

# **Food Aid Policy and Program Assessment**

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# Summary and Recommendations

## Summary

This assessment was undertaken between May and June 2004, partially in response to concerns over announced reductions in food aid resources available for school feeding programs in Nicaragua in 2004 and beyond. It is intended to provide an overview and initial assessment of current US food aid/food security programs in the country.

Nicaragua is one of the poorest nations in Central America. Latest estimates classify 45% percent of the population as poor and about 15% percent as extremely poor. A large part of the food insecurity problem is structural, which means that Nicaragua will need food aid for many years.

The United States is the largest donor of food aid to Nicaragua, and is likely to remain the major food aid provider. Since 1990 the US proportion of total food aid to Nicaragua has varied between 60% in 1995 to virtually 100% in 2002. The aid is delivered under five programs:

- PL480 including the Bellmon Amendment,
- Food for Progress
- Section 416(b) of the
- The Global School Feeding Program, and
- The McGovern-Dole Food for Education and Child Nutrition Program.

USAID administers Title II of the PL 480 food program, the USDA administers the rest. A large share of the Title II food is monetized, globally about 65% and in Nicaragua about 73%. All guidelines and USAID policies are currently being met, but there is a push by the Office of Management and Budget to reduce monetization, so this may pose a problem in the future. Wheat was the commodity most programmed in fiscal year 2003 in terms of both value and volume, followed –in terms of value-by vegetable oil, nonfat dry milk, and corn-soy blend.

According to USDA data, approximately 62,000 metric tons of food aid was programmed for Nicaragua in fiscal year 2003. The majority was for the PL 480 Title II programs managed by USAID (48.7 thousand metric tons). The country programs supported by USAID under Title II are all similar in that each program includes Maternal-Child-Health, Food-For-Work, and development activities (especially beginning 2003), while the programs currently supported by the USDA tend to be concentrated on school feeding.

USAID Title II programs in 2003 were operated through five partners, four NGO's (Catholic Relief Services, Adventist Development and Relief Agency, Project Concern International, Save the Children) and the World Food Program (WFP).

Most of the WFP beneficiaries are in the school feeding programs supported by the USDA. However, it is reasonable to assume that beneficiaries from the non-school feeding program could be attributed to Title II support. This being the case, there were approximately 102,213 beneficiaries supported by the Title II contribution to the WFP.

The NGO programs may be summarized as follows:

- The four NGO's together provided food for 149,404 people in 452 communities.
- They distributed 6,103 metric tons of food with a value of just over \$2.5 million.
- A total of 32,610 metric tons of wheat were monetized with a total value of \$5.5 million, for a monetization rate of 84% (lower if some of the funds are used over more than one year. Note also that this is based on tons distributed and will be lower depending on warehouse stocks).
- The average cost per beneficiary per year was \$21.35, which does not include overhead, management, and other costs associated with delivering the food.
- If we assume that all funds from monetized wheat in 2003 were spent in support of the 2003 programs (probably not completely accurate), then the cost per beneficiary per year would be \$53.34.

Total Beneficiaries under US programs in 2003 were:

USDA	595,408
USAID	252,617
Total	848,025

Prospects for continuance of these programs at present levels are dim, largely because surplus commodities once available for school feeding are exhausted. There are limited allocations for 2004 school programs and 2005 is very much in doubt. The USAID programs under Title II are less at risk because it has been detached from surplus dependency and new regulations make it more sustainable. USAID budget requests for 2005 hold Title II constant at 2004 levels. Country allocations were not known at the time this report was prepared.

The need for external aid is high and will likely remain so. Considering only the extreme rural poor in the departments where USAID's Cooperating Sponsors are operating, there were approximately 295,000 people who could be considered high-priority targets for the programs in 2003. The programs actually provided support to just over 50% (149,404 people) of this "potential benefit pool". Adding the 102,213 beneficiaries attributed of to the Title II program from the WFP activities, the programs would account for 85% of this "pool".

Of course, the extreme poor are not the only people targeted by these programs. And, since 45% of Nicaragua's population is considered poor, the "pool" is much, much larger.

**In either case, Nicaragua will need food aid for a considerable amount of time. Availability may improve because of programs that help increase productivity and production and access may improve because of income growth, but the number of people who cannot afford to purchase a minimum diet will remain large.**

### **Recommendations - General**

**Recommendation:** The GON, US agencies and collaborators should begin immediately to develop program options to deal with any eventual reduction in commodities available for monetization and/or direct distribution – for all programs. This should include options for continuing and emergency operations for both the intermediate and long-term.

**Recommendation:** As a part of implementing recommendation 1, USAID, in collaboration with the GON and other agencies in Nicaragua, should take an active role in the development of a “food security strategy” for Nicaragua. A possible starting point is the proposal already prepared by FAO, WFP and the EU.

### **Recommendations – PL 480 Title II Evaluation**

There is a great deal of information available from the Cooperating Sponsors which is not included in their annual reports that needs to be available for the evaluation.

- The Cooperators have collected a lot of information from their MCH programs that need to be summarized for use in the evaluation. In addition to the weight data, detailed information will be needed on populations vs beneficiaries in the target zones.
- The information on the development component of their programs needs to be much more detailed if any real attempt is going to be made to assess impact from those activities.
- More detailed information on the Food-for-Work programs is needed. For example, several of the cooperators have reforestation activities where they report the number of trees planted but nothing is said about survival rates.
- Information about economic activity prior to and after road construction and maintenance needs to be available in order to assess any benefits which may accrue from these activities.
- In order to accurately calculate benefits and costs, good information is needed on the cost and volumes of commodities that move from the warehouses to beneficiaries.

**Recommendation:** prior to beginning the evaluation the Cooperating Sponsors need to be provided with detailed information needs so information is available when the evaluation teams begins its work. This will simplify tasks for both parties.

**Recommendation:** the agricultural components of the programs need to be assessed for contribution to improved food security in the intermediate and longer term in the communities where the programs are active.

**Recommendation:** the evaluation should assess monetization options available along with possible responses should limitations be placed on monetization rates. The evaluation teams, together with the Cooperating Sponsors should develop resource requirements scenarios and cases more 202e funds are employed to partially replace monetization.

**Recommendation:** The Mission should consider requesting recommendations for exit conditions and strategies.

**Recommendation:** The recommendations from the 2002 “Food Security Assessment: A Review of the Title II Development Food Aid Program” prepared by FANTA should be considered when the scope of work is developed.

# **Food Aid Policy and Program Assessment**

## **I. Introduction**

This assessment was undertaken between May and June 2004, partially in response to concerns over announced reductions in food aid resources available for school feeding programs in Nicaragua in 2004 and beyond. It is intended to provide an overview and initial assessment of current US food aid/food security programs in the country. A more complete evaluation of the Title II program is planned for later in 2004.

### **Assessment Objectives:**

1. Determine the extent to which USG food aid programs are helping to meet the food security and educational needs of the country (this includes quantification of the current situation and projections to the next five years).
2. Document the use, impact and cost of USG food assistance in Nicaragua (including cost/benefit analysis of current Title II programs, program targeting and monetization methods used).
3. Make policy recommendations for improving USG food aid programs.
4. Prepare recommendations for the design of an evaluation of the USAID Title II Food-for Peace program that will take place later in the year.

### **Approach**

The primary methodology was consultation with USAID, USDA and GON collaborations. These consultations were divided into three parts:

- agencies based in Nicaragua (including, but not limited to, the U.S. Embassy/Managua, USAID/Nicaragua, USDA, the Government of Nicaragua, appropriate United Nations agencies – especially the WFP, other bilateral and multilateral donors –especially the European Union and, where appropriate, private voluntary organizations (PVOs) dealing with food aid, food security, and nutrition issues – with emphasis on those collaborating with USAID, the USDA, WFP);
- agencies based in Washington D.C (including the LAC Bureau, Democracy, Conflict and Humanitarian Assistance/Food for Peace (FFP), USAID/CDIE, USDA, World Bank, FEWS, organizations such as the International Food Policy Research Institute and other Washington-based institutions specializing in food aid and food security issues); and,

- where possible, internet web sites and e-mail will be used to acquire data, analyses, policy and program information.

Given the limited amount of time for completion of the Assessment, analyses of will have to be based on extrapolations of existing reviews, assessments and analyses.

### **Organization of the Report**

The report has five sections:

First, this introduction, which summarizes the objectives of the assessment, the approach used to obtain and assess information and a discussion of caveats and limitations that should be considered by any application of the conclusions and recommendations made in this report.

Second, a brief historical overview of food security issues and the food aid provided to Nicaragua since 1990 to help position the discussion of current and future US programs and contributions.

Third, a brief review of food security policies applicable to Nicaragua. This includes US, other donor, international and Nicaraguan policies. Major emphasis is placed on US policies and guidance and on the US food aid programs in Nicaragua.

Fourth, a review (but as an assessment, not an evaluation) of US supported programs. The review includes: adherence to policy and guidance, their targeting, their beneficiaries, and approximate costs and benefits. This section of the report also includes some discussion of near-term prospects for these programs.

Fifth, a more detailed look at food security and vulnerability in Nicaragua with projections for the next five-six years.

The summary section presents conclusions of this assessment along with recommendations for the more complete evaluation of the Title II Program planned for later in 2004.

### **Caveats - factors to consider when reading this report.**

- The estimates of the number of food vulnerable people are minimum because only the extremely poor are counted and this is only on of several dimensions of food security. A count of the highly vulnerable would probably double the number cited in this report.
- The costs per participant or beneficiary are approximate: 1) An assumption that funds received from monetized wheat would be used in the year the wheat was received is not completely correct because the wheat is often received late in the year, and 2) estimates of overhead and delivery costs are gross.

- Comparisons and summations of World Food Program (WFP) and Cooperating Sponsor (CS) data should be done with the understanding that WFP data are by calendar year while CS data are by fiscal year.

## II. Overview of Food Security and Food Aid in Nicaragua

Food Security Definition:

**All people at all times have both physical and economic access to sufficient food to meet their dietary needs for a productive and healthy life.**

Three variables are included:

1. **availability** – sufficient quantities are consistently available (production, imports, purchases and food aid);
2. **access** – households and their members have resources to obtain food for a nutritious diet (income and its distribution within the household, prices); and
3. **utilization** – biological use of food (dependent on knowledge about preparation, storage, child care and nutrition).
4. a fourth “variable” listed as “risk” by USAID/FFP and “stability” by FAO will probably become an integral part of the definition.

### Poverty and Food Security in Nicaragua

Nicaragua is one of the poorest nations in Central America, ranking 121 of the 175 countries included in the UN’s latest Human Development Report, in the region only Haiti ranks lower. Latest estimates classify 45% percent of the population as poor and about 15% percent as extremely poor. As a result, estimates are that 29% percent of the population is “food insecure”<sup>1</sup>.

Poverty, and by extension food security, is dominantly a rural problem. Estimates are that in 2003 just over 67% of the rural population was “poor” and 28% was “extremely” poor – extremely poor being those who cannot purchase minimum dietary requirements from current income. The focus on rural poor is not intended to suggest that urban poverty should be ignored. **First**, 75% of all poor are classified as rural and, via rural/urban migration, are likely to be a major contributor to urban poverty numbers. In this context, the “problem” is rural. **Second**, programs aimed at relieving urban hunger would need to be different from those being reviewed by this assessment.

A large part of the food insecurity problem is structural: incomes are concentrated at the top end of the income scale; education levels are low and social services are lacking,

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<sup>1</sup> FAO, “Status of Food Security in the World - 2003”.

especially in rural areas; and, a large portion of the rural population has little or no land, so they must rely on wage labor in agriculture for income.

Added to the structural insecurity are frequent crises: hurricanes, droughts, floods, tidal waves and price volatility for export crops (coffee) and food crops.

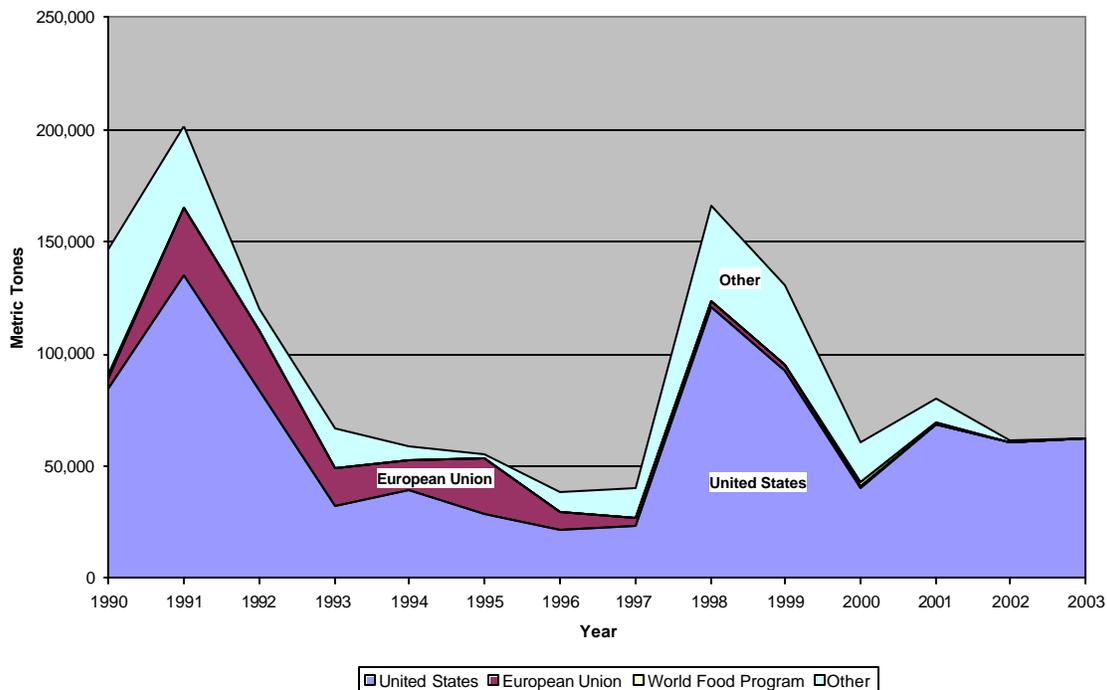
Given the level of structural insecurity it is a certainty that Nicaragua's poor will be dependent on food aid for some time to come – even if there are no serious natural crises.

### Food Aid Trends

The United States is the largest donor of food aid to Nicaragua. Since 1990 the US proportion of total food aid to Nicaragua has varied between 60% in 1995 to virtually 100% in 2002 (See Figure 1).

The international community has been generous in its response to recurrent disasters in Nicaragua; however, the United States remains as virtually the only donor to continue to support development programs through commodity food aid. American food aid contributions to Nicaragua over the last decade have varied from a high of 135,000 metric tons in 1991 to a low of 21,000 metric tons in 1996. Food aid contributions reached 121,000 metric tons in 1998 (as a result of hurricane Mitch) and have generally declined since - to a current level of about 62,000 metric tons.

Nicaragua: Sources of Food Aid (2003 US only)



**Table 1. Total Food Aid Shipments to Nicaragua (2003 US Only)**

Year	United States of America	European Community	World Food Programme	Other	Total Donors	U.S. Percent of Total
1990	84,731	3,788	2,340	55,253	146,112	58.0%
1991	135,024	30,400	0	36,102	201,526	67.0%
1992	83,528	26,665	0	9,317	119,510	69.9%
1993	31,730	17,342	0	17,674	66,746	47.5%
1994	39,439	13,471	0	5,967	58,877	67.0%
1995	28,094	24,942	0	1,963	54,999	51.1%
1996	21,274	8,249	0	8,495	38,018	56.0%
1997	23,220	3,837	0	13,298	40,355	57.5%
1998	121,075	2,750	0	42,602	166,427	72.7%
1999	92,824	2,318	0	35,403	130,545	71.1%
2000	39,784	1,143	1,700	18,124	60,751	65.5%
2001	68,626	108	247	11,145	80,126	85.6%
2002	60,384	0	0	667	61,051	98.9%
2003	61,900					

Source: FAO Databases

The largest component of food aid both for the United States and the other donors has been cereal grain. In 2003, for example, of the total 62,000 metric tons of food aid provided by the United States, 42,000 metric tons was cereal grain and about 20,000 metric tons was non-cereals.

- Note, however (as will be discussed later) that a large part of the volume of US food aid is wheat which is monetized to support development programs associated with food distribution.
- Note also that the European Union as a matter of policy favors cash to commodities in their “food aid” programs.

### III. Food Security Policies

This section of the report briefly summarizes policies of the US, other donors and the GON that are relevant to assessing the US food aid programs in Nicaragua.

#### General Donor Policy

The World Food Summit of 1996 resulted in a broad set of food security goals and approaches that are now used by virtually all donors. In short, to **reduce the number of chronically hungry people in the world by half by 2015**. The 2000 Millennium Summit established eight Millennium Development Goals (MDG’s), all of which are consistent with improving food security, i.e. “reducing extreme poverty and hunger by

half by 2015". All of these policies contain strong gender, health (HIV/AIDS) and education components. The World Food Program, which is an important partner in the US food aid program, has its own policy statement which emphasizes support to the most vulnerable groups. WFP also has a specific gender policy.

### **GON Policy**

GON has recently published its National Development Plan, which is generally consistent with the broadly defined goals of the international community, as expressed by the MDG's. It does have shortcomings with respect to statements on food security and says nothing about food aid. The principal focus of the Plan is poverty reduction via improved productivity. Emphasis is placed on support to small and medium sized enterprises, external investment, development of human capital and improved basic infrastructure.

The Plan contains a discussion of poverty reduction and vulnerability and, very briefly, mentions food security as an issue.<sup>2</sup> The Plan identifies "risk management" and insertion of the poor into markets as the related policy.<sup>3</sup>

A companion strategy produced by the Ministry of Agriculture (MAGFOR) gives some detail for the rural sector. It concentrates on crisis early warning and increasing rural productivity, with emphasis on technology, diversification and increasing agricultural exports. Nothing is said about food aid and dependency on external aid to meet recurrent food shortages.

The GON does have a number of institutions that collect and analyze data: Ministry of Health, Ministry of Education, National Statistics Office, and Ministry of Agriculture. These institutions are rated good to strong in data collection but weak in analysis<sup>4</sup>.

The Ministry of Agriculture (MAGFOR) has a Food Security Department that is responsible for monitoring food security in the country. FAO is working with this department to implement a food security monitoring system. The MFEWS system has recently opened an office in Managua and will soon start assessment and monitoring programs.

The donor community has developed a draft food security strategy for Nicaragua which it plans to present to the GON as a starting point for discussion and eventual development of a GON strategy. The document was developed jointly by UN agencies (WFP, FAO) and the European Union.

**USAID has participated in donor discussions of the draft proposal. USAID should consider taking an active role in encouraging and, if requested, assisting the GON to develop a full food security strategy.**

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<sup>2</sup> Page 183 of the National Development Plan.

<sup>3</sup> Page 184 of the National Development Plan.

<sup>4</sup> GON, "Metas de Desarrollo, Seguimiento a la Cumbre del Milenio", Diciembre 2003, evaluates this for each of the Millennium Development Goals.

## U.S. Food Security Programs, Policy and Guidance

US Food Security Policy and guidance is embedded in the laws that authorize food aid. Two USAID policy statements also provide explicit guidance.

The programs are:

- PL480 including the Bellmon Amendment,
- Food for Progress
- Section 416(b) of the
- The Global School Feeding Program, and
- The McGovern-Dole Food for Education and Child Nutrition Program.

USAID administers two parts of the PL 480 food programs:

1. **Title II** – priority given to programs that improve household nutrition, especially children and mothers, and on alleviating the causes of hunger. Title II food aid is administered through cooperating NGO's and may be monetized. Title II food is also used to respond to emergencies - this may be government-to-government, ONG's or WFP; and,
2. **Title III** - priority is given to countries that need food most and on programs that have direct links agricultural production and consumption. Title III food is government-to-government, monetized and linked to policy reform.

The USDA administers:

1. **Title I of PL 480** – export credit programs meant to develop foreign markets for US products.
2. **Section 416(b)** – donations of surplus commodities, usually for emergency needs.
3. **Food for Progress** – food provided on a grant or credit basis, may come from funds appropriated to Title I, inventories from 416 (b), funds available to the CCC (with limits) for commodities that are not available under PL 480 or the CCC inventories.
4. **McGovern-Dole Food for Education and Child Nutrition Program** – authorized by the 2002 Farm Security and Rural Investment Act. The objectives of the program are to reduce hunger and improve literacy and primary education especially for girls. The program depends on direct appropriations from Congress, through the USDA's Commodity Credit Corporation. Initial funding was around \$300 million; it fell \$200 million to \$100 million and is currently expected to be funded at \$75 million.

5. **Direct Procurement** – the International Disaster Assistance account may be used for local procurement in emergencies (a special program is managed specifically for the former soviet countries).

USAID policy focuses on Title II of PL 480. Policy implementation is assured through reviews of DAP's submitted by Cooperating Sponsors and monetization guidance.

**USAID's Policy Goal: Increase the impact of food aid in reducing hunger.**

The policy statement focuses on vulnerable populations, especially women and children and specifies East Asia and sub-Saharan Africa as priority target regions.

**USAID/Food for Peace: Food insecurity in vulnerable populations reduced.**

#### Monetization of Title II Commodities

Monetization is governed by guidance contained in the PL-480 law, the 2002 Farm Bill, and by guidance from the 1995 Food Aid and Food Security Policy Paper (the USAID policy paper actually says very little about monetization). Current guidance is sufficiently general that the monetization process is fairly flexible: Cooperating Sponsors (CS) who monetized Title II commodities are required to set a price which represents the fair market value of the commodity in the country, one which does not depressed prices of locally produced commodities (Bellman analysis), and which does not undercut normal commercial practices. In short, monetization is to maximize returns while doing the least harm to local markets.

Since monetization was introduced by the U.S. Congress in 1986 (partially as compensation for the high cost of delivering food-as-food) its use has increased steadily. Now, approximately 65% of the total value of Title II food aid resources is monetized. This creates something of a conflict because regulations under the Title II program mandate that at least 75% of the Title II commodities be blended or bagged. While bagged wheat, for example, would qualify under these regulations, the cost of bagging, loading, unloading and un-bagging, would probably be prohibitive, which is probable why USAID guidelines now suggest monetization of blended commodities.

#### Adherence to monetization guidelines:

The Cooperating Sponsors have established a monetization mechanism lead by Project Concern International (a price is negotiated and volumes are allocated). All parties participate in negotiations with potential buyers (three flour mills in Nicaragua). The Cooperating Sponsors report that they are satisfied with the mechanism they have established<sup>5</sup>.

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<sup>5</sup> Since the Title II Secretariat has closed, the USDA is hoping to use this mechanism to implement its monetization.

- A review of existing Title II programs of in Nicaragua indicates that monetization guidelines are generally being met – cost recovery guidelines are met or exceeded. In the year 2003 Title II programs employed a total of 48.7 tons, of which 36.5 tons (or 73%) were monetized. In accordance with conclusions from the Bellman analysis, only wheat is monetized, and meets required conditions.
- USAID guidance indicates a preference for monetizing of value-added commodities. Given that corn-soy-blend and wheat-soy-blend are major value-added commodities used in Nicaragua, and that they are not a common food in the country, monetization of these commodities would seem unwise. Likewise, monetization of beans (and export commodity Nicaragua) would violate regulations. Vegetable oil, the other major commodity used in Nicaragua, is a possibility – but only after a careful local and regional market assessment.

There are some monetization issues which should be considered for the future: 1) is there a way to improve the process by moving from a negotiated price/volume to a bid system, either locally or at a regional level and, 2) planning for likely reductions in the availability (or acceptability) of commodities to be monetized.

Issue 1: USAID monetization guidance expresses a preference for a bid rather than a negotiation process for monetization<sup>6</sup>. The concern in Nicaragua is the limited number of bidders and a potential that the process would be less than fully competitive. One way to expand the potential bidding pool would be to “regionalize” the process. Implementation of such a system would require a full market and monetization feasibility analysis, and would require considerable collaboration with other governments, other donor organizations, USAID/Washington and USAID Missions. Given that a full analysis would probably indicate that there is no third country that could absorb both Nicaragua’s and its own monetization volumes, the problem of the subsequent export of a monetized commodity (or derivative products) would have to be resolved. Regional bidding with delivery to the country of the winning bidder(s) might be considered, but only after very careful assessment of the operational feasibility of such a process. In any case, a full regional Belmon analysis would be necessary before such an option is considered.

Issue 2: Availability of commodities for monetization is likely to be reduced in the coming years. There are least two reasons: 1) reduced surpluses from American production, and 2) a move to reduce monetization and increase direct-distribution.

- As of May 13, 2004 the USDA suspended all applications for new 416(b) programs. Since 416(b) resources have been the major source of commodities for emergency needs, the absence of section 416(b) commodities may severely limit amounts availability for non-emergency programs.

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<sup>6</sup> USAID Monetization Field Manual. Dated October 1998 and updated April 2001.

- In 2003 the Office of Management and Budget express concern that monetization was not an efficient way to finance food security activities. OMB recommended that monetization under non-emergency programs be reduced by 50% and eventually by 30%. These recommendations have taken the form of goals rather than mandates. However, USAID will watch monetization proposals to ensure that movement is made to achieving these goals.
- An additional reason why more rather than less direct-distribution is likely in the future is the desire by US food processors to increase the use of blended foods in the food aid programs. For example, the North American Wheat Millers Association policy is “to maximize overseas commercial exposure to protein grain products the Association works closely with USDA's Foreign Agricultural Service on a wide range of market development and expansion programs in Asia Latin America Africa and the Middle East. Protein grain products have not only proven successful at the retail level but also showed great potential for application institutional feeding programs. The blending foods are precooked and make excellent leaning foods because of their low cost, high-protein quality, and enrichment with vitamins and minerals.”<sup>7</sup>
- Changes which affect section 202 (e) may relieve some of the pressure because now 5% to 10% of the appropriation is available for administrative support costs. Funding is also available for internal transport, storage and handling (which includes monitoring of Title II commodities) and represents another source of resources which may help to reduce the impact of funds lost because of reduced monetization.

#### **IV. US Food Aid Programs in Nicaragua**

As mentioned earlier, the American food aid program in Nicaragua is managed in two parts: those programs administered by the USDA and those programs administered by USAID. While there is some difference between the two programs, they tend to work through the same the same cooperators. Four types of programs have been used:

- emergency response (hurricane Mitch in 1998, the coffee crisis of 2001-2002, drought of 2002);
- school feeding (previously under the Global Food for Education Program and, starting 2002, under Mc Govern-Dole);
- maternal-child health; and

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<sup>7</sup> The North American Wheat Millers Association web page under the title heading of food aid.

- developmental programs (including food-for-work).

The largest single partner in 2003 was the World Food Program, but the NGO's as a group received almost 77% of all food aid (Table 2). The Title II program is the largest by far, accounting for 70% of the volume in 2003.

According to USDA data, approximately 62,000 metric tons of food aid was programmed for Nicaragua in fiscal year 2003 (Table 2). The majority was for the PL 480 Title II programs managed by USAID (48.7 thousand metric tons). Note that this is programmed, not necessarily received or used. The country programs supported by USAID under Title II are all similar (especially beginning 2003), while the programs currently supported by the USDA tend to be concentrated on school feeding. One major difference between the two is that the USDA programs include a monetization component most of which is destined for the Government of Nicaragua, while monetization under the USAID programs is used by the Cooperating Sponsors to support their programs.

**Table 2. Nicaragua: Programmed U.S. Food Aid for Fiscal Year 2003**

Program	000 Mt	000 \$
<b>PL 480 Title II</b>	<b>48.7</b>	<b>10,901.5</b>
WFP	6.0	1,608.9
NGO	42.7	9,292.6
<b>416(b)</b>	<b>2.5</b>	<b>4,518.0</b>
WFP	0.0	0.0
NGO	2.5	4,518.0
<b>Food for Education</b>	<b>3.7</b>	<b>1,468.1</b>
WFP	2.7	1,038.0
NGO	1.0	430.1
<b>Food for Progress</b>	<b>7.0</b>	<b>4,764.0</b>
<b>Total</b>	<b>61.9</b>	<b>21,651.6</b>
WFP	8.7	2,646.9
NGO	53.2	19,004.7
<b>Total</b>	<b>61.9</b>	<b>21,651.6</b>
USAID Title II	48.7	10,901.5
USDA Programs	13.2	10,750.1

Source: USDA Table II from the FAS website showing food aid data.

Wheat was the commodity most programmed in fiscal year 2003 in terms of both value and volume, followed –in terms of value–by vegetable oil, nonfat dry milk, and corn-soy blend (See Table 3). The non-fat dry milk was all programmed through the 416(b) program.

An indication of the proportion of Title II which would be monetized is show by the amount of wheat allocated to the various programs in fiscal year 2003 (Table 3). Wheat accounts for the about 36,000 metric tons of the 62,000 metric tons programmed for FY 2003 and since almost all of this would be monetized, the total monetized program in Nicaragua would be at least 58%.(however, some of the commodities in the Food For Education and Food For Progress are also monetized). Taking Title II alone, wheat accounts for about 73% of the total volume, so monetization under the Title II program would be about 73% by volume and 62% by value.

Table 3. Nicaragua: Food Aid Programmed for FY 2003, by Program and Commodity

Program Commodity	PL 480 Title II		416(B)		Food For Education		Food For Progress		Total All Programs		Cost/MT
	000 MT	000 \$	000 MT	000 \$	000 MT	000 \$	000 MT	000 \$	000 MT	000 \$	\$
Beans	1.0	524.3			0.1	67.5			1.1	591.8	538.00
Corn	3.5	506.9			0.2	27.6			3.7	534.5	144.46
Cornmeal	0.1	11.5			0.0	0.0			0.1	11.5	115.00
Corn-Soy Blend	4.7	1,127.7			1.2	312.0			5.9	1,439.7	244.02
Corn-Soy Milk	0.0	0.0			0.2	64.4			0.2	64.4	322.00
Dehydrated Potatoes	0.0	0.0			0.1	85.6			0.1	85.6	856.00
Lentils	1.2	719.6			0.0	0.0			1.2	719.6	599.67
Nonfat Dry Milk	0.0	0.0	2.5	4,518.0	0.0	0.0			2.5	4,518.0	1,807.20
Peas	0.0	0.0			1.2	480.0			1.2	480.0	400.00
Rice	1.7	353.6			0.1	25.0			1.8	378.6	210.33
Tallow	0.0	0.0			0.0	0.0	2.0	764.0	2.0	764.0	382.00
Vegetable Oil	1.0	882.0			0.5	406.0	5.0	4,000.0	6.5	5,288.0	813.54
Wheat	35.6	6,776.0			0.0	0.0			35.6	6,776.0	190.34
<b>Total</b>	<b>48.7</b>	<b>10,901.5</b>	<b>2.5</b>	<b>4,518.0</b>	<b>3.7</b>	<b>1,468.1</b>	<b>7.0</b>	<b>4,764.0</b>	<b>61.9</b>	<b>21,651.6</b>	<b>349.78</b>
<b>Cost/MT</b>		<b>223.85</b>		<b>1,807.20</b>		<b>396.78</b>		<b>680.57</b>		<b>349.78</b>	

Source: Derived from Table I in the USDA/FAS website <http://www.fas.usda.gov/excredits/FoodAid/Reports/>

## USDA 2003 Programs

The majority of USDA food aid is used in school feeding programs, either through Cooperating Sponsors (Project Concern International, Food for the Poor, and Salesian Missions) or the World Food Program.

All of the nonfat dry milk programmed in 2003 was intended for school feeding programs managed by Food for the Poor and Salesian Missions. According to reports submitted to the Department of Agriculture of by these two Cooperating Sponsors, only Food for the Poor actually received the nonfat dry milk in FY 2003 – 1,042 metric tons of the 2000 metric tons allocated. Salesian Missions was allocated 500 metric tons, but that was not received in FY 2003. Thus, among the CSs, only the Food for the Poor and the Project Concern International programs were active in 2003.

Food for the Poor report that in 2003 they distributed about 692 metric tons of nonfat dry milk to 500 schools with 200,000 students participating.

Project Concern International, managed a school feeding program in the Department of Jinotega in FY 2003, but from resources provided under the Global Food For Education Program (has been replaced by the Food for Education Program). This program was operated using 3,331 metric tons of monetized refined vegetable oil, received between June and October of 2001. They received a total of 4,027 metric tons of food (416(b)), so the monetization rate was approximately 75%. It is not possible to determine actual levels of activity in 2003 from the reports provided to the USDA. However, PCI reports that at the end of FY 2003 a total of 19,721 students participated in 246 schools, with 346 teachers trained and with help from 650 volunteer parents.

Food for Progress commodities allocated in fiscal year 2003 (7000 metric tons of which 2,000 was tallow and 5,000 was vegetable oil, with a value of \$4,764,000) was programmed through the Government of Nicaragua (GON) and was scheduled for monetization.

The World Food Program is supported by a number of donors and is fairly broadly distributed throughout Nicaragua<sup>8</sup>: The largest supporter is the United States. Among US programs, the USDA is dominant in supporting school feeding programs and USAID is dominant in terms of the other programs. Annex Table 1 and 2 contain data for WFP activities in 2001, 2002 and 2003. Over that period, USAID provided 26% of all commodities while the USDA provided about 55% of all commodities (US total was 81% of all commodities received by the WFP). The US provided almost 99% of school feeding commodities. The combined nature of the support makes it difficult to separate beneficiaries into USDA/USAID categories. However, to show relative levels, the

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<sup>8</sup> See map in Annex.

beneficiary count for 2003 is shown below (a more detailed assessment of the WFP program is included later in the report).

		School Feeding Beneficiaries
<u>Summary:</u>	Total Cooperating Sponsor Beneficiaries	219,721
	Total World Food Program Beneficiaries	375,687
	<b>Total</b>	<b>595,408</b>

The school feeding programs are equivalent to over 10% of the entire national population.

Impacts: There are several kinds of impacts and some issues associated with these programs. The issues are: school attendance, learning (promotion rates, drop-out and repeat rates), nutrition, longer term earnings and sustainability linked to the food programs.

Nutrition: it is often difficult to measure appreciable nutrition impacts from school feeding programs. There are several factors at work: 1) the food received may replace food that would be consumed at home rather than supplement the child's consumption; 2) the physical and mental developmental impact of malnutrition will already have occurred at an earlier age; and 3) **if** nutrition is the objective, then there are much better targeting methods.

Attendance: the existence of school feeding programs does increase attendance. The WFP, for example, reports 95% attendance rates and significant increases in retention rates. They do not report promotion rates, very important in a system where repetition rates in the first grade are around 25%<sup>9</sup>

Learning: Increases in student performance as a result of school feeding programs are also often difficult to detect. Numbers fed, attendance, retention and promotion rates are possibility reasonable proxies<sup>10</sup>, but they not really sufficient measures of increased learning capacity/achievement because there are other conditions which must be met – such as health and sanitation at the school, the quality of the school, of teachers and of teaching materials and parent participation, etc. Assessments of the “impact” on learning due to these programs, in general, are mixed: some show positive impacts and some do not. However, virtually all insist that the non-feeding factors are extremely important – cost and sustainability being a primary issue.<sup>11</sup>

Cost and Sustainability: These two issues are paramount because feeding programs tend to be expensive, with low rates of return when compared to other types of **nutrition** interventions (see box below for estimated rates of return).

<sup>9</sup> Annex 15 to the World Bank 2001 poverty report for Nicaragua.

<sup>10</sup> See the “Food for Education Indicator Guide” produced by FANTA for some suggestions.

<sup>11</sup> See the GAO report on the Global Food for Education program for a fairly thorough review of these issues.

**Estimated Returns on Alternative Nutrition Interventions**

<b>Nutrition intervention</b>	<b>Return to program dollar (In wages, discounted to the present<sup>a</sup>)</b>
Iron fortification of flour	\$84.10
Vitamin A supplementation for all children under age 5	50.00
Nutrition education	32.30
Iodized salt	28.00
Supplementation of pregnant women with iron pills	24.70
Vitamin A fortification of sugar	16.00
Iodine supplementation for women of reproductive age	13.80
<b>School feeding</b>	<b>2.80</b>
Nutrition as part of primary health care	2.60
Food supplements	1.40
Food subsidies	0.90

Note: The methodology and assumptions used in making the estimates were not described in the article.

<sup>a</sup>The discounted present value of wages represents the current value of future wages.

Source: Judith S. McGuire, "The Payoff from Improving Nutrition" (updated January 1996), as reported in The World Bank Group, "Nutrition as a Sound Investment," *To Nourish a Nation* (The World Bank Group Web site, March 30, 2001).

Source: Government Accounting Office, Global Food for Education Initiative Faces Challenges for Successful Implementation, Number GAO-02-328, February, 2002. Available on the GAO website.

Since foods distributed in US programs are fortified, and since the maternal-child-health programs all include nutrition education components, the combined programs appear to be well selected. However, it remains that school feeding, **as a nutrition intervention** per se, ranks very low in terms of return to program dollar. While there are numerous analyses of the nutrition side of school feeding programs, more work needs to be done on alternative approaches to improving school attendance, retention and performance for the most disadvantaged – in combination with nutritional issues.

The sustainability of the school feeding programs in Nicaragua is problematic in that it requires commitment on the part of the GON and (at least) substantial long term support from other donors – neither is apparent. According to the WFP, the average total cost to operate a school feeding program is \$34/student<sup>12</sup>, compared to an expenditure of \$52/primary school student (1998 \$) by the Nicaragua education system<sup>13</sup>. It is unlikely that the system could/or should find the funds needed to continue such programs in the absence of donor support. While there has been some support from other donors to the

<sup>12</sup> Sited in the GAO report and is general – not specific to Nicaragua. Estimates of per student cost vary in LAC between \$50 and \$75. A WB world-wide study averaged about \$59/student, pages 77-79.

<sup>13</sup> World Bank, "Rates of Return to Education in Nicaragua", Annex 15 of the 2001 Poverty report.

program in Nicaragua (notable from Norway, with over \$400 thousand to help with logistic and administrative costs to extend the WFP program to the North Atlantic Region), their contributions have not met expectations<sup>14</sup>. There are several reasons: 1) they favor a more integrated approach, including improving the school system itself, and 2) the EU favors financial rather than commodity food aid (in general). And, globally, the use of surplus commodities does not create a “sustainable” environment for the programs.

**In its favor**, the food for education programs in Nicaragua operates in the context of support to other parts of the food vulnerable population, especially women and children, and in the context of associated development programs all targeted to highly vulnerable areas. And, according to an analysis by the World Bank, the long-term return to education in Nicaragua can be significant.

**Impact – long-term:** The Bank estimates that, in general, completion of one additional year of education adds about 8.6% to male earnings and 7.7% to female earnings. There is a difference at the different levels of education: males who complete primary school earn 9.5% more than those who do not, but the earning of women are only about 1% higher for those who complete primary school (secondary education differentials for women are much higher, at 12.7%)<sup>15</sup>. These data are for people 24-64 years of age, which underlines the long-term nature of the “economic impact”. There are also social returns to education which are important (educated women have fewer, healthier children, there is less violent crime, better democratic institutions, more sustainable economic and social development, etc. ).

**The issue for policy makers and program managers is how to get the most vulnerable children through the educational system (to begin with, primary school) and if a massive school feeding program is an appropriate vehicle to accomplish that goal.**

### **USDA Programs in 2004 and Beyond**

Prospects for continuation of the USDA sponsored food aid programs in Nicaragua, as currently structured are not encouraging.

- First, funding in FY 2004 for the Food For Progress has been reduced by about \$40 million (from \$158 million to \$115 million). As a result, Nicaragua was not included when the Secretary of Agriculture announced the country allocations of 2004 resources.
- In May of 2004 USDA announced that it was not excepting any new applications for 416(b) commodities, because surplus inventories held

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<sup>14</sup> The US expected the other donors would absorb as much as 2/3 of the total cost of the global Food for Education Program

<sup>15</sup> See the Bank analysis of returns to education in Nicaragua.

by the Commodity Credit Corporation were exhausted.

- The Food for Education budget for FY 2004 is now well below the \$100 million allocated in 2003. Actual allocations of the 2004 resources are not yet known.

On the positive side

- Project Concern International has received confirmation that it will receive 960 metric tons for a two-year school feeding program in 2004. Commodities allocated are: 100 tons of small red beans, 230 tons of yellow corn, 200 tons of soybean oil, 230 tons of corn-soy milk and 100 tons of dehydrated potatoes. Total value of is estimated at \$5,400,000. The program is expected to benefit 33,000 students 460 teachers and include 460 parent volunteers.
- Assuming that commodities allocated but not yet received will indeed be provided, then there is approximately 1,500 metric tons of nonfat dry milk which can be used to continue school feeding programs already underway.
- The Department of Agriculture has recently authorized the GON to distribute \$1,259,083 of funds available from past monetization to WFP.
- The World Food Program received 360 metric tons of nonfat dry milk in 2004, to be used in direct distribution for its relief and recovery operation and in the school feeding program.

### **USAID 2003 Programs**

USAID Title II programs in 2003 were operated through five partners, four NGO's (Catholic Relief Services, Adventist Development and Relief Agency, Project Concern International, Save the Children) and the World Food Program. The programs are generally well integrated with the USAID/Nicaragua strategy, so they are similar, well focused on Mission priorities, and are consistent with USAID policy and guidance. The NGO programs are now operating under 2002-2006 DAP's. The programs operate in the departments of Jinotega, Esteli, Matagalpa, Nueva Segovia, Chinandega and Madriz.

The USAID Mission plans a mid-term evaluation of the Title II programs later in the year, so this report will attempt only a superficial review of the Title II program. The discussion is in two parts: first, the WFP (because it is multi-donor as well as USDA and USAID supported, and because it is administratively an operationally different), and second, the four NGO's with current DAP's.

## The World Food Program

The school feeding component of the World Food Program was discussed under USDA programs, above. A more complete overview of the WFP program in Nicaragua is shown in Table 4. The table shows the number of beneficiaries, the number of rations distributed, metric tons distributed, the cost in dollars of food distributed and the distribution costs, along with the total cost, and the unit cost per ton, per ration, and per beneficiary (does not include administrative overhead and other costs which would go into an estimate of the total cost).

- In CY 2003 WFP supported a total of 477,900 beneficiaries, including the school feeding programs.
- A total of almost 63.5 million rations were distributed, using about 14,000 metric tons of food.
- Overall commodity and distribution cost was about \$6.7 million.

The WFP operated five different activities in 2003:

- Activities 2 and 4 (school feeding programs),
- Activity 1, a Maternal/Child Health program,
- Activity 3, and a Food-for-Work program
- And the Protracted Relief and Recovery Operation (PRRO), which contains MCH, school feeding and FFW components.

WFP considers the school feeding program to be its major activity in Nicaragua. However, the Food-for-Work and MCH under Activities 1 and 3 and the PRRO activities were substantial. FFW assisted over 81,000 beneficiaries with over 1.6 million rations distributed. The MCH activity supported over 20,000 women and children, and distributed 3.8 million rations.

The programs are distributed over a large part of Nicaragua, targeted at the most vulnerable geographic areas and groups, with the PRRO concentrated in the dry central regions of the nation<sup>16</sup>. There is some geographic overlap between the WFP and the NGO's supported by the Title II programs, but interviews with the organizations indicate that they are well coordinated and that program duplication is avoided.

The programs have a strong gender component, in keeping with WFP "corporate" policy.

Note that the allocation of beneficiaries between USAID and USDA on the basis of current (2003) allocations to the different programs, as shown in Table 4 and in Annex Table 2, does not necessarily mean that all of the beneficiaries in the school feeding program would be attributable to USDA support. This is because commodities received

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<sup>16</sup> See the map in the Annex.

in 2002 were provided by Title II and many of them are likely to have been used in 2003. However, it is reasonable to assume that beneficiaries from the non-school feeding program could be attributed to Title II support. This being the case, there were approximately 102,000 beneficiaries supported by the Title II contribution to the WFP.

TABLE 4. World Food Program: Calendar 2003 Food Distribution Programs By Activity, Beneficiary And Cost

PROGRAM		BENEFIT.	RATIONS	FOOD	COST IN DOLLARS			COST PER:		
			DISTRIBUTED	MT	FOOD	DISTRIBUTION	TOTAL	TON	RATION	BENEFIT.
ACTIVITY 2	SCHOOL FEEDING	95,000	14,242,840	2,556	980,450	120,472	1,100,922	\$430.72	\$0.08	\$11.59
ACTIVITY 4	SCHOOL FEEDING	269,194	43,179,593	7,085	3,522,106	197,000	3,719,106	\$524.93	\$0.09	\$13.82
	TOTAL 2+4	364,194	57,422,433	9,641	4,502,556	317,472	4,820,028	\$499.95	\$0.08	\$13.23
ACTIVITY 1	MATERNAL/CHILD HEALTH	8,043	1,642,560	160	76,397	3,552	79,949	\$499.68	\$0.05	\$9.94
ACTIVITY 3	FOOD FOR WORK	49,755	790,247	1,464	488,690	68,611	557,301	\$380.67	\$0.71	\$11.20
PRRO	FOOD FOR WORK	32,000	870,000	2,320	781,930	287,845	1,069,775	\$461.11	\$1.23	\$33.43
	MATERNAL/CHILD HEALTH	12,415	2,174,190	259	87,290	32,135	119,425	\$461.10	\$0.05	\$9.62
	SCHOOL	11,493	574,650	83	27,973	10,299	38,272	\$461.11	\$0.07	\$3.33
	TOTAL	55,908	3,618,840	2,662	897,193	330,279	1,227,472	\$461.11	\$0.34	\$21.96
TOTALS	SCHOOL FEEDING	375,687	57,997,083	9,724	4,530,529	327,771	4,858,300	\$499.62	\$0.08	\$12.93
	FOOD FOR WORK	81,755	1,660,247	3,784	1,270,620	356,456	1,627,076	\$429.99	\$0.98	\$19.90
	MATERNAL/CHILD HEALTH	20,458	3,816,750	419	163,687	35,687	199,374	\$475.83	\$0.05	\$9.75
	TOTAL ALL PROGRAMS	477,900	63,474,080	13,927	5,964,836	719,914	6,684,750	\$479.98	\$0.11	\$13.99

NOTE: BENEFICIARIES TOTAL DIFFERS FROM SOURCE DUE TO APPARENT ERROR IN ADDITION.

NOTE: EXCLUDES APPROXIMATELY 400,000 CASH PROVIDED BY NORWAY.

RATIONS	RATION		MATERNAL/CHILD HEALTH				FOOD FOR WORK		SCHOOL FEEDING	
	KCAL/ GRAM	FOOD COMMODITY	GRAMS		KCAL		GRAMS	KCAL	GRAMS	KCAL
			WOMEN	CHILD <2	WOMEN	CHILD <2				
	3.500	CEREAL	400		1,400.0	0.0	2,270	7,945.0	50	175.0
	3.350	BEANS	40	25	134.0	83.8	227	760.5	15	50.3
	3.500	RICE							20	70.0
	3.300	FISH							20	66.0
	3.800	CSB	100	75	380.0	285.0	170	646.0	20	76.0
	8.850	OIL	20	15	177.0	132.8			20	177.0
		TOTAL	560	115	2,091.0	501.5	2,667	9,351.5	145	614.3

SOURCE: WFP/NICARAGUA

NOTE: BENEFICIARIES TOTAL DIFFERS FROM SOURCE DUE TO APPARENT ERROR IN ADDITION.

NOTE: SHADED AREA IS CALCULATED FROM DATA GIVEN ONLY FOR THE PRRO TOTAL.

## **Non-Governmental Organizations (NGO's) Under Title II.**

Each of the four NGO's working under Title II generally has three components to their program:

- Maternal/Child Health, which includes nutrition training to pregnant women, lactating mothers and children under 2 years,
- Food-for-Work, which concentrates on providing support for highly vulnerable families during high-stress periods, and
- A development component meant to improve livelihoods.

Prior to 2003, several of the NGO's had a "Coffee Relief" activity which was started as a response to the 2002 "coffee crisis". The crisis occurred because a dramatic drop in coffee prices led to vastly reduced coffee production and an attendant elimination of employment possibilities for rural families dependent on wages incomes. The coffee programs were eliminated in 2003 (but with some small residual activity in early FY 2003).

Table 5 contains some summary information for the 2003 programs for each of the four NGO's. The table shows a summary of overall program beneficiaries, commodities used, tons monetized and some rough estimates of the cost per beneficiary. The information may be summarized as follows:

- The four together provided food for 149,404 people in 452 communities.
- They distributed 6,103 metric tons of food with a value of just over \$2.5 million.
- A total of 32,610 metric tons of wheat were monetized with a total value of \$5.5 million, for a monetization rate of 84% (lower if some of the funds are used over more than one year).
- The average cost per beneficiary per year was \$21.35, which does not include overhead, management, and other costs associated with delivering the food.
- If we assume that all funds from monetized wheat in 2003 were spent in support of the 2003 programs (probably not completely accurate), then the cost per beneficiary per year would be \$53.34<sup>17</sup>.

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<sup>17</sup> If the monetization funds were used to support only one (or two) of the activities or over more than one year, then the cost per beneficiary would be different.

**TABLE 5. Summary: NGO Food Aid Programs Supported By Title II In Nicaragua – 2003**

	REGIONS	UNITS	PCI	CRS	ADRA	SAVE	TOTAL
			JINOTEGA	ESTELI, MATAGALPA, JINOTEGA	NUEVA SEGOVIA, MADRIZ	CHINANDEGA	ALL PROGRAMS
<b>TOTAL</b>	<b>COMMUNITIES</b>	<b>NUMBER</b>	<b>101</b>	<b>92</b>	<b>154</b>	<b>105</b>	<b>452</b>
	<b>BENEFICIARIES – MCH</b>	<b>PERSONS</b>	<b>(4) 2,791</b>	<b>3,450</b>	<b>6,900</b>	<b>8,800</b>	<b>21,941</b>
	<b>BENEFICIARIES – FFW</b>	<b>PERSONS</b>	<b>9,460</b>	<b>21,645</b>	<b>36,105</b>	<b>25,734</b>	<b>92,944</b>
	<b>BENEFICIARIES – DEV (1)</b>	<b>PERSONS</b>	<b>10,610</b>	<b>16,365</b>	<b>5,030</b>	<b>2,514</b>	<b>34,519</b>
	<b>BENEFICIARIES (TOTAL)</b>	<b>PERSONS</b>	<b>22,861</b>	<b>41,460</b>	<b>48,035</b>	<b>37,048</b>	<b>149,404</b>
	MONITIZATION	RATE (%) (2)	93.5%	84.9%	75.2%	84.5%	84.2%
	TONS	MT	8,500	7,800	7,740	8,570	32,610
	DOLLARS	\$000	1,273	1,350	1,405	1,489	5,517
	COMMODITIES DISTRIBUTED	MCH+FFW					
	TONS	MT	592	1,390	2,550	1,570	6,103
	VALUE	\$000	\$320.49	\$739.00	\$956.25	\$436.49	\$2,452
	PER TON	\$	\$541.00	\$471.00	\$375.00	\$278.00	\$401.81
	PER KG	\$	\$0.54	\$0.47	\$0.38	\$0.28	\$0.40
	PER BENEFICIARY	\$ PER YEAR (5)	\$26.16	\$29.45	\$22.24	\$12.64	\$21.35
	TOTAL COST (3)	\$000 (DIST.+ MONITIZED)	1,593	2,089	2,361	1,925	7,969
	PER TON	\$ PER TON DISTRIBUTED	2,690	1,502	926	1,226	1,306
	PER KG	\$ PER KG DISTRIBUTED	\$2.69	\$1.50	\$0.93	\$1.23	\$1.31
	PER BENEFICIARY	\$ PER YEAR (ALL)	\$69.70	\$50.39	\$49.16	\$51.97	\$53.34

SOURCE: COOPERATING SPONSOR ANNUAL REPORTS AND INTERVIEWS

NOTES: (1) BENEFICIARIES IN THE DEVELOPMENT PROGRAMS CALCULATED ASSUMING 5 FAMILY MEMBERS/PARTICIPANT (SAVE=6)..

(2) THIS WILL BE OVERSTATED IF MONITIZATION FUNDS ARE USED OVER MORE THAN ONE YEAR.

(3) TOTAL COST PER TON, KG AND BENEFICIARY CALCULATED ON ASSUMPTION THAT FUNDS FROM MONITIZATION ARE DISTRIBUTED ACROSS ALL PROGRAMS. IF THESE FUNDS ARE USED IN ONLY ONE (OR TWO) OF THE PROGRAMS, THEN THE UNIT COSTS WILL BE SLIGHTLY DIFFERENT.

(4) PCI'S MCH PROGRAM OPERATED 7 MONTHS

(5) DOES NOT INCLUDE BENEFICIARIES IN THE DEVELOPMENT ACTIVITIES

## The Food Distribution Programs

Table 6 shows some details for the MCH and FFW components of the programs. The Table shows numbers of beneficiaries, numbers of rations distributed, tons of commodities distributed, kilocalories provided per ration and per beneficiary, and an estimate of the cost per ration and per beneficiary (commodity cost only). The information in the Table can be summarized as follows:

- There are about four times as many beneficiaries in the Food-for-Work program as there are in the MCH program (92,944 beneficiaries in the Food-for-Work program and 21,941 beneficiaries in the MCH program). Note that the FFW number reflects an assumption that the ration provided supports 5 family members<sup>18</sup>. Thus, the number of participants would be approximately 18,589.
- In the MCH programs rations cost \$1.28 per beneficiary per day for 2,111 kilocalories.
- In the Food-for-Work program the cost per ration per beneficiary per day is estimated at \$0.15 for a ration containing 1,467 kilocalories.

There are two notable facts concerning the MCH and FFW programs: 1) the MCH programs operate 12 months per year and provide a ration equal to an adult's minimum daily requirement; and, 2) FFW programs are concentrated in the "hardship months", generally June-August.

One issue which the operators are attempting to resolve is how to appropriately count beneficiaries. This occurs because the programs are concentrated in specific geographic areas and there is a possibility that a given family would have members participating in all three components (MCH, FFW and the development program). While this may create a problem counting beneficiaries, a look at the rations provided (see Table 7) suggests that it would not lead to an overfeeding problem. If the family acquires rations from both programs, then their daily calorie supply would be about 1,927 kilocalories/person/day-during the "hardship months" only.

### Impacts of the MCH and FFW Programs

The MCH programs, if judged on the basis of the number of participants, or the proportion of pregnant and lactating women who participated in the program, are very successful. Two examples: PCI reports that in their target zones 100% of the children less than two years of age are participating in their program; and, ADRA reports that 95% of the pregnant women in their target zone attend training sessions. One of the Cooperating Sponsors even suggests that the training element is so popular that the food component might not be necessary as an incentive (i.e. the "incentive" ration).

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<sup>18</sup> 6 in the case of Save the Children.

**TABLE 6. Summary: Ngo Maternal/Child Health And FFW Food Aid Programs Supported By Title Ii In Nicaragua – 2003**

	REGIONS	UNITS	PCI (1)		CRS		ADRA		SAVE		TOTAL
			JINOTEGA		ESTELI, MATAGALPA, JINOTEGA		NUEVA SEGOVIA, MADRIZ		CHINANDEGA	ALL PROGRAMS	
<b>MCH</b>	<b>BENEFICIARIES</b>		<b>2,791</b>		<b>3,450</b>		<b>6,900</b>		<b>8,800</b>		<b>21,941</b>
	PREGNANT WOMEN		614		476		700		488		2,278
	LACTATING WOMEN		419		1,294		3,100		4,156		8,969
	CHILDREN <2		1,758		1,680		3,100		4,156		10,694
	COMMODITIES DISTRIBUTED	MT	299		417		521		857		2,094
	RATIONS DISTRIBUTED	MONTHS	7	10,426	12	41,414	12	36,255	12	11,164	99,259
		MONTHLY/FREQUENCY	0.50		1.00		1.00		1.00		1.00
	KG/DISTRIBUTION	KG	28.670		14.350		14.350		14.350		21.099
	KCAL/DISTRIBUTION	TOTAL	126,368		63,317		63,317		63,317		63,317
		PER MONTH	63,184		63,317		63,317		63,317		63,317
	KCAL/RATION/DAY	PER DAY(30)	2,106		2,111		2,111		2,111		2,111
	KCAL/BENEFICIARY/DAY	PER DAY(30)	2,106		2,111		2,111		2,111		2,111
	ESTIMATED COST										
	PER RATION	\$	\$7.76		\$6.76		\$5.38		\$3.99		\$8.48
	BENEFICIARY/DAY	\$	\$1.93		\$1.90		\$0.94		\$0.90		\$1.28
<b>FFW</b>	<b>BENEFICIARIES</b>	<b>PERSONS</b>	<b>9,460</b>		<b>21,645</b>		<b>36,105</b>		<b>25,734</b>		<b>92,944</b>
	COMMODITIES DISTRIBUTED	MT	293.4		973.4		2029		712.8		4,009
	RATIONS DISTRIBUTED	MONTHS/RATIONS	12	5,528	6	17,317	8	36,225	4	12,567	71,637
		MONTHLY/FREQUENCY	1.0		0.5				0.5		
	KG/RATION	MONTH	53.3		56.2		56.2		56.7		56.2
	KCAL/RATION	MONTH	225,767		220,005		220,005		224,691		220,005
	KCAL/RATION/DAY	PER DAY(30)	7,526		7,334		7,334		7,490		7,334
	KCAL/BENEFICIARY/DAY	PER DAY(30)	1,505		1,467		1,467		1,248		1,467
	ESTIMATED COST										
	PER RATION	FAMILY	\$28.84		\$26.46		\$21.06		\$15.76		\$22.57
	BENEFICIARY/DAY	PER DAY	\$0.56		\$0.18		\$0.14		\$0.09		\$0.15

SOURCE: COOPERATING SPONSOR ANNUAL REPORTS AND INTERIEWS

NOTES: (1) PCI MCH PROGRAM OPERATED 7 MONTHS. FOOD FOR WORK EXCLUDES DISTRIBUTION IN THE COFFEE PROGRAM IN OCTOBER AND NOVEMBER.  
 (2) CALCULATED ASSUMING 30 DAYS FOR 5 PEOPLE (SAVE=6).

**TABLE 7. Summary: Rations Used By NGO Food Aid Programs Supported By Title II In Nicaragua – 2003**

	REGIONS		UNITS	PCI	CRS	ADRA	SAVE	TOTAL
				JINOTEGA	ESTELI, MATAGALPA, JINOTEGA	NUEVA SEGOVIA, MADRIZ	CHINANDEGA	ALL PROGRAMS
RATIONS	MCH	COMMODITY	KCAL/KG	KG/R	KG/R	KG/R	KG/R	KG/R
		LENTILS	3380					
		BEANS	3410					
		MAIZE						
		RICE	3650					
		CSB	3757	25.000	12.500	12.500	12.500	12.500
		VEG OIL	8840	3.670	1.850	1.850	1.850	1.850
		TOTAL KG		28.670	14.350	14.350	14.350	14.350
		TOTAL KCAL		126,368	63,317	63,317	63,317	63,317
	<b>FFW</b>	<b>COMMODITY</b>	<b>KCAL/KG</b>	<b>KG/R</b>	<b>KG/R</b>	<b>KG/R</b>	<b>KG/R</b>	<b>KG/R</b>
		LENTILS	3380	0.200	20.000	20.000	20.000	20.000
		BEANS	3410	13.900				
		MAIZE						
		RICE	3650	15.000	20.000	20.000	20.000	20.000
		CSB	3757	17.900	12.500	12.500	12.500	12.500
		VEG OIL	8840	6.300	3.670	3.670	4.200	3.670
		TOTAL KG		53.300	56.170	56.170	56.700	56.170
		TOTAL KCAL		225,767	220,005	220,005	224,691	220,005

SOURCE: COOPERATING SPONSOR ANNUAL REPORTS AND INTERVIEWS

The MCH programs are also having a significant impact on malnutrition in children under two. Save The Children, for example, reports that malnutrition has diminished from 22% when the program started to 18% currently. Though not specific to Nicaragua, a recent review of the impact of Title II on child nutrition concluded that on average the programs produced a reduction of 2.4 percentage points per year in stunting<sup>19</sup>. Given the similarities of these programs, each would have at least the same impact on malnutrition. All of the Cooperators have been collecting weight data as part of the feeding programs, so the Title II evaluation planned later in the year will be able to more fully assess the immediate impacts on malnutrition.

Another useful example is the final evaluation of a CARE food security program executed in Honduras between 1996 and 2001. A comparison of communities where an “integrated” approach was taken showed that stunting was reduced from 55% to 47% for the period 1996-2001, while it actually increased to 66% in communities where there were no programs<sup>20</sup>. It would not be unreasonable to conclude that the programs in Nicaragua had a similar proportional impact.

Assessment of longer term impacts must rely on more general analyses of the relationship of between malnutrition, work capacity, education and economic performance. The relationships here would be recursive through time: better nutrition of 2 year olds ? higher child survival rates and better school performance ? higher productivity (wages)<sup>21</sup>. There is also a general reverse relationship: economic growth also acts to reduce malnutrition. This is why the productivity and income increasing activities associated with the feeding programs are important. As an example, a cross country analysis by IFPRI of the impact of economic growth on malnutrition rates of children less than 5 shows a significant positive relationship between income growth and weight-for-age among children less than 5 years old, but it would take considerable time for the relationship to work out<sup>22</sup>. Since these results are not specific to Nicaragua, they are presented only as an indication of potential program impact. But, this does help to emphasize that integrated programs are necessary. In other words, MCH combined with FFW and income generation activities.

Finally, on the basis of information provided earlier in the report that Nicaragua spends \$52 dollars per student and has a 25% repeat rate for the first grade, it actually costs Nicaragua \$65 to get a student through the first grade. If healthier students enter school and advance more rapidly because of the MCH programs, then the GON stands to gain- possibly even enough to help finance the additional students brought into the system by the school feeding programs.

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<sup>19</sup> Swindale, et al “The Impact of Title II Maternal and Child Health and Nutritional Status of Children”, FANTA, March 2004.

<sup>20</sup> Cited in Swindale, et al.

<sup>21</sup> It would interesting to see a research program that followed the children at least through primary school to see how the feeding programs eventually contribute to performance.

<sup>22</sup> Haddad, et al, “Reducing Child Undernourishment: How Far Does Income Growth Take Us?”, IFPRI Working Paper No. 137, August 2002. The authors conclude that growth rates of 2.5% sustained over 20 years would reduce undernutrition, as measured by weight-for-age, by about 27%.

The Food-for-Work programs all contain some combination of soil and water conservation, sanitation, road maintenance and construction, and reforestation. Table 8 shows the combined beneficiaries reported by the Cooperating Sponsors for soil and water conservation, roads, and sanitation activities. No attempt will be made to attribute "impacts" these activities. It remains for the full evaluation to obtain and assess data for these activities. As stated previously (and demonstrated by the Honduran experience) these activities are important part of an integrated program. One issue for the full evaluation would be whether or not sufficient marketing data were collected of prior to and after a road construction or improvement in order to properly assess the impact of these activities.

Table 8.. 2003 Food For Work Participants and Beneficiaries

Cooperating Sponsor	Soil, Water, Roads, Sanitation	
	Families	People
Catholic Relief Services	4,329	21,645
Adventist Development and Relief Agency	7,221	36,105
Save the Children	4,289	25,734
Project Concern International	1,892	9,460
<b>Total</b>	<b>17,731</b>	<b>92,944</b>
Source: Cooperating Sponsor Annual Reports and Interviews		
Note: Beneficiaries calculated assuming 5/family, except SAVE=6.		

The development programs are also quite similar across the Cooperating Sponsors. All of are engaged in diversification activities (non-traditional crops), including commercialization. Several engaged in micro finance, in some cases to finance storage silos and others to finance micro irrigation systems, and two are engaged in promoting better production of traditional crops (Table 9).

Table 9. 2003 Development Program Participants and Beneficiaries by Type of Activity and Cooperating Sponsor.

Cooperating Sponsor	Storage Silos (1)	Non-traditional Crops	Micro-Finance	Traditional Crops	Participants	Beneficiaries
Catholic Relief Services	500	2,277	996		3,273	16,365
Adventist Development and Relief Agency		446	235	325	1,006	5,030
Save the Children	300	99		320	419	2,514
Project Concern International		1,522	600		2,122	10,610
<b>Total Participants</b>	<b>800</b>	<b>4,344</b>	<b>1,831</b>	<b>645</b>	<b>6,820</b>	<b>34,519</b>
<b>Total Beneficiaries (2))</b>		<b>21,819</b>	<b>9,155</b>	<b>3,545</b>	<b>34,519</b>	
Source: Cooperating Sponsor Annual Reports and Interviews						
Note: (1) Participants under "silos" included in other categories.						
(2) Beneficiaries calculated assuming 5/family, except SAVE=6.						

As with the Food-for-Work programs, no attempt will be made to assess the "impact" of these programs, because to do so would require detailed information on participating farmers and farm characteristics which are not available in the annual reports. Of each of the Cooperating Sponsors has impressive "success stories" associated with their nontraditional crops activities. An analysis of the impact and of these activities would

require a considerable amount of production and marketing data in order to assess the potential for scaling the nontraditional crops activities to significant levels (including some assessment of their employment generation potentials).

**One issue which is concerned in the context of general food security is the dominance of nontraditional crops activities over traditional crops.** A full evaluation of the Title II program in the context of food security would have to look at the relative potentials of nontraditional crops (that is diversification) and traditional crops in assuring food security in Nicaragua. That is beyond the scope of this assessment.

### **USAID in 2004 and Beyond**

The Title II program faces much less risk in the near term than the programs that rely on food surpluses. Recent changes in the law have made it more flexible and more sustainable. The USAID FY 2005 budget request, for example, maintains the 2004 appropriation level. In addition, the Cooperating Sponsors all have programs approved through 2006, so the near term should not be a problem for these programs. However, US Government and Agency priorities will continue to place these programs at some risk. It's worth remembering that agency priorities, geographically, are East Asia and Africa, and will probably continue to be so over the foreseeable future.

It remains, however, that Nicaragua has some serious structural problems related to food security which will require continued assistance from food donors. The next section shows some general estimates of what the food security situation in Nicaragua will be over the next 10 years.

### **Adherence and Targeting of Title II Programs to US Policy**

The Title II programs are all closely aligned with US policy and guidance as well as with GON policy. One possible issue for the future is the dominance of diversification activities in relation to traditional crops.

The programs are all targeted at high vulnerability areas and populations. One possible issue is the mix of vulnerable vs non-vulnerable women and children in the MCH programs.

## **V. Medium Term Assessment of Vulnerability and Food Security in Nicaragua**

This section contains some general estimates of numbers and locations of highly vulnerable people in Nicaragua. It is not intended to be definitive look a food security in the country.

There are several ways to assess and food security. One is the more macro approach taken by FAO which looks national food balances and food requirements together with information on the distribution of consumption (usually income or consumption data) to essentially estimate the probability that individual will consume less than the minimum

daily requirement. This is the advantage of being consistent across countries and relatively easy to apply.

- According to this process, 29% of Nicaragua's population is undernourished<sup>23</sup>.

The US Department of Agriculture also produces estimates of “food security” for a number of countries. The USDA calculates a "food gap" based on trends in production, imports, exports, food aid, non-food use, and consumption. They use this information and a simple economic model to project a country's food gap.

- According to this process, Nicaragua will face a food gap of 276,000 metric tons in 2008 and 314,000 metric tons in 2013 if it is to meet minimum nutritional requirements. Note that this is in addition to “normal” food aid contributions<sup>24</sup>.

The disadvantage of these approaches is that it is difficult to obtain sub-national estimates.

The World Food Program (and the Famine Early Warning systems) uses a different approach. That is to take national information on population characteristics, poverty data, DHS data, together with farm and market information that may be available (such as farm size, farm ownership, food stocks, etc.). They also look at other factors such as health, roads, hospitals, schools, clinics, etc.), to develop vulnerability indices which are then used to help target interventions. An important part of this process is the vulnerability assessments which are undertaken, when required, to help define programs and design interventions. The WFP undertook such an assessment in 2002 to support preparation of its regional Protracted Relief And Recovery Operation (the assessment included El Salvador, Guatemala, Honduras and Nicaragua). Details from this assessment also become part of the information used to develop target groups and regions.

- The result of this process is a vulnerability index and the vulnerability map(s) used by many development agencies and NGO's. A recent map for Nicaragua is shown in the Annex.

The Food Security Assessment produced by Dr. van Haften in December 2000 used a combination of the data mentioned above. It probably remains valid as an assessment even today, four years later. It could be extended with new data and analyses that have since become available. One rich source of information is a report produced by FAO in February 2004 “Trends and Challenges in Agriculture, Forestry and Fisheries in Latin America and the Caribbean”<sup>25</sup>.

The approach taken in this report is a little different than those mentioned above. It starts with two sets of data: population statistics and poverty data. The objective is to generate

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<sup>23</sup> FAO, The State of Food Security in the World - 2003, FAO

<sup>24</sup> USDA/ERS, “Food Security Assessment”, May 2004.

<sup>25</sup> The report is available on the FAO website.

a set of data at the departmental level that can be used to contrast the potential beneficiary pool with beneficiaries in current food aid programs and, then, to project the potential beneficiary pool to 2010. 2003 is taken as the base year.

The population data are taken from GON official estimates for 2002 and 2003. These two years were used to calculate growth rates that were then used to extrapolate the population data to 2010 (growth rates are in Annex Table 3 for the total population).

The Poverty data are taken from the 2001 World Bank Poverty Report.

Only the extreme poverty data were used, under the belief that these people represent the highest priority target population<sup>26</sup>. The data are for 1998, so they needed to be updated to 2003. The updates were done following the process used by the World Bank in the updated Nicaragua Poverty Assessment published in December 2003. The Bank estimated that 17.3% of the population lived in “extreme” poverty in 1998 and that the proportion decreased to 14.8% by 2003. The updated poverty data for 2003 are shown in Table 10, below.

The updated Assessment also projects extreme poverty levels annually through 2015 using a consumption elasticity of -2.1% and assumed rates of growth in real per capita income. These rates of growth vary between 1.9% per year in the early years to 2% in the middle years and 2.4% in the late years. Under the Bank’s assumptions, the incidence of extreme poverty would be reduced to about 11% by 2010. For the purposes of this presentation, a constant growth rate of 1.5% per year has been used for 2004-2010 in the belief that a more conservative estimate is appropriate. The result of these calculations is shown in Table 11.

- Under of the assumptions outlined above, about 813,000 people were living in extreme poverty in Nicaragua in 2003.
- With steady growth at 1.5%/year in real per capita income, this number would be reduced to just over 776,000 people in 2010, and the proportion of people living in extreme poverty would be reduced from about 15% to near 12%.
- These results are fairly sensitive to the assumptions about real income growth. For example, if real per capita income was to grow at only 1% per year, then the number of people living in extreme poverty in 2010 would increase to 837,000.
- An update of the FAO procedure assuming that average calorie consumption increases by the same rates as is assumed for incomes (1.5%/year) indicates that about 20% of the population would still be food insecure in 2010<sup>27</sup>.

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<sup>26</sup> With full understanding that this is only one of several dimensions of food security assessment.

<sup>27</sup> Author calculations.

Table 10. Nicaragua: Extreme Poverty Updated To 2003

Department	Extreme Poverty Head Count					
	% of Population	People	Rural	Urban	% Who are Rural	% Who are Urban
Nueva Segovia	22.9	48,573	33,126	15,446	68.2	31.8
Madriz	26.2	35,038	30,027	5,010	85.7	14.3
Esteli	17.2	36,815	25,770	11,044	70.0	30.0
Chinandega	15.0	65,795	42,109	23,686	64.0	36.0
Leon	13.9	54,976	39,253	15,723	71.4	28.6
Managua	2.6	35,508	5,575	29,933	15.7	84.3
Masaya	9.9	31,347	18,840	12,508	60.1	39.9
Granada	12.0	23,039	14,423	8,617	62.6	37.4
Carazo	11.3	20,133	12,966	7,167	64.4	35.6
Rivas	14.7	24,833	20,835	3,998	83.9	16.1
Boaco	23.4	39,570	34,387	5,184	86.9	13.1
Chontales	20.9	37,947	26,146	11,802	68.9	31.1
Jinotega	26.5	79,118	72,946	6,171	92.2	7.8
Matagalpa	22.4	108,711	90,665	18,046	83.4	16.6
RAAN	28.4	71,095	65,407	5,688	92.0	8.0
RAAS	20.5	77,300	59,134	18,165	76.5	23.5
Riio San Juan	24.2	22,983	19,926	3,057	86.7	13.3
National 2003	14.8	812,779	611,534	201,245	75.2	24.8
1998	17.3					

Extreme Poverty = income less that \$212/year in 1998

Source: Based on the World Bank Poverty Report, page 10, 11 and Annex 19, page 10.

Updated using consumption elasticity = -2.1 and aggregate percapita income growth of 6.7% 1998-2003 and assuming the elasticity applies to all departments.

Table 11. Number of People in Extreme Poverty 2003 – 2010

	2003	2004	2005	2006	2007	2008	2009	2010
National	812,779	807,463	802,191	796,965	791,782	786,644	781,549	776,498
% Population	14.8%	14.4%	13.9%	13.4%	13.0%	12.6%	12.2%	11.8%
Nueva Segovia	48,573	48,125	47,681	47,241	46,805	46,373	45,946	45,522
Madriz	35,038	34,729	34,424	34,121	33,820	33,523	33,228	32,935
Esteli	36,815	36,674	36,533	36,393	36,253	36,114	35,976	35,838
Chinandega	65,795	65,491	65,188	64,887	64,587	64,288	63,991	63,695
Leon	54,976	54,249	53,533	52,826	52,128	51,439	50,760	50,089
Managua	35,508	35,372	35,236	35,101	34,966	34,832	34,698	34,565
Masaya	31,347	31,248	31,148	31,049	30,951	30,852	30,754	30,656
Granada	23,039	22,819	22,602	22,386	22,172	21,961	21,751	21,544
Carazo	20,133	19,916	19,701	19,489	19,279	19,071	18,865	18,662
Rivas	24,833	24,565	24,300	24,038	23,779	23,522	23,268	23,018
Bocao	39,570	39,229	38,891	38,556	38,224	37,894	37,568	37,244
Chontales	37,947	37,738	37,531	37,325	37,119	36,915	36,712	36,510
Jinotega	79,118	78,438	77,765	77,097	76,435	75,779	75,128	74,483
Matagalpa	108,711	107,976	107,245	106,520	105,799	105,084	104,373	103,667
RAAN	71,095	70,610	70,128	69,650	69,175	68,703	68,234	67,769
RAAS	77,300	77,389	77,479	77,569	77,658	77,748	77,838	77,928
Rio San Juan	22,983	22,895	22,807	22,720	22,632	22,545	22,459	22,373
Assumed annual % change in the poverty rate		-3.2%	-3.2%	-3.2%	-3.2%	-3.2%	-3.2%	-3.2%

Source: Based on World Bank data. Calculated by author assuming -2.1 income/poverty elasticity and annual growth =1.5%

Considering only the extreme rural poor in the departments where the Cooperating Sponsors are operating, there were approximately 295,000 people who could be considered high-priority targets for the programs. The programs actually provided support to just over 50% (149,404 people) of this "potential benefit pool". Adding the 102,213 beneficiaries attributed of to the Title II program from the WFP activities, the programs would account for 85% of this "pool".

Of course, the extreme poor are not the only people targeted by these programs. And, since 45% of Nicaragua's population is considered poor, the "pool" is much, much larger.

**In either case, Nicaragua will need food aid for a considerable amount of time. Availability may improve because of programs that help increase productivity and production and access may improve because of income growth, but the number of people who cannot afford to purchase a minimum diet will remain large.**

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## **Annex Tables**

- Table 1. World Food Program Commodities Announced And Received In Indicated Year, By Commodity, Donor And Year
- Table 2. World Food Program - Metric Tons Announced And Received For School And Non-School Feeding Programs, By Donor And Year
- Table 3. Assumed Population Growth Rates (based on 2003-2002 data)
- Table 4. Nicaragua: Extreme Poverty 1998.
- Map WFP Vulnerability Map for 2003.

TABLE:1. WORLD FOOD PROGRAM COMMODITIES ANNOUNCED AND RECEIVED IN INDICATED YEAR, BY COMMODITY, DONOR AND YEAR

	RICE	MAIZE	BEANS	LENTILS	SPLIT PEAS	WHEAT FLOUR	FISH	CSB	CSM	VEG OIL	SUGAR	TOTAL
US COMMODITY COST 2001	TOTAL COST	372,850	3,095,374	67,611		1,036,622		438,692	882,890	3,269,773		9,163,812.0
	\$/TON	414.97	302.34	677.46		374.99		401.33	498.44	855.69		442.99
	\$/KG	0.41	0.30	0.68		0.37		0.40	0.50	0.86		0.44
2001	USAID	898.5	643.0	99.8								1,641.3
	USAID-SCHOOL											0.0
	USDA		2,598.8					993.8		149.6		3,742.2
	USDA-SCHOOL		6,996.4			2,764.4		99.3	1,771.3	3,671.6		15,303.0
	<b>TOTAL US</b>	<b>898.5</b>	<b>10,238.2</b>	<b>99.8</b>		<b>2,764.4</b>		<b>1,093.1</b>	<b>1,771.3</b>	<b>3,821.2</b>		<b>20,686.5</b>
	CANADA									1,004.2		1,004.2
	GERMANY	799.5									27.0	826.5
	LUXEMBURG										279.7	279.7
	SPAIN										80.3	80.3
	IRELAND	117.5										117.5
	NORWAY							198.8				198.8
	HOLLAND											0.0
	FINLAND		680.0							122.6		802.6
	SWITZERLAND											0.0
	JAPAN											0.0
	ITALY											0.0
WFP					192					55.2		247.2
<b>TOTAL</b>	<b>1,815.5</b>	<b>10,918.2</b>	<b>99.8</b>	<b>0.0</b>	<b>192.0</b>	<b>2,764.4</b>	<b>198.8</b>	<b>1,093.1</b>	<b>1,771.3</b>	<b>5,003.2</b>	<b>387.0</b>	<b>24,243.3</b>

US COMMODITY COST 2002	TOTAL COST	1,189,474.0	2,199,811.00	142,162.00			328,700.00			424,000.00			4,284,147.0
	\$/TON	342.98	272.94	567.97			354.93			424.34			312.63
	\$/KG	0.34	0.27	0.57			0.35			0.42			0.31
2002	USAID		3,069.4	250.3									3,319.7
	USAID-SCHOOL		2,499.4										2,499.4
	USDA												0.0
	USDA-SCHOOL	3,468.1	2,491.0				926.1			999.2			7,884.4
	<b>TOTAL US</b>	<b>3,468.1</b>	<b>8,059.8</b>	<b>250.3</b>	<b>0.0</b>	<b>0.0</b>	<b>926.1</b>	<b>0.0</b>	<b>0.0</b>	<b>999.2</b>	<b>0.0</b>	<b>0.0</b>	<b>13,703.5</b>
	CANADA												0.0
	GERMANY												0.0
	LUXEMBURG												0.0
	SPAIN												0.0
	IRELAND								112.5				112.5
	NORWAY					338.0		191.0					529.0
	HOLLAND												0.0
	FINLAND												0.0
	SWITZERLAND		16.0	597.0									613.0
	JAPAN	1,077.9											1,077.9
ITALY												0.0	
WFP												0.0	
<b>TOTAL</b>	<b>4,546.0</b>	<b>8,075.8</b>	<b>847.3</b>	<b>0.0</b>	<b>338.0</b>	<b>926.1</b>	<b>191.0</b>	<b>112.5</b>	<b>999.2</b>	<b>0.0</b>	<b>0.0</b>	<b>16,035.9</b>	

TABLE: WORLD FOOD PROGRAM COMMODITIES ANNOUNCED AND RECEIVED IN INDICATED YEAR, BY COMMODITY, DONOR AND YEAR (CONT'D)

	RICE	MAIZE	BEANS	LENTILS	SPLIT PEAS	WHEAT FLOUR	FISH	CSB	CSM	VEG OIL	SUGAR	TOTAL	
US COMMODITY COST 2003	TOTAL COST		1,171,231.00	725,163.00				113,956.00		343,439.00		2,353,789.0	
	\$/TON		334.99	731.16				475.01		1,043.89		465.45	
	\$/KG		0.33	0.73				0.48		1.04		0.47	
2003	USAID		3496.3	428.3				239.9		329		4,493.5	
	USAID-SCHOOL											0.0	
	USDA											0.0	
	USDA-SCHOOL			563.5								563.5	
	<b>TOTAL US</b>	<b>0.0</b>	<b>3,496.3</b>	<b>991.8</b>			<b>0.0</b>		<b>239.9</b>	<b>0.0</b>	<b>329.0</b>		<b>5,057.0</b>
	CANADA												0.0
	GERMANY												0.0
	LUXEMBURG												0.0
	SPAIN												0.0
	IRELAND												0.0
	NORWAY							52.1					52.1
	HOLLAND												0.0
	FINLAND												0.0
	SWITZERLAND												0.0
	JAPAN	1295.5		79					517.5				1,892.0
	ITALY												0.0
	WFP			440									440.0
<b>TOTAL</b>	<b>1,295.5</b>	<b>3,496.3</b>	<b>1,510.8</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>52.1</b>	<b>757.4</b>	<b>0.0</b>	<b>329.0</b>	<b>0.0</b>	<b>7,441.1</b>	

SOURCE: WFP/NICARAGUA

NOTE: MAY NOT BE IDENTICAL TO SOURCE BECAUSE OF ROUNDING.

TABLE:2. WORLD FOOD PROGRAM - METRIC TONS ANNOUNCED AND RECEIVED FOR SCHOOL AND NON-SCHOOL FEEDING PROGRAMS, BY DONOR AND YEAR

DONOR	SCHOOL FEEDING					PROGRAMS OTHER THAN SCHOOL FEEDING					2001-2004 TOTAL	
	2001	2002	2003	2004	TOTAL 2001-2004	2001	2002	2003	2004	TOTAL 2001-2004	MT	% OF TOTAL
USAID	0.0	2,499.4	0.0		<b>2,499.4</b>	1,641.3	3,319.7	4,493.5	1,441.0	<b>10,895.5</b>	13,394.9	26.4%
USDA	15,303.0	7,884.4	563.5	179.6	<b>23,930.5</b>	3,742.2	0.0	0.0	179.6	<b>3,921.8</b>	27,852.3	54.8%
<b>TOTAL US</b>	<b>15,303.0</b>	<b>10,383.8</b>	<b>563.5</b>	<b>179.6</b>	<b>26,429.9</b>	<b>5,383.5</b>	<b>3,319.7</b>	<b>4,493.5</b>	<b>1,620.6</b>	<b>14,817.3</b>	<b>41,247.2</b>	<b>81.2%</b>
CANADA					<b>0.0</b>	1,004.2	0.0	0.0		<b>1,004.2</b>	1,004.2	2.0%
GERMANY				20.0	<b>20.0</b>	826.5	0.0	0.0		<b>826.5</b>	846.5	1.7%
LUXEMBURG					<b>0.0</b>	279.7	0.0	0.0		<b>279.7</b>	279.7	0.6%
SPAIN					<b>0.0</b>	80.3	0.0	0.0		<b>80.3</b>	80.3	0.2%
IRELAND					<b>0.0</b>	117.5	112.5	0.0		<b>230.0</b>	230.0	0.5%
NORWAY				58.0	<b>58.0</b>	198.8	529.0	52.1		<b>779.9</b>	837.9	1.6%
HOLLAND					<b>0.0</b>	0.0	0.0	0.0		<b>0.0</b>	0.0	0.0%
FINLAND					<b>0.0</b>	802.6	0.0	0.0	478.5	<b>1,281.1</b>	1,281.1	2.5%
SWITZERLAND					<b>0.0</b>	0.0	613.0	0.0	100.0	<b>713.0</b>	713.0	1.4%
JAPAN					<b>0.0</b>	0.0	1,077.9	1,892.0	79.0	<b>3,048.9</b>	3,048.9	6.0%
ITALY				328.8	<b>328.8</b>	0.0	0.0	0.0	205.0	<b>205.0</b>	533.8	1.1%
WFP					<b>0.0</b>	247.2	0.0	440.0		<b>687.2</b>	687.2	1.4%
<b>TOTAL NON-US</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>406.8</b>	<b>406.8</b>	<b>3,556.8</b>	<b>2,332.4</b>	<b>2,384.1</b>	<b>862.5</b>	<b>9,135.8</b>	<b>9,542.6</b>	<b>18.8%</b>
<b>TOTAL</b>	<b>15,303.0</b>	<b>10,383.8</b>	<b>563.5</b>	<b>586.4</b>	<b>26,836.7</b>	<b>8,940.3</b>	<b>5,652.1</b>	<b>6,877.6</b>	<b>2,483.1</b>	<b>23,953.1</b>	<b>50,789.8</b>	<b>100.0%</b>
US % OF TOTAL	100.0%	100.0%	100.0%	30.6%	<b>98.5%</b>	60.2%	58.7%	65.3%	65.3%	<b>61.9%</b>	81.2%	

SOURCE: WFP/NICARAGUA

NOTE: DATA ARE QUANTITIES ANNOUNCED AND RECEIVED IN THE INDICATED YEAR. 2004 IS AS OF MAY, 2004 AND WILL PROBABLY CHANGE.

Table 3. Assumed Population Growth Rates (based on 2003-2002 data)

	National			Urban			Rural		
	Total	Male	Female	Total	Male	Female	Total	Male	Female
National	0.0263	0.0266	0.0260	0.0326	0.0338	0.0316	0.0176	0.0175	0.0177
Nueva Segovia	0.0230	0.0224	0.0236	0.0384	0.0396	0.0372	0.0085	0.0073	0.0098
Madriz	0.0234	0.0241	0.0227	0.0340	0.0358	0.0324	0.0193	0.0200	0.0186
Esteli	0.0286	0.0289	0.0282	0.0363	0.0376	0.0351	0.0181	0.0184	0.0177
Chinandega	0.0278	0.0275	0.0280	0.0333	0.0346	0.0321	0.0188	0.0169	0.0208
Leon	0.0189	0.0195	0.0183	0.0246	0.0258	0.0236	0.0108	0.0114	0.0101
Managua	0.0286	0.0293	0.0279	0.0307	0.0320	0.0296	0.0008	-0.0004	0.0023
Masaya	0.0292	0.0299	0.0286	0.0359	0.0368	0.0350	0.0192	0.0202	0.0181
Granada	0.0227	0.0237	0.0216	0.0264	0.0280	0.0249	0.0159	0.0167	0.0150
Carazo	0.0214	0.0222	0.0206	0.0267	0.0286	0.0249	0.0131	0.0127	0.0135
Rivas	0.0214	0.0223	0.0205	0.0277	0.0287	0.0268	0.0178	0.0188	0.0166
Bocao	0.0236	0.0238	0.0235	0.0359	0.0354	0.0363	0.0178	0.0190	0.0166
Chontales	0.0268	0.0269	0.0268	0.0369	0.0382	0.0359	0.0143	0.0145	0.0142
Jinotega	0.0237	0.0234	0.0240	0.0321	0.0319	0.0323	0.0213	0.0213	0.0214
Matagalpa	0.0255	0.0255	0.0256	0.0408	0.0415	0.0403	0.0168	0.0172	0.0163
RAAN	0.0255	0.0262	0.0247	0.0318	0.0323	0.0314	0.0230	0.0240	0.0219
RAAS	0.0337	0.0332	0.0343	0.0444	0.0463	0.0426	0.0259	0.0241	0.0279
Rio San Juan	0.0286	0.0280	0.0292	0.0453	0.0404	0.0497	0.0234	0.0246	0.0220

Source: calculated by author.

Table 4. Nicaragua: Extreme Poverty 1998

Department	Extreme Poverty Head Count					
	% of Population	People	Rural	Urban	% Who are Rural	% Who are Urban
Nueva Segovia	26.6	50,344	34,335	16,009	68.2	31.8
Madriz	30.4	36,235	31,054	5,182	85.7	14.3
Esteli	20.0	37,094	25,966	11,128	70.0	30.0
Chinandega	17.4	66,568	42,603	23,964	64.0	36.0
Leon	16.2	58,181	41,541	16,640	71.4	28.6
Managua	3.0	35,778	5,617	30,161	15.7	84.3
Masaya	11.6	31,477	18,917	12,559	60.1	39.9
Granada	14.0	23,919	14,973	8,946	62.6	37.4
Carazo	13.1	21,038	13,549	7,490	64.4	35.6
Rivas	17.1	25,949	21,771	4,178	83.9	16.1
Boaco	27.2	40,883	35,528	5,356	86.9	13.1
Chontales	24.3	38,570	26,575	11,995	68.9	31.1
Jinotega	30.8	81,729	75,354	6,375	92.2	7.8
Matagalpa	26.1	111,232	92,768	18,465	83.4	16.6
RAAN	33.1	72,765	66,944	5,821	92.0	8.0
RAAS	23.9	75,865	58,037	17,828	76.5	23.5
Rio San Juan	28.1	23,158	20,078	3,080	86.7	13.3
National 1998	17.3	830,786	625,610	205,176	75.3	24.7
1993	19.4					
Total Population		4,802,232				

Notes: Extreme Poverty = income less than \$212/year, enough to purchase food = 2,187 Kcal per day.

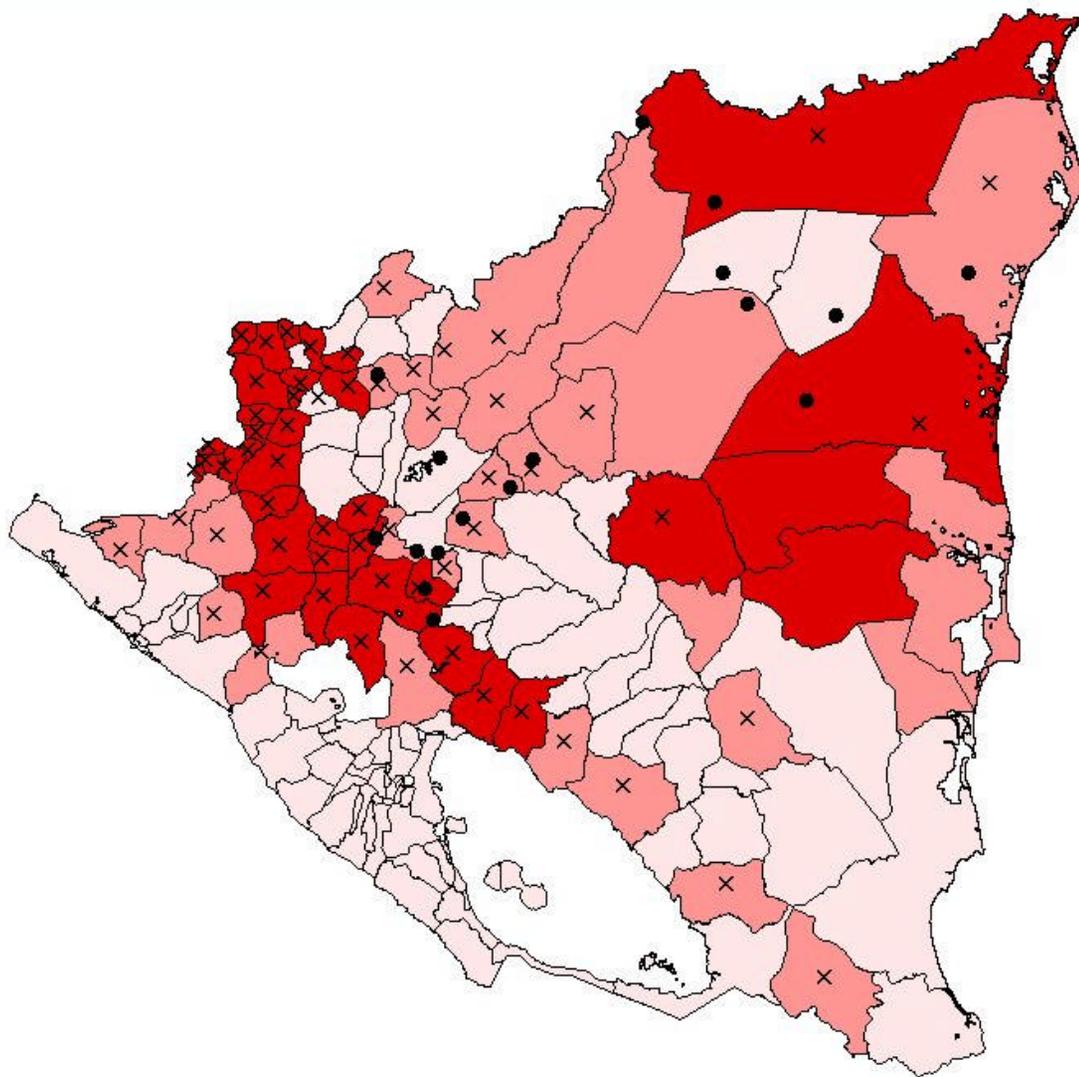
The number of people in extreme poverty has been adjusted to maintain departmental consistency with the national total (i.e. departmental numbers adjusted so the sum of the departmental numbers divided by national population = 17.3%.

Source: Based on the World Bank Poverty Report, page 10, 11 and Annex 19, page 10.



Programa Mundial  
de Alimentos

## Nicaragua: Mapa de Vulnerabilidad e Intervenciones PMA



### LEYENDA

- 1 ● = Intervenciones de emergencia
- 1 x = Intervenciones Programa de país

### Inseguridad Alimentaria

- Menos Vulnerabilidad
- Alta Vulnerabilidad
- Muy Alta Vulnerabilidad

PMA  
Abril, 2003

The boundaries and names shown on this map do not imply official endorsement or acceptance by the United Nations.