients.

#### B. Evaluations of the Program

Three principal reports evaluated part or all of the MFFW program. MSI's *Strategic Planning Assistance for PL-480* (1991) suggested how program performance indicators for the program might be evaluated and offered several conclusions and recommendations for improving the program. *An Assessment of the Income, Food Security and Nutrition Consequences of Urban Food for Work in Bolivia* (1992) was prepared by The Women and Infant Nutrition Support Project. *An Evaluation of the Amended PVO Management Support Project* (1993) analyzed USAID's pilot project under MFFW and contributed to for USAID's enthusiastic support for President Sánchez de Lozada's Popular Participation Law.

The evaluators concluded that:

1. All Title II foods channeled through cooperating sponsors promote or improve municipal infrastructure.

2. More technical assistance in project design is required in order to develop programs that promote democratic initiatives.

3. MFFW is not a food distribution project but rather a project to promote municipal infrastructure and democratic initiatives. It effectively uses food as a means for strengthening municipal governments and citizen participation.

4. Participation helps municipal governments do more. The program supplements municipal budgets with resources provided by the citizens themselves, who typically contribute not only ideas and labor but materials and money as well.

5. The Popular Participation Law, provides an ideal climate for democratic participation.

The evaluations' major recommendations were:

1. Projects to improve municipal infrastructure are explicitly designed to promote democratic initiatives.

2. Continue the program as an experiment in democratic participation for at least 2.5 years so that participatory working relationships between citizens and the next two municipal government administrations have time to develop.

3. Disseminate the lessons of democratic initiatives on a wider scale and institutionalize the process of citizen participation in municipal decision-making.

4. Increase food for work projects under the Popular Participation Law:

- (a) to increase employment in the poorest neighborhoods,
- (b) to develop and maintain municipal infrastructure in these neighborhoods, and
- (c) to foster democratic initiatives in these neighborhoods by making municipal officials more responsive in providing services and infrastructure and increasing citizen participation in municipal decision-making.

5. View all projects as opportunities to improve food security and nutrition. Programs should be directed to women in the lowest income range and to small community-based infrastructure. Rations should be set so that workers earn at least 80% of the minimum wage, and should take into account the additional calories needed for heavy work, income reductions from previous employment, fees to cooperating sponsors, and the cost of tools, transport, and other work-related expenses.

## VII. SCHOOL FEEDING

### A. Program Services

The school feeding program serves school children from ages 6 to 12. Public education in Bolivia is divided into three levels: elementary school (grades 1 to 5), junior high school (grades 6 to 8), and high school (grades 9 to 12). School feeding serves students enrolled in elementary schools.

There are 12,054 public schools in Bolivia and 10,350 of them are elementary schools. School feeding is largely limited to rural schools, although some schools in poor periurban areas also have school feeding programs. In FY 94, 2,660 schools were enrolled in school feeding.

Under the program, students in rural areas eat breakfast and lunch at school. Breakfast consists of milk or a hot corn-meal drink and a piece of bread served at 10:30 a.m. during recess. Lunch consists of a soup or stew made from bulgur wheat, wheat flour, corn flour, rice, or lentils served at 12:30 during the midday recess. Students receive a ration of 2.64 kilos per month from FHI or 3 kilos per month from Caritas and ADRA. Their parents pay 0.80 Bs. for the FHI ration and 1.00 Bs. for the Caritas or ADRA ration. The parents also pay for the containers in which the food is packed and for transportation of the food from the cooperating sponsor's warehouse to their school.

Parents choose whether to have school feeding programs in their schools and whether their children participate in the program. They also carry out the school feeding program. They collect the food from the warehouse of the cooperating sponsor, transport it to their school, store it, and cook and serve the meals.

The number of schools enrolled in the program fluctuates significantly from year to year. For example, approximately 1,000 more schools were enrolled in the program in FY 93 than in FY 94, although there was no variance in the ration nor in the overall allocation of food for the program.

In the Department of Oruro 72% of elementary schools receive school feeding, compared to 39% in the Department of La Paz and 44% in the Department of Potosi. This is because FHI/Oruro and Caritas/Oruro ask for and receive more food for school feeding.

Table VII.1, on the following page, lists the number of schools with school feeding, by departament, for FY 94.

Table VII.1: Schools with Title II School Feeding Programs, FY 94

Department	Primary Schools	- All Schools -		With School Feeding	
		Rural	Urban	Rural	Urban
La Paz	2,618	2,320	296	880	80
Oruro	535	473	62	147	0
Potosi	1,836	1,750	86	431	14
Cochabamba	1,535	1,360	173	551	54
Chuquisaca	917	876	41	254	0
Tarija	551	481	70	86	0
Santa Cruz	1,544	1,216	328	126	0
Beni	607	531	76	162	42
Pando	204	197	7	23	0
Total	10,345	9,206	1,139	2,660	190

Source: National Secretariat of Education and Cooperating Sponsors' Annual Reports

#### B. Evaluations of the Program

USAID/Bolivia conducted an evaluation of the school feeding program in the Departments of La Paz, Oruro, and Potosi in FY 94. The evaluation assessed the extent to which the school feeding program increases student nutrition and reduces student dropout. The evaluation also assessed how well the parents carried out the program and how well the cooperating sponsors managed it.

The evaluation's major conclusions were:

1. School feeding significantly improves the diet of elementary school children. Students fed by the program consume nearly two-thirds of their daily requirements for calories and protein. Students without school feeding programs consume less than one-half of their daily requirements for calories and approximately one-third of their daily requirements for protein.

2. Teachers who have taught students with and without school feeding uniformly state that students are more alert, have more energy, and are better learners if they have school feeding.

3. Over the first 8 months of the 1994 school year, 10% of students had dropped out in schools without school program, compared to 3% in the schools with school program. Parents stated that they sent their children to school for the school feeding as much as for the education, and they often send their children to school early, at the age of four or five, to take advantage of school feeding. About 50% of all students drop out over the course of the five years of elementary school. School feeding can make a major contribution in reducing school dropouts.

4. Parents do a reasonably good job of carrying out the program. The quantity and quality of the program and its nutritional impact do however vary considerably from one school to another. Some cooperating sponsors provide instruction in preparing food. In some schools work is shared more equally among the parents, which encourages them to bring additional food when it is their turn to cook.

5. The percentage of schools with school feeding varies widely from province to province. Because parents choose whether they want school feeding for their children, it is difficult to target the program to the poorest provinces and students. There is, however, no tendency to serve a greater percentage of schools in more affluent provinces, nor is there a tendency to serve a greater percentage of schools in the poorest provinces.

6. The school feeding program starts after the beginning of the school year in most schools because of the administrative procedures used by the cooperating sponsors. Also, as many as 20% of the schools leave the program during the course of the school year because of the program's various costs to the parents.

The evaluation's major recommendations were:

1. Train parents and teachers at least once a year in how to carry out the program. Hire trainers and make them responsible for supervising and inspecting the program. Pay for the additional program costs, as needed, from the Monetization Program.

2. Provide more continuous service by organizing the program for the new year in advance of the start of school and by targeting training to areas in which schools tend to drop out of the program during the course of the year.

### VIII. HUMANITARIAN ASSISTANCE

Humanitarian Assistance projects bring food and relief to the most vulnerable Bolivians. Many of these people migrate to cities from areas where mines have closed or where the natural resources necessary for agriculture are meager. Others, victims of disasters, get temporary help through emergency relief programs. Although given scant attention in reports and evaluations, these programs are a constant in the Title II portfolio. Assistance has customarily been divided into two types of support: humanitarian assistance programs and emergency relief.

**Humanitarian Assistance Programs.** Donated food is given to institutions that care for the destitute: orphans, the mentally ill, the blind, the hospitalized, the elderly and disabled without family support, and those in rehabilitation centers. Additionally, city soup kitchens feed the non-institutionalized urban poor -- street children, orphans, and adults without jobs or family support. The goal of these institutional programs is to reduce hunger for malnourished people who have no access to or do not qualify for other assistance. For many, this assistance is their major source of food.

According to James Pines and Janet Lowenthal,<sup>1</sup> increasing the use of food developmentally helps the sponsors create more, or more successful, developmental programs. Therefore, safety net programs such as humanitarian assistance can be expected to decline over time. This has begun to happen:

- In 1992, Caritas said that although "Humanitarian Assistance continues to remain an important part of the overall work of CRS and Caritas, the school feeding, other child feeding, and general relief components [have been] reduced . . . due to the increased development focus of the Title II program."
- FHI views its humanitarian assistance program as a "complement" to its other programs and attaches only marginal importance to it. In 1994, its non-emergency humanitarian assistance programs only reached 71.3% of beneficiaries planned for, because people who qualified for the aid didn't seek it. Thus, in 1995, FHI has planned for fewer beneficiaries in this program. Neither FHI nor ADRA assigns full-time staff to its program.

The impact of humanitarian assistance is difficult to assess because it is a transitional support through difficult times. Nonetheless, it is likely to continue as a part of all three sponsors' program as long as economic dislocation and its consequent migration, which hinder true development programs, remain a part of Bolivian life.

**Table VIII.1: Number of Indigent Persons Served Per Month with Humanitarian Assistance, by Sponsor**

	Caritas	FHI	ADRA
1989	10,000	5,000	1,236
1990	11,874	3,050	0
1991	23,702	3,500	6,639
1992	25,963	3,800	33,484
1993	31,894	3,987	5,245
1994	15,000	3,565	5,000
<b>Total</b>	<b>118,433</b>	<b>22,902</b>	<b>51,604</b>

Source: Annual Reports of CRS/Caritas, FHI, ADRA

**Emergency Relief.** During states of emergency declared by the Bolivian Government, usually in response to natural disasters such as floods or droughts, the cooperating sponsors may be called upon to provide relief food for disaster victims. Since states of emergency are unpredictable, the sponsors reserve 10 percent of their food supply for such occasions. When a national disaster is declared, USAID/Washington sends emergency shipments of Title II food to Bolivia.

This relief forms an important part of the work of Caritas, which gives assistance in two ways: for relief of pervasive and ongoing drought and flooding, and for relief of localized disasters, both natural and man-made. ADRA also plays a role in disaster assistance by helping the Bolivian Civil Defense Agency distribute food.

The drought of 1988-90, which affected most of Bolivia, led Caritas to ask for an additional 2,700 metric tons of food in August 1990. However, distribution was delayed until February 1991 because shipments were slow in coming and low food stocks in the warehouse made it impossible to borrow from the regular program. By the time the shipment arrived in country, the emergency had passed. Although the lion's share was used for flood relief in the Department of Santa Cruz, at year's end there were still 128.3 tons left over. This overage was earmarked in FY 92 for a new drought emergency in Oruro, Potosi, and La Paz departments.

In 1991, ADRA provided food temporarily to poor families in three regions. Food distribution was low -- only 46% of the planned target population received rations -- because the shipments were delayed by transportation and public health crises in Peru and Chile.

Two points seem worth noting from these anecdotes:  
(1) emergencies seem to be a fact of life in Bolivia, lending credence to a continued fixed percentage set-aside, no matter how developmental the sponsor's other programs become; and (2) USAID or sponsors are still slow in getting food to where it is needed in a timely manner.

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THE TITLE III PROGRAM

## IX. EXECUTIVE SUMMARY: TITLE III PROGRAM

Approximately 145,000 metric tons of wheat were imported each year under the Title III Program from FY 89 to 94 and sold to the Bolivian flour millers offering the highest bids. Proceeds from these sales amounted to \$109 million for the six-year period, or an average of \$18 million per year.

Title III resources can be used either for policy reforms or for carrying out programs. Bolivia's Title III program was used more for programs than for policy reforms from FY 89 to FY 94, except for environmental policy reforms, because the Bolivian Government carried out major economic reforms in the mid-1980s. For example, the Bolivian government freed the exchange rate for its currency, controlled its money supply, reduced subsidies to governmental enterprises and started privatizing them, and reduced governmental expenditures. The government also eliminated taxes on exports and removed other barriers to investment, export, and economic growth.

First priority for programs was given to increasing agricultural production, particularly the production of wheat. Funding was also provided to increase the performance of the Bolivian government's rural health services. Funding was also provided for projects to reduce the degradation of natural resources. In addition, funds were provided for Bolivia's counterpart to the USAID-funded coca reduction, alternative development program.

Expenditures by program area for the six-year period are given in Table IX.1 on the following page. Breakdowns by program were not available for FY 89, but total funding for FY 89 was \$20 million.

**Wheat Production.** The Title III wheat production program is one of the big success stories of the PL-480 program. Title III provided grants and credit to wheat farmers to help them increase production in order to measurably increase the amount of Bolivian wheat available for domestic use. Bolivians consume approximately 350,000 metric tons of wheat flour a year and only 20,000 of this amount was provided by Bolivian farmers in 1988. Title III provided credit to more than 5,000 wheat farmers in order to help them increase their production. Grants were provided for improvement and certification of wheat seed, construction of seed processing plants, and construction of wheat collection centers. Wheat production tripled from FY 89 to 94, from 20,000 to 60,900 metric tons, and grew to satisfy 17.4% of national consumption.

Table IX.1: Programming of Title III Funds, FY 90 to 94 (\$000,000)

	FY 90	FY 91	FY 92	FY 93	FY 94
<b>Alternative Development</b>	7.2	8.5	9.7	8.5	8.5
Counterpart	6.5	8.0	8.5	8.0	8.0
Non-counterpart	0.7	0.5	1.2	0.5	0.5
<b>Natural Resources/ Environment</b>	0.8	0.8	2.8	2.1	2.1
Counterpart	0.0	0.0	1.5	1.5	1.5
Non-counterpart	0.8	0.8	1.3	0.6	0.6
<b>Food Production/ Marketing</b>	5.9	4.7	2.2	0.7	0.7
Counterpart	0.0	0.0	0.0	0.0	0.0
Non-counterpart	5.9	4.7	2.2	0.7	0.7
<b>Other Agriculture</b>	2.1	2.0	0.3	0.3	0.3
Counterpart	0.0	0.0	0.0	0.0	0.0
Non-counterpart	2.1	2.0	0.3	0.3	0.3
<b>Health</b>	2.7	2.7	2.8	2.1	2.1
Counterpart	1.0	1.5	1.5	1.4	1.4
Non-counterpart	1.7	1.2	1.2	0.7	0.7
<b>Total Program</b>	18.7	18.7	17.7	13.7	13.7
Counterpart	7.5	9.5	11.5	10.9	10.9
Non-counterpart	11.2	9.2	6.2	2.8	2.8
<b>Administration</b>	1.3	1.3	1.3	1.3	1.3
<b>TOTAL</b>	20.0	20.0	19.0	15.0	15.0

Source: van Haeften, *Bolivia's Food Aid Programs*, Table A-1.

**Other Agricultural Production.** The Title III program has sought to increase agricultural production in general by

- establishing regional councils for certifying seeds
- increasing the production of certified seeds
- providing credit to small farmers through agricultural cooperatives
- funding technical assistance to producers' associations
- constructing agricultural infrastructure
- giving scholarships to farmers.

All of these measures, in addition to accomplishing their own goals, have increased food security and enhanced sustainable development. Seven regional councils have been established, and certified seed production was increased by more than 300% to more than 30,000 metric tons a year. \$36.5 million in credit was extended to 64,254 small farmers to help them increase production and productivity. Grants totalling \$4.7 million were given for technical assistance to 5,994 farmers. Irrigation systems, access roads, and other agricultural infrastructure was constructed. Scholarships totalling \$2.6 million were given to 10,537 sons and daughters of farmers to help them complete high school or receive technical training.

**Health.** Since 1989 the Title III Health Program in Bolivia has sought to immunize the entire under-5 population against immunopreventable diseases. It has concentrated on improving the delivery of health care and the quality of health among the poor rural and periurban populace. From its inception in FY 78 through FY 94, the Health Program has absorbed \$25.1 million, or 15.3% of Title III's total disbursement.

The Title III Health Program has financed seven major projects at the national level, providing counterpart funds for three, as well as wholly funding four projects. Counterpart-funded projects account for 55% of the FY 92-94 health budget:

- the Community and Child Health Project (CCH)
- the Control of Chagas Project
- the Extended Program of Immunization (EPI).

The goal of these projects has been to improve family health by developing an Integrated Child Survival program, control of Chagas' disease, delivery of potable water and sanitation, and the control of acute diarrheal diseases.

Title III funded one national immunization campaign and four rural campaigns. They met 85% of their objectives, having been especially effective among infants under one year of age. From FY 89 to 94, the infant, child and maternal mortality rates in rural areas decreased: the infant rate from a range of 167 to 245 per 1,000 to 75 per 1,000; the child rate from 168.4 to 116 per 1,000; and the maternal rate from 48 to 39 per 10,000.

The pilot project for the Control of Chagas established pilot projects in the 10 localities that have the highest prevalence of Chagas infestation in Bolivia.

Projects to control malaria, rabies, tuberculosis, and yellow fever were wholly funded by Title III. Functioning in the seven departments affected by malaria, the malaria control project reached a coverage of 83% in 1993 in remote areas. Rabies elimination reduced the infection rate to 0.017 per 1,000 persons in 1993. The tuberculosis project served more than 500,000 persons and helped reduce the incidence of tuberculosis from 222 to 120 per 100,000. The yellow fever project attained a coverage of 1.7 million in 1993.

**Environment.** There is a growing consciousness that without a sustainable natural resource base, long-term economic development will founder. Agricultural productivity increases as degraded resources are brought back to usefulness, thereby adding to locally grown foodstuffs and contributing to food security.

The PL-480 Title III program directly supports USAID/Bolivia's strategic objective of reducing forest, soil and water degradation, and of protecting biodiversity. In FY 92-94 slightly more than \$8 million, or 15% of the total Title III budget, was devoted to projects supporting this objective. In this same period, the percentage of Title III funds for environment increased from 6% to 18%, or an increase of \$2.4 million annually. Funding was provided to establish fledgling environmental organizations, maintain national forest reserves and parks, and train forest police. Title III also promoted several key environmental laws and policies.

**Policy Reforms.** From FY 92 - 94 the PL-480 Title III program met seven of its eight benchmarks, all aimed at achieving policy reforms to promote sustainable natural resources. The program actively helped create a national environmental defense fund, pass a new environmental law, draft regulations for that law, develop a plan to strengthen environment enforcement agencies, and develop a program to measure the impact of the *Pausa Ecologica Historica* which was a five-year moratorium on new forestry concessions. In addition, Title III funded studies which are laying the groundwork for an equitable system of forestry concessions and an equitable land tenure law. The last benchmark -- decentralizing forest management -- depends on passage of the Forestry Law.

The programs described in this section are those for which Title III had the primary responsibility. The only major program not discussed is the Cochabamba Regional Development Project (CORDEP), for which PL-480 provided approximately \$8 million per year in counterpart funding for a \$26 million per year project.

## X. WHEAT PRODUCTION

Bolivians consume approximately 350,000 metric tons of wheat flour a year. In 1988 Bolivian farmers produced 20,000 metric tons of wheat suitable for milling; in 1994, they produced 60,900 metric tons. Nearly \$30 million of the \$109 million in Title III funds for the period from FY 89 to 94 was spent to increase agricultural production throughout Bolivia. Nearly half of these funds were spent to increase the production of wheat. Increases in wheat production during the period are largely the result of the Title III program, and these increases are one of its major success stories of the program. For this reason, the assessment of the wheat program is given a chapter of this report. All other agricultural projects are assessed in Chapter XI.

### A. Program Activities

The Title III program provided grants to increase the production and distribution of certified wheat seed. Nearly all the funding was provided through associations of wheat farmers or farmers' cooperatives. In a few cases, funding was given to non-governmental organizations that provided extension services and other support to wheat farmers. Grants for distribution consisted of building seed processing plants and collection centers. Grants were also provided to regional seed councils for the purpose of helping establish these councils and their supervision of the production and distribution of certified seed.

The Title III program also provided credit to wheat farmers for the purpose of increasing wheat production. The credit was provided through producers' associations, based upon proposed increases in the number of hectares to be put into wheat production. The amount of credit provided and the proposed and actual increases in the number of hectares under production for FY 90 and 94 are given in Table X.1 on the following page. Figures are not available for FY 89, and the program was expanded significantly in FY 90. Thus, FY 90 serves as a baseline or benchmark for the proposed and actual number of hectares under production funded under the program.

**Table X.1: Credit and Increases in Hectares Under Wheat Production, FY 90 and FY 94**

	FY 90	FY 94
Credit (\$000)	3,331	7,279
No. of Farmers	3,700	7,500
Proposed Increases in Ha. of Wheat	20,000	60,000
Actual Increases in Ha. of Wheat	15,400	53,550

Source: Annual Reports, PL-480 Executive Secretariat

### B. Achievements

The wheat program was able to triple production of wheat suitable for milling, from 20,000 metric tons in 1988 to 60,900 in FY 94. In addition, the program helped to increase wheat production per hectare by 56%. Further increases are limited because of the relation between wheat and soy beans, which are intercropped. The demand and production of soy beans must increase, consonant with any further increases in wheat production. In addition, land suitable for wheat production is now used to grow sunflowers for sunflower oil. Further increases in wheat production are also affected by the profitability of growing sunflowers versus the profitability of growing wheat.

### C. Evaluations

The Title III program and the program for increasing wheat production was evaluated in 1994 by Cariaga, *Diagnóstico del Programa PL-480 Título III en Bolivia*, and by Reutlinger and Del Castillo, *An Interim Report: A System to Monitor and Evaluate Food Security in Bolivia and the Food Security Impact of the Title III Program*.

The evaluators found that:

1. The wheat program had been successful in increasing the production and use of certified seed and the production and sale of wheat. Wheat production tripled during the six-year period under assessment.

2. Wheat is increasingly being intercropped with soy beans. The increases in wheat production helped to increase soy bean production as well. Also, sunflowers are being grown on land suitable for wheat production as an alternative to wheat. Further attempts to increase wheat production must include consideration of the production and sale of these other two crops and the entire economic interests of the wheat farmer.

3. Wheat farmers in Bolivia cannot compete with wheat from Argentina for sales in the La Paz market and other cities of the Altiplano because of the much higher yields in Argentina and the excessive costs of rail transport from Santa Cruz to La Paz. Sale of Bolivian wheat must of necessity be limited to Santa Cruz, the Beni, and the Valleys of Cochabamba, Sucre, and Tarija until reforms are made to the rail system and rail transport is less expensive.

The evaluators recommended that:

1. The wheat program be phased out because it had achieved its aims and was now being sustained by the private sector.

2. PL-480 funding be shifted to the Altiplano and Valleys in line with the new policy for increasing food security because the Valleys and Altiplano are home to the majority of both rural and urban poor in Bolivia.

## XI. OTHER AGRICULTURAL PRODUCTION

The Title III program has sought to increase agricultural production in general by

- establishing regional councils for certifying seeds
- increasing the production of certified seeds
- providing credit to small farmers through agricultural cooperatives
- funding technical assistance to producers' associations
- constructing agricultural infrastructure.
- giving scholarships to farmers.

### A. Seed Production

Title III provided grants to seven regional seed councils (Santa Cruz, Cochabamba, Chuquisaca, Tarija, Potosi, Gran Chaco, and La Paz) from FY 89 to 94 for the purpose of increasing the production of certified seeds. Some funding was also provided for strengthening the councils themselves.

In FY 89, the program funded and achieved increased production of a variety of certified seeds. The certified seeds produced that year with Title III funding, with the amounts given in metric tons in parentheses, were as follows: soy beans (3,795), corn (871), rice (655), cotton (195), beans (27), potatoes (3,337), barley (368), rye (276), oats (9), fodder (25), garlic (208), peas (10), onions (2), carrots (2), beets (1), alfalfa (17), millet (16). Total production of certified seed for FY 89 was 9,724 metric tons; for FY 93, it was 30,491 metric tons, after which the program was discontinued. These figures exclude wheat seed, which was discussed in the previous section.

The program was phased down in the years from FY 90 to 93 and discontinued thereafter. It proved difficult to grow and market certified seed in many of the crops, and it was difficult for regional and national seed councils to attend to the improvement and certification of so many different types of seeds at once. Records of the amount of certified seed produced by type of seed, were not kept after FY 90.

### B. Credit to Small Farmers

Title III provided funding to small farmers to help them increase their production of crops appropriate to their regions and their income. Credit was provided for inputs which would increase productivity of existing crops or help farmers diversify to new high-value crops.

The credit was provided through agricultural cooperatives and commercial banks. The credit provided through cooperatives included some funding for strengthening the cooperatives such that they could manage the funds effectively and increased their services to their farmer-members. \$36.5 million of credit was provided to 64,254 farmers from FY 89 to 94.

#### C. Technical Assistance to Farmers' Associations

Title III funded a program of technical assistance to farmers' association during the six-year period. The selection of the associations and the technical assistance was coordinated with the agricultural chambers of commerce in each department.

The consulting firm RONCO helped select the associations. RONCO then provided the technical assistance and training to the associations. \$4.7 million in technical assistance was provided to 5,994 farmers from FY 89 to 94.

#### D. Agricultural Infrastructure

The Title III program also provided funding for constructing irrigation systems, access roads, and other agricultural infrastructure. Construction projects were selected on the basis of their ability to create sustainable increases in agricultural production and sales of crops. Priority for projects was given to poor rural areas. More than 50,000 farm families, or a total population of more than 250,000, benefitted from these projects.

#### E. Farmers' Scholarships

Title III provided scholarships for sons and daughters of farmers to attend high school and technical schools. The dropout rate in rural primary schools approaches 50%, and children of farm families who complete primary school often do not complete high school because high schools are in towns at some distance from their rural community. Scholarships for completing secondary education in public schools covered the costs of educational materials and food and lodging in the town in which the high school was located. Scholarships were given for technical training in agriculture, carpentry, nursing, and sewing. The technical training was provided for the most part by private, non-profit schools.

In addition, the program also funded short-term vocational training courses in selected rural areas.

Table XI.1: Farmers' Scholarships, FY 88 and FY 94

	1988	FY 94	Total
Amount of Grants (\$000)	863	797	2,610
No. of Educational Institutions	16	19	35
Proposed No. of Scholarships	1,575	813	5,086
Actual No. of Scholarships	1,907	1,600	10,537

Source: PL-480 Executive Secretariat Annual Reports

#### F. Program Conclusions and Recommendations

Few evaluations have been conducted of the PL-480 agricultural program as a whole. The only evaluations that review the results of these programs are: Cariaga, *Diagnóstico del Programa PL-480 Título III en Bolivia* and Reutlinger and Del Castillo, *An Interim Report: A System to Monitor and Evaluate Food Security in Bolivia and the Food Security Impact of the Title III Program*. There are, therefore, few conclusions as to the agricultural program or recommendations for improving it.

The following conclusions and recommendations can be gleaned from these evaluations:

1. None of the agricultural programs, other than wheat, achieved the impact of the wheat program. This is because they were organized by means -- credit, cooperatives, research -- rather than addressing the aims of increasing production of and income from specific crops.
2. To effectively address food security, the agricultural program should focus on specific food-insecure populations and the marketable crops they can produce and should fund the actions which will help these populations increase production and income.
3. The farmers' scholarships program was successful because it focussed on a single problem which could be solved with funding alone.

## XII. INTEGRATED CHILD SURVIVAL & COMMUNITY HEALTH

### A. Program Analysis

UDAPE et al. in its 1993 *Mapa de Pobreza (Poverty Map)* found that 70.5% of all Bolivians live in poverty.<sup>1</sup> The incidence is strikingly high among the rural population: 95.1%. Access to health centers is low in rural areas (66.1%). Access to services of potable water and sanitation is negligible (6.3%).

In the early 1980s, countries such as Honduras and Guatemala embarked on sweeping programs to make their Ministries of Public Health providers of primary health care, with priority given to the rural poor. Bolivia began that process less than 10 years ago and is still catching up.

The Title III Health Program has concentrated its financial resources on improving the delivery of health care and the quality of health among the poor rural and periurban population. From 1989, in accord with the Ministry of Planning, Title III has given priority to primary care services for rural and periurban residents of low income. From its inception in FY 78 through FY 94, the Health Program has disbursed \$25.09 million, or 15.3% of Title III's total disbursement.

The Title III Health Program has supported seven projects at the national level, providing counterpart funds for three projects and wholly funding four projects.

**Table XII.1: Cost per Beneficiary of PL-480 Health Projects and Counterpart Funding through FY 93**

Program	Funds Disbursed (\$)	No. of Beneficiaries	Cost/Beneficiary (mean \$)
<b>PL-480 Counterpart</b>			
CCH	9,529,344	415,706	22.92
Chagas	6,512,575	20,000	325.63
EPI	2,332,236	800,000	2.92
Subtotal	18,374,155	1,235,706	14.87
<b>PL-480 Projects</b>			
Malaria	6,049,103	2,750,000	2.20
Rabies	349,117	6,800,000	0.05
Tuberculosis *	2,500,000	541,604	4.62
Yellow Fever	1,187,290	1,728,755	0.69
Subtotal	7,585,510	11,820,359	7.56
Total	25,959,665	13,056,065	22.43

Source: Cariaga, Cuadro IV-4, p. 78.

\* All data on the tuberculosis program is taken from SPH Tuberculosis Program, "Informe Anual ...". The amount of funds is the total amount, which includes funds from PL-480 Title III and the Treasury which pays for salaries and infrastructure.

#### A. Counterpart-Funded Projects

Counterpart-funded projects account for 55% of the Title III FY 92-94 Health budget. They are:

- the Community and Child Health Project (CCH)
- the Control of Chagas Project
- the Extended Program of Immunization (EPI).

The goal of these projects has been to improve family health in rural and periurban areas by concentrating improving the national immunization program, developing a child survival program in 11 model health districts, controlling of Chagas disease, providing potable water and sanitation, and controlling of Acute Diarrheal Diseases (ADD).

CCH was approved in 1988 as USAID Project No. 511-0594, whose purpose was to reduce infant, child and maternal mortality and morbidity. In 1990 the amount of counterpart funds was increased from \$5.5 million to \$8 million, with the \$16.5 million in USAID grant remaining at the same level. These counterpart funds, all from Title III, were channeled through the CCH Central Office, where the technical supervision is based. By the end of FY 93, CCH had received more than \$9 million and benefitted 415,706 persons at an average cost of \$22.92.

Title III funded one national immunization campaign and four rural campaigns in 1993. They met 85% of their objectives and were especially effective among infants under one year of age. Full vaccination coverage of infants rose from under 13% in 1988 to over 83% in 1994.

Table XII.2: Immunization Program, Percentage of Coverage

Process Indicators	Baseline (1988)	FY 94
Immunization w/BCG <1	28%*	76.9-90.1%
AntiPolio -3 doses: <1	15%	47.5-81.9%
DPT - 3 doses: <1	13%	81.0%*
Anti-Measles: <1	17%	55.7-88.1%
Fully Vaccinated * <1	<13%	est. 83%
Tetanus Toxoid - 2 doses: Women 15-45 yrs.	0-4%	21.5%

Sources: USAID, Project Paper: CCH (511-0594), Amendment No.1 [to same]; Sommerfelt et al., *Maternal and Child Health in Bolivia*; MOH/PA.

\* "Fully vaccinated" for 0-6 years of age means vaccinated with 1 dose each of BCG and Anti-measles, and 3 doses of DPT and Anti-polio.

About 60% of the 93 health districts reached 80% coverage of their infants. This is a great step forward from the extremely low national percentage (13%) of fully vaccinated infants. Epidemiologists consider it necessary, in order to have 'herd immunity' for a given disease, for at least 80% of the entire subpopulation at risk to be immunized against that disease. Thus, if this tendency can be improved, in less than four years Bolivia will achieve 'herd immunity' against several of the leading childhood killers.

Coverage is approaching the 'herd immunity' threshold for polio, tuberculosis, and DPT. Poliomyelitis is considered eradicated, as there have been no positive cases since 1989. The incidences of diphtheria and pertussis are low (under 1 and 4 per 100,000). Measles (causing 5% of early childhood deaths) and tuberculosis continue as the two leading immunopreventable factors of childhood morbidity and mortality.

Cariaga estimated that the EPI received a total amount of \$2,332,236. Coverage benefitted 800,000 preschool children and women of fertile age, at an average cost of \$2.92.

**Table XII.3: Impact of Rural Integrated Child Survival Projects**

Impact Indicators	Baseline (1988)	FY 94
Infant Mortality Rate (x 1,000 live births)	167-245	75-80
Child Mortality Rate 1-6 yrs. (per 1,000)	168.4	116
Maternal Mortal. Rate (x 10,000 live births)	48	39

Source: SPH, "Programa Ampliado de Inmunización"; USAID, *Action Plans, Semiannual Progress Reports, Project Paper: CCH (511-0594) & Amendment No.1; Sommerfelt et al., Maternal and Child Health in Bolivia; PL-480 Title III, Informes Anuales, ENDSA 89.*

The pilot project for the Control of Chagas served 10 localities in the Departments of Tarija, Chuquisaca and Cochabamba, which have the highest prevalence of Chagas infestation in Bolivia. Funding for the Control of Chagas Program for FY 91 to 94 was \$2.5 million from Title III and \$1.5

million from CCH, for a total of \$4.0 million. The project has improved 3,135 houses on Chagas-infested areas, benefiting 20,000 families, for an average cost of \$325.63.

The Chagas Project was particularly important because Chagas caused 30% of all deaths in the age range from 15-74 in the endemic areas. Of the total of 13,735 deaths, 4,200 were from chronic cases, 8,600 from acute cases, and 935 from congenital cases. Because Chagas' symptoms have a long latency, it will be many years before the project's impact on reducing the number of new cases, and mortality from these cases, is known.

#### B. Projects Wholly Funded by PL-480

Four health projects were wholly funded by PL-480 Title III:

- Malaria Control Project
- Rabies Elimination Project
- Tuberculosis Control Program
- Yellow Fever Control Project.

The Malaria Control Project worked in eight of Bolivia's nine departments and reached a coverage of 83% in 1993 in remote, endemic areas. Unfortunately, the number of new cases of malaria increased from 22,357 in 1988 to 34,915 in 1994 and the annual parasitic incidence per 1,000 increased from 8.8 to 11.0 during the same period. In Pando, incidence rose from 14.7 per 1,000 in 1988 to 134.4 per 1,000 in FY 94. Guayaramerin reported an incidence over 165 per 1,000 in 1994. These increases are troubling, but should not necessarily be seen as an indictment of the program. Malaria perplexes epidemiologists worldwide, with strains and the mosquitoes that carry them evolving faster than scientists' antidotes. Detection of malaria in its early stages is difficult, which leads to high mortality rates.

Table XII.4: Process &amp; Impact Indicators for Malaria Control

	Baseline (1988)	FY 94
<b>Process Indicators</b>		
# Beneficiaries FY 80-93:	2,750,000	
Funds disbursed FY 80-93 (\$):	6,049,103	
Disbursement per beneficiary FY 80-93(\$)	2.20	
Index of Positive slides x 100,000	21.2	27.0
Index of Annual blood tests x 100	4.2	4.1
<b>Impact Indicator: Morbidity per 1,000</b>		
Annual Parasitic Incidence	8.8	11.0

Sources: NSH, "Situación General del Programa Nacional de Control de la Malaria"; Cariaga, Cuadro IV-4, p.78; USAID, *Project Paper, Amendment No.1*.

From FY 80 to FY 93, the Malaria Control Program spent \$6,049,103 and benefitted 2,750,000 persons at an average cost of \$2.20. Cariaga estimated that it achieved 65% of its goals.

The Rabies Elimination Program worked with local Anti-Rabies Committees in campaigns to vaccinate canines. The program attempts to serve the entire population of Bolivia. In 1993, the rate of rabies infection and mortality in humans was 0.17 per 1,000 persons; the incidence was down from 32 cases in 1989 to 6 in 1994. The Rabies Program, using funds of \$349,117 from FY 89-93, satisfied 70% of its goals to eradicate rabies. The coverage of the entire Bolivian populace, all at risk for rabies, averaged only \$0.05 per person.

The Tuberculosis Control Program has been progressing toward its goal of diminishing the disease at a modest cost. Over the past decade the Program has spent an average of \$250,000 per year in free diagnoses and treatment. The program has benefitted over 541,000 persons with tuberculosis and those living with them, who are at high risk of infection, for an average cost of \$4.62 per person.

The process indicators for tuberculosis have improved between FY 89 and 94. The centers for attention have increased 36%. The immunization rate of children under 5 has nearly doubled, which will have a major impact in 20 years, as the majority of new cases occur in individuals at their most productive time of life, between 20 and 49 years of age.

The impact indicators for tuberculosis have improved between FY 89 and FY 94 as well. The number of new cases dropped 13.5%, and the incidence for all forms of tuberculosis dropped from 222 to 120 per 100,000. The percentage of positive cases who abandon treatment dropped 43% and the cure rate rose 62%. Both of these are important indicators, as they not only reflect a reduction in actual cases, but also in probable cases, as the former cannot infect others. (Tuberculosis theoretically grows each year by a power of 2; that is, each untreated patient infects 2 others.) The Tuberculosis Program credits PL-480 Title III with making a timely donation of anti-tubercular medicines to all 12 health regions.

Table XII.5: Process & Impact Indicators, Tuberculosis Control

	Baseline (1989)	FY 94
<b>Process Indicators</b>		
# Beneficiaries FY 89-93	1,728,755	
# Centers-attention	785	1,226
<b>Impact Indicators: Morbidity</b>		
# New cases	10,664	9,392
Incidence x 100,000	222	120
Incidence of TB Meningitis <5 x100,000	17.9	5
% Abandonment	35.5%	15.5%
% Cured	44.5%	72.2%

Sources: SPH Tuberculosis Program, "Informe Anual del Programa Nacional"; USAID, *Project Paper: CCH (511-0594), Amendment No.1 [to same]*

The Yellow Fever Project, which is carried out through the Santa Cruz Health Region, reached three Departments in 1993 and immunized 1,728,755 people. A total of \$1,187,290 was spent during FY 89-93, for an average cost of \$0.69 per beneficiary.

## B. Major Conclusions and Recommendations

Results from the following evaluations were incorporated into this report:

- Juan Cariaga, *Diagnóstico de la PL-480 Título III en Bolivia*, March 1994
- Anne Beasley, "Monitoring and Evaluation of Title III PL-480 Financed Counterpart Activities Carried Out Under the Community & Child Health Project", May 1993
- Lewis H. Thornton, "Evaluation of the Administrative and Institutional Aspects of the Health Activities of the Titles I/III, PL-480 Programs Implemented by the Executive Secretariat", November 1992
- Becht, James N., et al., "Midterm Evaluation of the Community and Child Health Project (511-0594)", January 1992.

The major conclusions on the evaluators were:

1. Among the Title III projects, the health projects enjoy the broadest coverage in terms of population; their benefits are distributed over an important percentage of the nutritionally vulnerable population.
2. Health projects incur the lowest cost and produce the highest benefits of the Title III projects.
3. The most critical link in the whole chain of delivering effective and integrated health services is the auxiliary nurse, who forms the liaison between the formal health system and the people it should serve. Next in importance is the community health promoter.
4. Community participation is a vital component of a rural or periurban health project. Participation in local decision-making increases, and residents show a much higher involvement in the community's health services.
5. No explicit, comprehensive strategy or guidelines have been developed to direct project activities within the CCH Project.

6. In virtually every community where CCH has implemented child survival and community health projects, or PL-480 has funded its projects, coverage by the National Secretariat of Health, at least for the component(s) involved, was nonexistent.

7. Monitoring, supervision and evaluation of projects and programs continue to need improvement. It is not possible to calculate, for example, preschool morbidity rates for immunopreventable diseases among the project's target population, even though these are specific goals for each project in the Title III Health Program. As another example, data on malaria are compiled manually in 3 departments, which causes inconsistencies, untimeliness, and irrational decisions.

8. CCH has several adequate management information systems, each of which functions well for the individual component for which it was developed. There seems, however, to be no system that links the separate systems, that would permit one to relate information from one component to that from others.

9. In November 1992, over \$2.3 million in health funds were drawing interest in banks in La Paz; over \$1 million had been held in accounts for more than a year. Meanwhile, the National Direction of Epidemiology's incidence of disease indicators increased, directly due to lack of operating funds and medicines. The 1994 report for the malaria program reports that Title III made no disbursements to the program during that year "for reasons of lack of timely liquidations," possibly because the National Secretariat of Health had not accounted for the use of previously disbursed funds.

The principal recommendations for the health program include:

1. Programs should be integrated to promote food security, alleviate hunger and improve nutrition, and promote family planning and maternal-child health care, the use of Oral Rehydration Therapy and other techniques that enhance child survival and community health in periurban and rural areas.

2. Health promotion and education should be the central focus of all project activities, with special emphasis given to the training of rural auxiliary nurses, area supervisory personnel, and health promoters. Training in health-promoting skills -- for example, weighing infants, making home visits, following up on cases -- merit immediate attention.

3. Given the high percentage of pregnant women among the target populations, CCH should increase safe childbirth and family planning programs and should stress their effective implementation at the district and lower levels within the Secretariat of Health.

4. CCH needs to develop and implement an explicit, comprehensive strategy to direct its project activities.

5. Ties between water and sanitation and an integrated community health-child survival program should be strengthened.

6. The Secretariat of Health, with technical assistance from CCH, needs management strategies that encompass: (1) planning and setting objectives; (2) mobilizing and coordinating resources; (3) organization (legal systems, infrastructure, etc.); (4) training and staff development; (5) execution; (6) motivation and communication; (7) monitoring; (8) conflict resolution; and, (9) evaluation.

7. Title III programs need better information systems:

(a) The PL-480 Executive Secretariat needs a management information system to systematically measure the impact of the projects it finances.

(b) The Secretariat of Health needs a professional Health Management Information System to provide information at each level, geographic area, etc., so that timely, responsible, and reasonable decisions can be made.

(c) CCH needs to integrate its separate systems into one large management information system to feed the managerial level useful information concerning the relationships of the components.

8. Title III should disburse programmed funds on a timely basis. If programmed funds can no longer be disbursed -- e.g., because of the unexpected closeout of a project, another use for the funds should be planned and approval sought immediately.

### XIII. ENVIRONMENT AND NATURAL RESOURCES

#### A. Program Description

A recent World Bank study estimated that more than 40% of Bolivia's territory is eroded, all but 4% of old-growth forests have been harvested, 136 species need study and possibly protection, and 10 out of 17 primate species are exported illegally. Yet there is a growing consciousness that without a sustainable natural resource base, Bolivia's long-term economic development will founder. In addition, as degraded resources are brought back to usefulness, agricultural productivity increases, thereby adding to locally grown foodstuffs and contributing to food security.

The PL-480 Title III program directly supports USAID/Bolivia's strategic objective of reducing forest, soil and water degradation and of protecting biodiversity. In FY 92-94 slightly more than \$8 million, or 15% of the total Title III budget, was devoted to projects supporting this objective, according to USAID/Bolivia's Semi-Annual Report of March 1995.

In this same period, the percentage of local currency Title III funding for environment increased from 6% to 18%, or an increase of \$2.4 million annually. Evaluators have credited the Title III program for raising environmental consciousness in Bolivia and say that this is perhaps its greatest contribution. According to one evaluation, Title III is "arguably the most active national-based environmental force in Bolivia."

From FY 89 to 94, the Title III program

- provided assistance to fledging non-governmental organizations (NGOs) and other civic organizations active in both promoting environmental policies and carry out programs
- established a national environmental fund
- provided support for maintaining national parks and forest reserves
- promoted the development and enactment of key environmental laws and policies.

The Title III funded a number of Bolivian non-governmental organizations (NGOs) for the purpose of helping them promote environmental policies and carry out projects to reduce degradation of soils and water and loss of forests. This funding was crucial in helping establish an environmental sector in Bolivia and the institutional capacity to promote and enact policies and carry out programs and projects.

The stated objectives of the NGO projects are to preserve natural resources and rehabilitate those that are degraded, investigate services and inputs which increase agricultural production, and improve farming and forestry by administering soils, forests, pastures, and water. The projects link activities to reduce environmental degradation with sustainable rural economic development. They seek to increase agricultural production and rural income, in addition to preserving and improving the natural resource base upon which agricultural productivity rests.

The Title III program also provided counterpart funding to a major project which maintains Bolivia's forest reserves by training rangers and indigenous peoples living in the reserves to enforce policies which protect the reserves. The project also works with loggers to get them to replant trees as well as cut them.

Title III funding was used to establish a national environmental fund that had, by the end of FY 94, secured commitments of more than \$80 million for funding environmental projects.

Since FY 89, the Title III Executive Secretariat has taken into account the environmental changes that increase economic activity can bring about and put higher priority on environmental policies, even saying that sometimes economic growth must be subordinated to environmental policies. Since FY 92, the Executive Secretariat has incorporated environmental considerations into economic development projects.

The Environmental Law of 1992 established a master plan against which proposed projects could be measured and selected or discarded. At the time, it was a landmark in Bolivian environmental affairs, laying the groundwork for natural resources protection in sectors ranging from forestry and agriculture to mining and hydrocarbons. However, the Sanchez de Lozada administration has not used this document for policy planning. Instead, it elevated environment to cabinet level, establishing a Ministry of Sustainable Development and the Environment as one of the four pillars of economic development. Its guiding document is the Plan for Economic and Social Development.

From FY 92-94, the Title III program met seven of its eight benchmarks, all aimed at achieving policy reforms to promote sustainable natural resources. The program actively helped create a national environmental defense fund, pass a new environmental law, draft regulations for that law, develop a plan to strengthen environment enforcement agencies, and develop a program to measure the impact of the *Pausa Ecologica Historica* which was a five-year moratorium on new forestry concessions.

In addition, the program's studies are laying the groundwork for an equitable system of forestry concessions and an equitable land tenure law. The last benchmark -- decentralizing forest management -- depends on passage of the Forestry Law.

## B. Evaluations

Two evaluations of Title III have examined the Natural Resources programs.

*Evaluation of PL-480 Title III Activities in Natural Resources Management and Environment, John Riggan, 1991*  
*Diagnóstico de la PL-480 Titulo III en Bolivia, Juan Cariaga, March 1994*

These evaluations concluded that:

1. Nearly all projects have proceeded satisfactorily; however, an integrated program could accomplish more than separate, unrelated projects. "Some of the best efforts of natural resources/environment programs have come as a result of a series of projects -- for example, the various environmental laws and other interventions on a national scale, or the LIDEMA program," according to Riggan.
2. There is very little coordination between PL-480's environmental projects and other rural development projects, much less projects in other areas.
3. The Title III Executive Secretariat does not publish or advertise its funding guidelines. It evaluates projects presented to it on their own discrete merits but not on how they fit into the environmental "big picture."
4. The developmental impact of environmental projects can be increased if the Title III Executive Secretariat amplifies its conceptual role from that of project administrator to development programmer. A program may produce good individual projects, but not achieve overall goals. The Executive Secretariat does not have a program made up of a portfolio of projects grouped around a goal or set of goals. They have a series of loosely associated activities, which provide immediate assistance but do not assure a sustainable results.
5. Because no success indicators were established by the program, any evaluation is prone to subjectivity.

6. The Title III Executive Secretariat has fairly complete files covering project agreements, amounts, and disbursement since 1987, but there is no systematic method of collecting monitoring data, nor any management information system to enhance accuracy or timeliness.

7. Areas with great environmental needs may not receive attention because that region does not submit any proposals. In part, this is because the Title III Executive Secretariat does not solicit them, aid in their development, or even have criteria for acceptance of a proposal.

The recommendations of the evaluators were:

1. The PL-480 program must establish indicators and pay more attention to accurately measuring results. This would include but not be limited to a management information system with a database.

2. The Title III Executive Secretariat should increase its role from an project administrator to a planning agency to develop projects that follow clearly defined strategies and meet measurable goals.

3. The Executive Secretariat needs to improve vertical integration of its projects by determining priorities, goals, and strategies based on environmental analysis. A multi-year program can be set up into which a series of projects can be fitted and those that do not fit can be phased out.

4. The Executive Secretariat also needs to improve horizontal integration. Natural resources play only a partial role in development. To assure social and economic change, natural resources projects should complement other projects such as improved agricultural production, agricultural credit, and rural infrastructure.

## NOTES

**Introduction: Food Security**

1. This average varies, depending on the census figures used.
2. Strategies for International Development, "An Evaluation of USAID/Bolivia's PL-480 School Feeding Program."
3. *The Economist*, October 1991, cited in van Haeften, "Bolivia's Food Aid Program," p. 13.
4. Del Castillo and Reutlinger, *Statistical Annex*, Tables #8, #9.
5. Del Castillo and Reutlinger, *Statistical Annex*, #18.
6. Del Castillo and Reutlinger, *Statistical Annex*, Tables #29, #31.
7. Del Castillo and Reutlinger, *Statistical Annex*, Tables #26, #27.
8. These included immunopreventable diseases (poliomyelitis, diphtheria, pertussis, measles, tuberculosis) acute diarrheal diseases, acute respiratory infections, and malnutrition.
9. That is, rural and periurban, particularly where mothers had little formal education or spoke an indigenous language.
10. Cariaga, Juan, Diagnóstico del Programa PL-480 Título III en Bolivia.

**Title II Program****I. Executive Summary: Title II Program**

1. 1992 national population housing census, National Institute of Statistics, 1993
2. Strategies for International Development, "An Evaluation of USAID/Bolivia's PL-480 School Feeding Program."

**III. Integrated Child Survival**

1. The Integrated Child Survival Program comprises immunizations, nutrition, control of diarrheal disease and acute respiratory infection, maternal health, and water and sanitation.

2. ENDSA 1989, the 1989 Bolivian survey implemented by the National Institute of Statistics, forms part of the worldwide Demographic and Health Surveys Program supported by USAID.

3. When women have too many children or space them too closely, or are too young or too old when they give birth, their own premature mortality rates increase.

4. The term "accident" is often a euphemism for "infanticide" in this age group, particularly in rural areas, where there is substantial anthropological evidence of infanticide when the newborn cannot be cared for.

5. Because the baseline percentage varies from community to community, the objective is stated as reducing or increasing the condition by a given percentage.

6. These last two indicators have been calculated only for FHI's CS project.

7. The crude mortality indicators are estimated, using actual mortality rates for ADD and ARI and immunization coverage rates, and factoring in their respective weights in mortality.

#### IV. Women's Economic Development

1. Communal banks are small lending institutions run by members themselves. They offer credit at attractive rates, set repayment periods, and use earnings to capitalize their banks.

2. The training course offered to women consists of two phases. In the first (14 lessons), women are taught business concepts -- basic numeracy and the use of calculators, time management, fixed versus capital assets, income, profit, and pricing calculations, expansion strategies -- culminating in individual business plans. In the second phase (5 lessons), women are taught to form and run a communal bank.

#### VI. Municipal Food for Work

1. National Secretariat of Popular Participation, "Categorizacion de Municipios," 24 April 1995.

2. Today this amounts to roughly \$14 per Bolivian. Before PPL, the 10 principal cities received this amount on average; the rest, \$0.46 per capita.

## VIII. Humanitarian Assistance

1. James Pines and Janet Lowenthal, "Serving Two Masters," 1991.

## Title III Program

### IX. Executive Summary: Title III Program

1. "Counterpart funds" means local currency funds generated under Title III made available to the Government of Bolivia to help fulfill the latter's obligation to provide up to one-third of the financing of a USAID project. Projects without counterpart have no other USAID financing.

### XII. Integrated Child Survival

1. UDAPE et al. are part of the Ministry for Human Development and include units that analyze social, economic and population policies, as well as the National Institute of Statistics. Their report defines poverty as "a state of necessity, lack, or privation of those goods and services to sustain life." (UDAPE 5) The authors used housing, basic services and inputs, education, health, and social security as criteria. (*Op. Cit.* 7)

2. In the Southern part of the Altiplano in La Paz; in Carrasco Valle, Carrasco Trópico and Capinota in Cochabamba; and in the valleys and Chiquitanía region of Santa Cruz.

3. These and subsequent amounts of funds disbursed, number of beneficiaries, and the disbursement per beneficiary come from Cariaga, Table IV-4, p. 78.

### XIII. Natural Resources and the Environment

1. Natural Resource Management in Bolivia: 30 Years of Experience, pp. 7-11. The study was careful to point out that erosion cannot necessarily be attributed entirely to human settlement; some of it is certainly geological in origin.

2. *Pausa Ecológica Historica* was a five-year moratorium on new forestry concessions. Ended in January 1995 in all except one region, the *Pausa* is credited with raising consciousness in the general population about the need to conserve forest resources. PL-480 funds went to develop specific indicators to measure the impact of the *Pausa*.

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