NICARAGUA

ARAP

Agriculture Reconstruction Assistance Program

AGRICULTURAL RECOVERY and RECONSTRUCTION PROJECT ASSESSMENT

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Submitted by:
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To:
United States Agency for International Development
Managua, Nicaragua
Under RAISE IQC Contract No. PCE-I-00-99-00003-00
Task Order No. 802
October , 2000

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APPENDICES

ACRONYMS

ADRA	The Adventist Development and Relief Agency
Apante	Winter (dry) planting season
CLUSA	The Cooperative League of the U.S.
CRS	Catholic Relief Services
CTO	Cognizant Technical Officer (USAID/N staff)
Cordobas	Nicaraguan currency. (September value $1.00 = C$ 12.85)
ERD	Enterprise and Rural Development office– USAID/N
manzana	measure of land; approximately 70% of one hectare
NGO	(local) Non Governmental Organization
PCI	Project Concern International
Primera	Spring planting season (April/May)
Postrera	Summer (rainy season) planting season (August/ September)
PVO	Private Voluntary Organization (grant recipients, ADRA, CARE, etc.)
SAVE	Save the Children-U.S.
TPM	Team Planning Meeting
USAID/N	The United States Agency for International Development in Nicaragua
WR	World Relief Corporation

EXECUTIVE SUMMARY

At the end of October 1998, Hurricane Mitch struck Nicaragua, one of the deadliest natural disasters in the country's history. The United States Government responded with substantial economic and humanitarian assistance, over $ 94 million. Of the total, $35.8 million was awarded to seven US private voluntary organizations (PVO). Two of the principle criteria for the grant award were on-the-ground presence of these PVOs in the country and an ability to mount a rapid disaster response.

A year later, the Agricultural Recovery and Reconstruction Project is half way through its expected 24 month life and USAID Nicaragua is interested in an outside opinion how the project is proceeding. The purpose of the study was to provide suggestions to build on first-year results how the program is improving incomes, looking toward the second, final year of project activities. Longer-term suggestions could contribute to USAID's strategic planning process.

A six person team fielded by Chemonics International conducted the assessment from Sept. 18 to Oct. 11, 2000 including six days of field travel. Seventy-two villages were visited, and interviews were conducted with hundreds of farmers and dozens of field staff. The assessment team's vision of itself was as "strategic programming advisor": as colleague and counselor to PVOs rather than as "evaluator." This vision guided all data collection and the writing process. The assessment team placed high importance on partner PVOs being kept informed throughout the assignment, and PVO comments on a draft version of this text have been incorporated into the final document.

Detailed Findings, Conclusions and Suggestions have been prepared for each PVO and focus on concrete, immediate suggestions how to improve project impact. These individual assessments were presented only to the individual PVO and to USAID. One-page summaries of key conclusions and suggestions from those documents are included in the master text suitable for general consumption.

Regarding Program Conclusions, the assessment team has been very impressed with the overall impact; this is a project that is meeting its targets and objectives.

There are several reasons why this effective, rapid response has taken place. USAID was able to formulate major objectives and indicators quickly; PVOs were given resources and flexibility to start quickly; USAID also challenged the PVOs to disburse funds in an efficient and rapid manner. As the project enters its final year, it now seems time to strengthen elements that have proven most successful in improving food security and economic impact. One reason to implement some adjustments is to enable PVOs and USAID to begin to focus on the long-term sustainability of project successes. A shift toward an income generation focus rather than a disaster response one, can provide valuable experiences to identify sustainable activities for increasing farmer incomes over the long term.

Suggestions are broken into several categories.

- Activities with demonstrable current impact on improved income suggest more work across most PVOs in solar drying, silos and irrigation, and continued emphasis on marketing of cash crops. Continuing the program's activities in rural road repair will also provide substantial economic gains.

- Suggested activities with future impact are continued emphasis on soil conservation and agroforestry, continued emphasis on market information collection and dissemination, and more attention directed to women's productive activities.

- Activities with an important "social safety net" dimension are the distribution of certified seed and agricultural revolving fund loans.

- Other general suggestions are put forward:
  - the desirability of improved coordination at the field level among PVOs;
  - consideration of the issue of ownership of loan re-flows,
  - high quality documentation of the program's economic impact;
  - technical assistance across PVOs in cost/benefit analysis, rural credit, rural women's income generation, irrigation, and soil conservation
  - consideration of "savings" as an important element of improved income.

- Finally, USAID and the PVOs can begin to think of a post-Mitch phase in which project proposals will build on the gains the Mitch-funded program has achieved.

ACKNOWLEDGEMENTS

The assessment team wishes to express appreciation to Chemonics International for the services of Mayo Vega who, though assigned to other Chemonics responsibilities in Nicaragua, was made available to the team full-time for the duration of the field travel.

The team also expresses gratitude to Mr. Vega for his wealth of historical background, depth of knowledge of the Nicaraguan agricultural sector and familiarity with Nicaraguan PVOs in particular. We are also appreciative of Mayo's unflappable disposition and unfailing good humor.

The assessment team also acknowledges with appreciation backstopping logistical assistance from the Chemonics Agriculture Reconstruction Assistance Program (ARAP).

The team expresses appreciation to Mr. Ray Baum, Chief of the Office of Enterprise and Rural Development (ERD) for his support of the study.

In much of its field travel, the team was accompanied by the Cognizant Technical Officers of ERD, Paul Crawford, Leonard Fagot and Roberto Berrios, as well as Lilliam Baez of the Office of Democratic Initiatives and Tomás Membreño, the Hurricane Mitch Coordinator. The contribution of these individuals to the team's understanding of the issues of the Hurricane Mitch recovery effort was valuable and much appreciated.

The team also wishes to express particular appreciation to the many men and women of the PVO field staff who accompanied us with courtesy, punctuality and decorum on our travels to the many sites visited during the week of field travel. These individuals invariably demonstrated professionalism, dedication and hard work in all they did, and the team's appreciation for their contribution to the recovery of thousands of poor Nicaraguan farmers is great.

As always, the opinions expressed in this paper are those of the authors and do not necessarily reflect the opinions of the PVOs visited or of USAID Nicaragua.

1.0 INTRODUCTION

At the end of October 1998, Hurricane Mitch struck Nicaragua causing several thousand deaths, affecting over 800,000 people, and causing over a billion of dollars in economic damage-- one of the deadliest natural disasters in the history of the country. The United States Government was one international donor that responded with substantial economic and humanitarian assistance, both in the immediate aftermath of the hurricane and in long term economic reconstruction funds. Total funds awarded by the USG in support of Hurricane Mitch recovery is over $ 94 million.

Part of these funds were used to support agricultural and economic recovery activities, and one of the mechanism used to solicit proposals was an Annual Program Statement on January 22, 1999 that requested proposals directed to hurricane reconstruction and agricultural recovery. Seventeen proposals were reviewed.

Of the total amount of $59.5 million allocated to the agricultural sector, $35.8 million, sixty percent, was awarded to seven US private voluntary organizations, (PVO), the Adventist Development and Reconstruction Agency, (ADRA), CARE, Catholic Relief Services (CRS), the Cooperative League of the USA (CLUSA), Project Concern International (PCI), Save the Children-USA and World Relief Corporation. One of the principle criteria for the grant award was long-term, on-the-ground presence of these PVOs in the country and an ability to mount a rapid disaster response.

The first grants were awarded in October 1999. A year later, the Agricultural Recovery and Reconstruction project is half way through its expected 24 month life and USAID/N was interested in receiving an outside opinion how the project was proceeding. The Mission also indicated that results of the study could be used as one of several inputs into the process of formulating a new five-year strategic plan during the summer of 2001.

A Task Order was given to Chemonics International under the RAISE IQC to carry out the study. The task was conducted from September 18 to October 11, 2000 by a Chemonics team of six agricultural and financial experts. The Terms of Reference as well as early discussions with USAID/N indicated clearly that the team assignment was an “assessment” rather than an “evaluation,” the feeling being that the elapsed time from start of grant activities was far too short to conduct a true mid-term evaluation.

The purpose of the effort was to provide suggestions that would assess and build on first-year results, looking toward the second, final year of project activities. Longer-term suggestions would be directed to potential future USAID-funded activities that would place more emphasis on increasing farmers’ incomes and how PVOs could partner with USAID in this regard. (See TOR, Appendix A.)

2.0 METHODOLOGY

On its arrival, the assessment team met with the USAID Enterprise and Rural Development (ERD) team to review the Terms of Reference and develop an overall workplan. At this meeting, the team presented USAID with a calendar of activities and discussed the primary objectives, and expectations for the purpose, scope and deliverables of the assignment. A meeting was held in which each PVO made a brief general presentation on its project.

A two-day Team Planning Meeting (TPM) was held to: 1) analyze and clarify the Terms of Reference; 2) develop a draft outline of the final report; 3) define how the team would work together and the roles and responsibilities of the team leader; 4) develop draft interview guides; 5) plan Managua interviews and complete logistical and administrative details.

On Sept. 20th, the team presented to USAID a draft outline of the final report, which was modified and approved.

The assessment team was spit into three pairs: Team 1, Frank Sullivan, Team Leader, and James Bell to review World Relief and Catholic Relief Services activities; Team 2, Darell McIntyre and Mayo Vega, with technical backstopping from Luis Moreno, to review PCI, ADRA, and Save the Children; Team 3, Dr. Don Jackson and Reese Moyers to review CLUSA and CARE activities. Meetings were held between team pairs and respective PVOs to discuss the diagnostic and consultative role of the team in formulating recommendations. The PVOs also provided the teams with detailed project briefings and identified particular concerns on which they wished the teams to investigate and develop commentary. These meeting also developed an itinerary for the field travel.

Six days of field travel took place from Sept 25 to 30. Seventy-two villages were visited and semi-structured interviews were conducted with hundreds of field staff and farmers. The interview guides are attached as Appendix B. The field travel report is attached as Appendix D.

On October 2, a meeting was held with USAID to discuss preliminary findings, conclusions and suggestions. Team members wrote their respective sections from October 3- 5. A general meeting was held with USAID and the PVOs on Oct. 6 to discuss and get feedback on the draft document. The Team Leader incorporated PVO feedback into the revision and completion of the final report during the period of October 9th to 11th.

To accomplish the task, the team reviewed written documentation (USAID and PVOs reports, cooperative agreements, baselines studies, progress reports, trip reports, technical reports, etc.) and other outside sources where appropriate. Interviews were held with USAID staff, PVO partners, project beneficiaries, and other key informants. The assessment team placed a high emphasis on keeping USAID and partner PVOs informed throughout the assignment to ensure that input, perspective and expectations were being taken into account in preparation of the final report.

The assessment team recognizes that implementation of the Mitch Recovery and Rehabilitation Project has been quite short: Cooperative Agreements with PVOs were signed between mid October 1999 to January 2000, less than twelve months ago. In many cases, project experience is not complete due to the cycle of agricultural production, harvest and marketing, as many activities span longer time horizons than nine to twelve months. Furthermore, in the spring of 2000, project farmers faced a serious drought in many areas that had a substantially negative effect on production, harvest, marketing and credit. Thus the approach, investigative methodology and analysis of information used by the assessment team have had to take into account the short project time span, the length and variety of different agricultural cycles, and drought during the months of project implementation under review.

The assessment team's vision of itself, developed in the TPM, is as "strategic programming advisors": as colleagues and counselors to the PVOs rather than as judges and evaluators. This vision has guided the team during data collection and throughout the writing process. The team's

hope is that the document will spur PVOs on to further efforts and to improve PVO program quality in both the short and mid-term.

Chapter Three discusses key finding broken down by PVO. Chapter Four discusses overall program conclusions based on the findings. Chapter Five discusses program suggestions. Detailed findings, conclusions and suggestions on each PVO's program activities can be found in Appendix C.

3.0 KEY CONCLUSIONS and SUGGESTIONS BY PVO

3.1 ADVENTIST DEVELOPMENT AND RELIEF AGENCY (ADRA)

The ADRA program has two components, an agricultural and environmental restoration component and a public infrastructure rehabilitation component. In the former category are activities promoting contour planting, live barriers, family gardens, nurseries, transplants, silos, micro irrigation and disaster awareness. In the latter are components of bridge and road building, and the construction of school and infant feeding centers.

The assessment team noted that many of ADRA's agricultural and environmental restoration activities, e.g., contour planting, live fencing, nurseries and forestry transplants, do not contribute directly to income generation, but have an indirect effect on income. Most family gardens visited showed significant farmer expenditure of time, labor and money; a major expense was fencing. One irrigation system was visited. Metal silos clearly have the potential to reduce losses that will positively impact on the availability of food for household consumption.

Conclusions are that the program is moving forward largely as planned. The quality of the interventions is excellent, with the possible exception of road construction where there is a need to use heavy machinery rather than depend solely on manual labor.

Key recommendations are for ADRA to develop a methodology that can identify activities that have the greatest income potential for beneficiaries. This should include an analysis of the target markets, and a strong cost/benefit analysis.

ADRA could broaden crop interventions to include those which have the best potential for producing income. Examples include coffee and tropical fruits, and higher value options for family gardens, e.g., herbs, etc.

ADRA could raise the technical standards for road construction, and employ equipment where necessary. This may have the effect of reducing the program target for kilometers of road to be completed because of the higher investment required to raise technical standards.

ADRA could also broaden its agricultural interventions to include small domestic livestock, e.g., chickens, ducks and pigs. This would have the added effect of providing more benefits to female family members. The agency could also access the technical knowledge available in other agencies such as colleague PVOs, private sector companies and technical assistance consulting firms such as Chemonics and Winrock.

3.2 CARE

CARE/Nicaragua is implementing two separate activities under the Hurricane Mitch Program, reconstruction of rural roads through 'cash for work' employment, and agricultural rehabilitation in the municipality of Posoltega.

After a reduction in the original target in order to build better quality roads, three hundred and twenty one kilometers of roads have been completed as of the end of the fourth quarter. Income generating opportunities have been provided to approximately 6,000 households in the targeted area. On balance, this is quite satisfactory performance in meeting the Impact Goals, especially when the inclement weather caused by recent rains is taken into consideration. It appears that the roads are being constructed at required standards, and that at least thirty percent (30%) of the workers are women.

To the assessment team, it appears quite likely that the roads will have profound economic impacts. These include: 1) increased commercial activity through new local businesses, 2) significant decreases in transportation costs; 3) crop diversification especially into higher value crops; 4) lowered production costs due to lower transportation costs; 5) decreased post-harvest losses; 6) new land under cultivation; 7) land values increases up to 100 percent; 8) improved

community services; 9) and increased traffic that will provide greater access to the outside. Maintenance of the roads after construction is an issue that has not been addressed.

The Agricultural Rehabilitation Program was designed to impact on 350 of families most affected by the Posoltega landslide and includes support for basic grain and horticultural production, crop diversification, fruit and forest trees, and the promotion of small-scale chicken and swine production. For these who lost their agricultural land, they will most likely remain in a state of extreme poverty for a long time and should be treated as welfare recipients until they can be provided with alternative agricultural lands or are otherwise absorbed into the economy. It is beyond CARE's scope to provide for their long-term self-sufficiency.

This does not appear to be the case with farmers who lost a great deal in the hurricane but who retained their land and have the potential to improve their income. While activities with this segment of the Posoltega population have been well implemented as relief and rehabilitation, CARE could consider some changes. Crop selection could be based on a better analysis of marketing opportunities and income generating potential; adoption of higher value crops could be considered. CARE could also place emphasis on the development of marketing services including market identification, market information, and decreased marketing costs.

Also, the use of agricultural production credit could be adjusted. While the current provision of credit and its repayment in kind have functioned well under relief and rehabilitation conditions, program beneficiaries could be prepared and redirected towards more conventional and commercial credit delivery mechanisms in the future.

3.3 Cooperative League of the United States of America (CLUSA)

CLUSA was granted $7.6 million under the Hurricane Mitch Supplemental Funding. These funds were designated to finance additional activities to be undertaken by CLUSA as an expansion of its core Development Assistance-funded Small Producer Program. The activities were oriented to economic reactivation and watershed restoration of areas affected by Hurricane Mitch. In order to move forward rapidly, CLUSA partnered through subcontracts with Development Associates, Thanksgiving Coffee, ATMA International, and Zamorano (the Pan American Agricultural College).

Recommendations for the Technical Assistance and Training Component-

- CLUSA needs to place more emphasis on the consistent and transparent use of data that track its progress as well as the data it uses to argue for the various crops and technologies it promotes. Data from DA-funded activity should be kept separate from Mitch data.
- CLUSA needs to coordinate its technical assistance and credit components better, and its coffee quality component in the case of that crop. As part of the 'offering of options' process, a complete package should be one option available to beneficiaries. There should also be more overlap between the areas where the Zamorano watershed component is working and the other CLUSA/Mitch components.

Recommendations for the Coffee Quality Component-

- CLUSA needs to identify a greater number of potential coffee buyers who are trustworthy, willing to deal with small producers, and who understand the implications of producing high quality coffee for export.
- This component needs to begin to work more closely with the Technical Assistance and Training Component and to select groups that can benefit from the services of both.

Recommendation for the Credit Component-

- Allow ATMA to administer the credit fund using the most cost-effective and market-oriented methodology.
- Conduct an impact study (during this production cycle) of producer loan utilization, repayment capability, and potential income generation.

- Utilize the final two years of CLUSA's Small Producer Program to continue technical assistance to Mitch-affected areas in order to continue to support credit operations.

Recommendations for the Watershed Component-

- The Watershed Component should accelerate its efforts to access loan funds from the Credit Fund for community projects, since the program only has one year left and no decision has been made on the final disposition of the fund. This will most likely require ATMA to assess the feasibility of community projects in much the same way they work with cooperatives and other producer groups.

3.4 CATHOLIC RELIEF SERVICES (CRS)

The CRS project involves a number of production elements: basic grains, crop diversification, coffee production, vegetable and animal production, irrigation, basic grain storage and soil conservation. It also has a credit and marketing component.

The CRS project is well on track and has every indication of achieving substantial gains in farmer income over the near and mid term.

The CRS project has reached almost 90% of its intended beneficiaries a third of the way through the project life. In order for early project gains to be sustainable, it is important that project staff and beneficiaries be given a year of consolidation. The project is making excellent progress in diversifying agricultural production. These activities should continue. Also, CRS has had dramatic and innovative success in grain storage, up to $437,000 per crop season alone, and in irrigation. The project should dedicate resources, time, and energy to maximize these gains.

Soil conservation activities bring long-term benefits rather than short term gains. Given CRS' program successes, short-cycle production and infrastructure activities have the potential to satisfy farmers' basic needs over the near-term while working to improve the sustainability of long term agricultural gains.

The importance of the marketing component to complement and strengthen the overall objectives of the project can result in increasing farmer incomes through a variety of interventions such as training; credit; identifying new agricultural products; extending the growing season with new crops; irrigation; and increasing farmers' knowledge, choices, and options when selling into the market place.

CRS could consider transferring funds that have not yet been spent or placed with community groups in the revolving fund loan program into the cash credit loan fund program. This would involve discussions with all of CRS's counterpart organizations and community groups in the planning.

Experience worldwide suggests that infusing cash and "monetizing" materials into community revolving loan funds; supervising payments on principal, interest, and penalties held at the community level; and maintaining loan fund liquidity on a long-term basis have not met with success. Charging an annual interest rate of 4% on three-year loans is also well below market interest rates for these types of loans. One may question whether continuing to infuse new credit into the revolving loan fund program should be continued.

CRS and counterpart organizations should be encouraged to monitor carefully and report the performance of the "Fondo Revolvente" to USAID in the Quarterly Reports. The revolving fund policy of lending long term at an annual interest rate of 4% should be reviewed. CRS and its counterpart organizations could consider eliminating this policy in favor of making the loan to beneficiaries directly in cash in a follow-on project.

3.5 PROJECT CONCERN INTERNATIONAL (PCI)

The PCI agricultural project includes basic grain production, storage, family gardens, improved agricultural practices, and agroforestry for firewood production. A chicken project will provide income generation to 1,000 families. It will also improve the nutrition of the family diet, and improve the genetics of the native varieties of poultry.

Improved agricultural practices encompass a variety of activities including organic fertilizer production, soil conservation techniques, reforestation for firewood, family gardens and fruit trees. The scale of activities indicated that the initiatives in this category were more of an income saving intervention, rather than having a significant income-generating outcome.

Beneficiaries of the poultry program seem aware that poultry production could improve household income and family health. They expressed recognition of the need to pay back the chickens so that others could benefit as well. Sales occur both in terms of eggs and of chickens. The main difficulty involved in marketing is due to the distance to markets.

The program is moving forward as envisioned and the quality of the interventions visited is generally excellent. The program includes a wide gamut of implementation activities, and a varying beneficiary pool.

The rotating fund based upon returning selected seeds as repayment for certified seeds is interesting, but contains several potential problems. First among them is the quality, including productivity, of the seed being returned.

Regarding suggestions, PCI could develop a methodology to identify activities that have the greatest income potential. This should include an analysis of the target market or markets, and a strong cost/benefit analysis of agricultural interventions.

PCI could also broaden its crop interventions to include those which have the best potential for producing income. Examples include coffee and tropical fruits, and higher value options for family gardens, e.g., herbs, etc.

A review of the policy on supplying chicken feed concentrate for three months may be useful versus continuing some form of support until the chickens begin to lay. The idea to phase in a diet made from local ingredients is excellent, so perhaps some additional assistance with specific ingredients that are difficult to procure, e.g., maize, etc., might be an effective way to ensure that gains in income are not lost.

PCI could also provide hand grinders on a case-by-case basis to ensure that feed is not a constraint. Since other hand tools were supplied to crop producers, this change would not seem to represent a major change in program philosophy.

3.6. SAVE THE CHILDREN (SAVE)

The three main components of the SAVE grant are Economic Reactivation (ECOFAMI), Basic Infrastructure Rehabilitation (CAMINOS) and Disaster Preparedness & Mitigation (MITIPRE). ECOFAMI works in soil and water conservation, agroforestry, basic grains, household gardens, post harvest storage, and small-scale poultry and pork. CAMINOS builds roads and bridges through food-for-work. MITIPRE was not reviewed.

In terms of the agreement signed by SAVE and USAID, the program is moving forward as envisioned, and the quality of the interventions visited is generally excellent. The program includes a wide gamut of activities and a varying beneficiary pool.

The rotating fund based upon returning selected seeds for certified seeds is interesting, but contains several potential problems. First among them is the quality, including productivity, of the seed being returned

Higher quality roads were evident than usually found with Food for Work or Cash for Work activities on roads that were visited. The benefit of using some heavy machinery is clearly demonstrated as an efficient application of resources. These roads will have a longer useful life and require less maintenance than roads constructed solely by hand.

Regarding recommendations, SAVE could develop and apply instruments that can identify geographical zones and beneficiaries who can respond to an income generation program.

SAVE could develop a methodology to identify activities that have the greatest income potential for the beneficiaries involved. This could include an analysis of the target market or markets, and a strong cost/benefit analysis of any intervention contemplated. Collecting cost of production and marketing data from a sample of beneficiaries to determine earnings potential should be considered.

SAVE could broaden its crop interventions to include those which have the best potential for producing income. Examples of this include coffee and higher value options for family gardens, e.g., herbs, yucca, papaya, *pitahaya*, etc.

SAVE could also analyze the capacity to prepare local concentrate, including the availability of hand grinders, on a case-by-case basis, to ensure that this is not a constraint which could inhibit the ultimate success of the poultry activity.

3.7 WORLD RELIEF

The World Relief project involves production activities: basic grains, crop diversification, coffee production, vegetable and animal production, irrigation, basic grain storage, soil conservation and agroforesty activities. An agricultural loan component is also involved, as is strengthening of a local NGO, the PAC.

The project is on track in providing relief and rehabilitation to thousands of farmers with a clear potential to improve farmer income. However some adjustments may be in order.

Regarding suggestions, a policy of 'no fertilizer loans for basic grains' should be promulgated immediately for dry zone cultivation. Also, there are a number of relatively easy ways in which more female beneficiaries could be reached to correct a somewhat low level of accomplishment in this area to-date. WR should continue its emphasis in post-harvest storage. Also, it is possible that irrigation activities could have a larger impact on a number of small farm families.

WR can strengthen market mechanisms. A WR loan to fertilizer dealers could enable them to expand volume that would benefit WR farmers at the same time as improving the income of these merchants. In like fashion, WR could begin thinking of 'devolving' the growing of vegetative stock: instead of growing the materials on its own demonstration farms, it could buy from selected growers or suppliers.

WR should continue with the integration of the marketing and commercialization component with those of agricultural extension and credit components. Marketing specialists should continue to engage outside technical expertise in marketing and commercialization available though CLUSA, the private sector, and other institutions.

The loan program is an important part of World Relief's development approach and represents a significant resource to increase income. World Relief is initiating innovative farming activities in many areas: fruit trees, spices, drip irrigation, vegetable production, etc. and the credit program can support these activities. Ways to do so would be by establishing new supply mechanisms; strengthening existing free market supply systems; and increasing farmer's profit margins in the storage, marketing, and selling of agricultural goods and products.

Due to the importance and volume of credit, WR could consider conducting a comprehensive review of the loan portfolio to review accomplishments and best

practices; this would help develop a strategic plan for the future direction, personnel and institutional needs, and emphasis of the credit program in strengthening the overall program. This review should include the long-term sustainability of the credit program and the feasibility of working with the banking sector through promoting farmer access to the banking system.

4.0 PROGRAM CONCLUSIONS

The assessment team has been very impressed with the overall impact of the Agricultural Recovery and Rehabilitation Project and believes there are many examples of innovative best practices and positive results throughout the project. Field visits with PVO project staff and farmers provided countless visual examples of improved crop production, re-introduced animal stock, small farmer irrigation systems, new and high value cash crops, improved storage and post harvest handling, commercialization and marketing of farm commodities, improved roads, soil conservation, and greater farmer access to credit. This is a project that is meeting its targets and objectives.

It appears there are several reasons why this rapid response has been possible in the wake of a tremendously destructive natural event. USAID was able to formulate quickly the major objectives of the activity and prepare a set of Indicators that were clear, comprehensive and quantifiable. Through the Cooperative Agreements mechanism, PVOs were given resources and flexibility to build upon their past experiences and were quickly able to initiate rehabilitation activities in their respective areas. Thereafter, PVOs have been conscientious in monitoring and evaluation the project and reporting quarterly results. USAID also challenged PVOs to disburse funds in an efficient manner to ensure that the response to the project beneficiaries was quick and measurable.

During the first year of the project in some areas, farming was badly affected by drought or heavy rains that destroyed crops. In these areas, farmers once again face losses that will require special attention how best to allow them to recover and move forward.

As the project enters its second and final year, it now seems time to consolidate the accomplishments and strengthen elements that have proven most successful in improving food security and economic impact. It is hoped that adjustments in strategies suggested in the individual PVO narratives (Appendix C) and in the Suggestions section that follows will result in even more positive impact on Mitch-affected farmers. It is also recognized there may be some hesitancy on the PVOs' part to make adjustments with only a year left in the project. For example, many PVOs had to take an active role in the first year in directly supplying farmers (buying, transporting and distributing inputs, materials, tools, animals, etc.) With roads out and economic devastation all around, materials and supplies were simply not available in the private sector. However, the private sector can now become more involved in farming economic activities. PVOs could facilitate this process by working with the private sector in identifying market opportunities and extending technical assistance and credit to both private commercial entities and to farmers.

One reason to implement some suggestions is to enable PVOs and USAID to begin to focus on post-Mitch programming, the long-term sustainability of project successes. A shift toward an "income generation paradigm" rather than a disaster response one, can hopefully provide valuable experiences to identify sustainable activities, in production, storage, marketing and natural resources, for increasing farmer incomes over the long term.

5.0 PROGRAM SUGGESTIONS

It is quite likely that the Hurricane Mitch Agricultural Recovery and Reconstruction project will turn out to be a highly effective and efficient use of resources. Certainly the assessment conducted in these pages demonstrates a rich diversity of programming experience and unusual project dynamism. Potential ways to enhance impact are noted below, broken down by those with current impact, with future potential impact, "social safety net" activities, other suggestions and one mid-term suggestion.

5.1 Activities with demonstrable current impact on improved income

5.1.1 Silos and irrigation

PVOs working in silo and micro-irrigation have been seen to be achieving a substantial impact on increased income. Even the severe drought of the 2000 *Primera* season in some areas was not enough to offset the significant gains being achieved elsewhere—and likely to be achieved even in drought areas in the *Postrera* crop.

Potential farmer profits of over four hundred thousand dollars have been suggested in one PVO text. Those PVOs with current activities in basic grains should be encouraged to direct even more emphasis to solar grain dryers and silos. Those PVOs who until now have not had a significant component in solar dryers/silos should be encouraged to learn from their colleagues and implement these higher value activities in the second year.

The same is true in mini-irrigation where several PVOs are engaged in an impressive array of experimentation and diffusion: in drip, sprinkler, micro-reservoir, hand pump and other low-cost, low-tech irrigation activities. All PVOs could learn more from colleague agencies and direct more attention to mini-irrigation that has demonstrated considerable potential for increasing income. Both silos and micro-irrigation should be pushed across the program.

5.1.2 Continued emphasis on marketing of cash crops

Substantial work in marketing should continue. For those PVOs who are working with higher income beneficiaries, the current foci should continue: improved market information, quality control, export promotion, etc. This is especially the case with the CLUSA beneficiaries, with some CRS loan recipients and some of the less-affected Posoltega group.

For those PVOs who are working with lower income farmers, the foci should continue to be crop diversification and de-emphasis on basic grains. Of course, alternative crops need to be selected that are compatible with agro-climatic conditions in the region. PVOs who have begun marketing efforts-- those who promote pineapple, black pepper, tomato, etc.-- should continue to invest program attention to help farmers figure out how to access markets better. This stratum of beneficiary is found widely in World Relief and CRS.

Some beneficiaries have such low incomes that program attention needs first to concentrate on family self-sufficiency before increased risks can be undertaken. Where basic grains are the most appropriate option, community solar dryers and family silos are a way to break the cycle of feast-or-famine. On-farm basic grain storage increases food availability (less food lost) and has been shown in this project to lead to improved food access (better prices/more income.) When the poor farmer has adequate access to food for his family, he can begin to think about growing crops for marketing. It is likely that beneficiaries of ADRA, PCI and SAVE fall largely into a food-deficit category, families whose food availability needs have to be addressed prior to promoting higher risk economic development innovations.

Finally, there is the category of beneficiaries that requires continuous humanitarian assistance where there is little development potential, such as the 350 Posoltega families in the CARE project.

It bears mention that World Relief has a well thought-out conceptual framework that addresses the needs of five distinct categories of beneficiaries ranging from the highest at-risk farmers, to farmers able to take risks. It is suggested that other PVOs use this formulation to "stratify" their beneficiaries. Project interventions may make more sense (and become better focused) when put in the context of which stratum a given PVO is addressing. Additionally, crop risk maps available from MAG-FOR should be used to determine the historical risk associated with various crops in specific geographic regions. These two elements might bring important new clarity to the subject of crop/beneficiary selection.

5.1.3 Continuing emphasis on rural roads

The narrative is clear that improved roads can have a dramatic impact on improved rural incomes. A CARE Bangladesh study referenced in Appendix C shows investment in rural roads can have a tremendous impact on improved income and this viewpoint was warmly endorsed by the assessment team regarding Mitch-supported roads.

The assessment team recognizes the inappropriateness of suggesting that PVOs who currently do not have a food- or cash-for-work activity implement a road component in the remaining few months of the program. Nevertheless, the relationship between improved agricultural production and improved rural roads seems too important to be missed. Where ever possible, this activity should be expanded in Year Two. It would seem desirable also, as USAID begins to formulate its strategic five year plan, that thought be given to how rural roads can be piggy-backed on to other rural income generation activities.

As suggested in the text, urgent attention needs to be given to the maintenance issue.

5.2. Activities with future impact on improved income worth continued support

5.2.1 Continued emphasis in soil conservation and agroforestry

Several of the PVO projects are doing excellent work in soil conservation and agroforestry, and these should continue. Subsistence and near-subsistence farmers do not have the capacity to defer present consumption in favor of investment in the future *unless* some improvements are taking place in current production. It is appropriate to link current activities in crop production with soil conservation and agroforestry to achieve long term sustainable goals. The efforts of one PVO to use food-for-work to establish community nurseries, for the eventual sale of higher-value tree seedling, is a good example of providing poor farmers an opportunity to enter the market economy and augment their income slowly.

Additionally, as evidenced by the efforts of two other PVOs, soil conservation and agroforestry should be combined with higher value fruit trees to provide a source of continuous income as an added incentive to protect the longer-term timber trees.

Several PVOs are doing good work in coffee promotion: in production, post harvest handling, quality control, and marketing. These activities should continue but should not dominate a PVO portfolio. The assessment team echoes the observation of one of the PVO directors: "Nicaraguan farmers know a lot about coffee and we don't need to do much promotion; improvements in coffee cultivation are relatively self-sustaining." Promoting coffee within the context of soil conservation and agroforestry might be a way to add value without losing program balance.

5.2.2 Continued emphasis on marketing

While demonstrating promise, some PVO marketing activities have not yet shown an impact on improved income. The hiring of new staff to monitor markets, and publishing market prices are two such items. Nevertheless these activities should continue. Eventual prosperity for a large

number of Nicaraguan farmers must come about through improved sales in the market place as well as improved production, and PVOs who have not had much experience in marketing should establish relations with colleague PVOs who understand how markets work.

5.2.3 More emphasis on women's income generation

This document suggests that some PVOs are under-achieving in reaching their targets for women beneficiaries. Others are working in household gardens in "food availability" rather than "food access" on a scale that does not appear to bring much improved income. One suggestion has been to strengthen PVO promotion of small animal husbandry by women, especially chickens and cows. To others it has been suggested that they learn from their colleague PVOs, and/or open a "women's credit window" to push higher female participation. Third, grain storage and marketing are areas where some women are already beginning to make real strides, and these gains should be exploited. Also, home processing and cottage industries for women could be undertaken experimentally and with care, so as not to "pigeon-hole" women into low-margin activities.

5.3. Activities with an important "social safety net" dimension

5.3.1 Distribution of certified seed

One activity that seems to be directed to social issues is the distribution of certified seed and recovering the loan in grain at a 2:1 or 1½:1. Though most PVOs call this a "revolving fund" and there is reportedly a second cycle of production with the repaid grain, it must be clearly admitted—and is noted in the discussion of several PVO projects— that this is a heavily subsidized activity. Not one farmer interviewed preferred to get two pounds of grain in the second cycle compared to getting one pound of certified seed in the first cycle. Significant increases in income accrue to the first beneficiary, much less to the second; also, the likelihood of a deterioration in seed quality in the second and subsequent generation plantings is noted in individual PVO narratives.

In terms of a hurricane recovery program, the distribution of high quality seed was completely appropriate. However, after Mitch funds have been exhausted and as PVOs move from relief to development, distribution of certified seed needs to be re-thought.[1] Distribution of certified seed as part of a program to contribute to social needs could well be an important project strategy but would be better targeted if channeled to the poorest farmers in the village. How to do so effectively will require PVO creativity. Distribution of such a heavily subsidized input to more prosperous farmers would seem to require a much harder look.

5.3.2 Revolving funds

The other PVO program component that appears to be oriented to social goals more than to improved income is the revolving loan funds. As detailed in various PVO narratives, a host of agricultural inputs has been distributed under this concept: vegetable seedlings, agroforestry plants, vegetative materials, etc. Almost every PVO is engaging in the activity and the inputs have been distributed in kind; in most cases the value of the input is to be repaid in cash or in kind to a village committee.

This strategy has had a quite healthy effect as a disaster response in that it has permitted a more rapid "horizontal" transfer of improved vegetative materials to a wide number of farmers in the same village. It is suggested that such a mechanism will have little long-term effect, however. When the value of the in-kind loan is the repaid in *cash*, it stays in the hands of the community where experience in rural credit worldwide suggests that it will disappear in a short period of time in the absence of good books of account, good supervision, adequate interest to cover defaults, etc. When the loan is repaid *in kind*, there is no mechanism that the assessment team was aware of whereby the person who receives the second-generation plant material will pass it on to a third generation recipient.

[1] These comments should not be construed to reflect the assessment team's opinion on the USAID-supported Improved Seed project that has a different, national and macro, focus.

A more commercial approach would be to receive grain as payment, then retain the grain until peak prices warrant the sale of the commodity, and use the proceeds for the purchase of improved seed for the next crop season.

Another suggestion, as mentioned in several PVO narratives is that *either* the in-kind input be given with no attempt to recoup the value—with a social goal rather than an economic one— *or* that a true agricultural credit system be established and the value of the input be loaned in cash or coupons to the farmer for the farmer's purchase of it from a project-supported vendor. Distribution of improved vegetative stock can play an essential role in improved income, as in the case of vetiver and other grasses, pigeon pea, etc. for soil conservation and agroforestry seedling for long-term programs. Distribution of such materials should not be confused with the establishment of a viable rural credit system however.

To improve the availability of essential agricultural commodities such as fertilizer and seeds, agricultural credit could be provided to small shops, *pulperias*, within the community to promote the direct sale of these commodities. Understandably, the owners of these small stores should receive training on the appropriate use of the commodities.

Given the complexity of this issue, the assessment team does not suggest that a complete program change be effected during the remaining twelve months of the project. However, some experimentation would be a good idea. This is an issue that USAID and the PVOs will likely want to refine in follow-on programs and there is a year to acquire experience in the subject.

5.4 Other Suggestions

5.4.1 Improved coordination at the implementation level

Important coordination between PVOs at the local level is not yet taking place in many areas. It is suggested that in each major town, PVOs working in Mitch activities establish a local committee to meet once a month to discuss coordination, overlap, and shared learning. The participation USAID CTOs in this forum would add extra importance to the meetings.

5.4.2 Ownership of loan re-flows

It was reported by several PVOs that one condition of Mitch funding was a prohibition that loan re-flows return to the counterpart agency. Per USAID regulations, the disposition of all property, including credit reflows, is determined by USAID and the host government at the conclusion of the project. NGOs who have received support from Mitch activities and continue to work toward similar project goals are likely to be a logical choice of manager for these funds.

5.4.3 Document economic impact

It was noted in several PVO reports that some projects have achieved considerable economic impact—perhaps as much as half the rural per capita agricultural income in some places. Yet it will be difficult for a PVO to make such a claim. It is suggested that USAID hire a U.S. university agricultural economist to conduct a rigorous, random sample, cost-benefit evaluation of selected PVO interventions in grain storage and mini-irrigation for presentation to the U.S. Congress as a dramatic success of the Mitch response.

5.4.4 Technical assistance *across* PVOs

It is suggested that USAID determine with USDA what kind of technical assistance can be provided to Nicaragua under the terms of the Hurricane Mitch account and how PVOs can access such technical assistance. Among the subjects highlighted in this report where a cross-visit to various PVOs could be valuable are:

- cost/benefit analysis of agricultural crops/ agro-business
- rural credit

- rural women's income generation
- low technology micro and mini irrigation systems.

5.4.5 "Savings" as an element of improved income

A number of PVOs are working in activities that are complementary to "improved income." The assessment team was hoping to be able to address the issue of improved health as a contributing factor to improved income (e.g. reduced expenditures on medicine, improved labor productivity or reduced time spent in water collection) but was unable to do so in the time available. Particularly in health and water, USAID could hire an economist to put a dollar value on improved health and emphasize the linkage between these sectors and improved rural incomes.

5.5 Long term sustainable income generation

It is suggested that USAID and the PVOs begin to think of a post-Mitch stage that builds new project proposals on the gains that Mitch-funded projects have achieved. At the same time, in several PVO narratives in this report, mention was made of the link between short-term gains and long-term soil conservation, watershed management and agricultural infrastructure including irrigation. It is recommended that USAID develop post-Mitch funding guidelines that draws on the expertise and learning curve in long-term soil conservation and agroforestry already gained by US PVOs.

APPENDIX A
TERMS OF REFERENCE

APPENDIC B

INTERVIEW GUIDES

INTERVIEW GUIDE FOR PVO MANAGERS

PHILOSOPHY

How well does the USAID focus on "income generation" fit with your organization's preferred programming stance?

AGRICULTURAL PRODUCTIVITY

What is your programming thinking regarding reliance on traditional crops vs. diversification of crops and export crops?
What were some of the factors that went into your choice of your ag. interventions?
Why did you select this implementation methodology? What is it?
What are some of the gender issues you take into account in your ag. programming?
What were key anticipated vs. actual results?
Describe some of the major constraints you faced that influenced these results?
Think forward to some future potential impact results. What would they be?
What issues should we be looking at to help you improve your programming? [a.k.a: recommendations]

POST HARVEST HANDLING AND STORAGE

What are your broad assumptions regarding the importance of post harvest handling and storage; what programming are you doing to reflect that?
What were some of the factors that went into your choice of post harvest technology?
What is your understanding of current losses in post harvest handling?
How much is that worth in dollar/ Cordoba terms?
What factors that went into your choice of the choice of technology for crop storage, i.e. why did you chose to intervene on-farm?/farmgate?/centro de acopio?
How do your post harvest activities function?
What are some gender considerations you take into account in post harvest issues?
What were key anticipated vs. actual results?
Describe some of the major constraints you faced in crop storage?
What issues should we be looking at to help you improve your programming?

PROCESSING

What are your assumptions regarding processing; how does your programming reflect that?
What is your understanding of key issues in processing? What are your interventions?
Are there gender considerations you take into account in your processing intervention?
What were key anticipated vs. actual results? Describe some key constraints in processing?

MARKETING

What are your broad assumptions regarding the role of marketing; what programming are you doing to reflect that thinking?
Describe the current seasonal price fluctuations of key crops.
What were some factors that went into your work in marketing information, finance, gender?
What are marketing activities? How do you participate in getting commodity to market? [the "doing" vs facilitating issue]
What is your understanding of the roles and profit margins of intermediaries?
What were key anticipated vs. actual results?
Describe some of the major constraints you faced in addressing marketing issues?
What issues should we be looking at to help you improve your marketing efforts?

ROADS

What are your broad assumptions regarding a roads component; how does your programming reflect that thinking? What is your rationale for selecting the roads?
What factors went into your choice of high/mid/ or low technology?
How does your roads component work?
What are some of the gender issues that you take into account in roads?
What are you thinking about Dependency on road wages in these communities?
What are key anticipated vs. actual results in roads?
Describe some of the major constraints you faced.
What issues should we be looking at to help you improve your roads programming?

CREDIT
What are your broad assumptions regarding a credit; what programming are you doing to reflect that thinking? What is your rationale?
What is your lending methodology (best practices)?
What rate of interest are you charging; how does that compare with the other PVOs?
What rates of interest are being paid in the formal and non-formal credit markets?
What are issues you thinking to foster future loan portfolio sustainability when the project leaves?
Who owns the money when you leave?
What is your timetable for leaving the sector?
What are some of the gender issues that you take into account in credit? How much of the loan portfolio is directed to women? Why?
What are key anticipated vs. actual results in credit?
Describe some of the major constraints you faced.
What issues should we be looking at to help you improve your credit program?

OTHER ISSUES WITH INCOME POTENTIAL
What other issues of income generating potential are you undertaking?
Are there any income stream benefits you see in water systems, and in health? If so, how much and how are you planning to measure them?
How has the project's need to achieve a good "burn rate" affected your programming?
What labor saving technology—with indirect income benefits—is the project doing?

INCOME GENERATING SUSTAINABILITY
What are your post-Mitch plans to maintain your portfolio and programming impact?
What processes are you undertaking to think about post-Mitch?

INTERVIEW GUIDE FOR BENEFICIARIES

General

-How did hurricane "Mitch" affect you and your family?
-What services are you receiving from the NGO that is working in your community?

Agricultural Productivity
-Which crops are you growing now? Are they the same crops you grew before the hurricane? If not, which ones are you growing now?
-What were your yields before the hurricane? What yields do you expect this season?
-What changes have you made in the technology that you are using?
-What constraints do you face in increasing yields?

Post Harvest Handling, Storage, and Processing
-Do you loose some of your production between the time of harvest and the time you sell, or consume, your crops? What are the causes?
-Do you store any of your crops past the harvest? How?
-Do you get a better price if you store your crop? Does storage allow you to reduce post-harvest losses?
-Do you process any of your crops before they are sold? How?

Marketing
-How do you sell your crops?
-Does the price you receive cover your costs of production?
-Is the price you receive higher, or lower, now compared to before Mitch?
-Has your income improved since before Mitch? (Yield x Price)

Roads
-How has the new road affected your life? (Emphasis on economic impact.)
-Have you changed the crops you grow because of the road?
-Has the road decreased your transportation costs?
-Has the road increased the services available to you?
-Did you, or any of your family members work on the road? Was the money you/they earned significant to your livelihood?

Credit
-Under what terms do you receive credit? Do you feel that the terms are fair?
-Will you be able to pay back your credit?

Other
-What other services are being provided by the NGO working in your community?
-Do they help you to earn more income?
-Do they help you to reduce your costs of production/marketing?
-How might the NGO working in your community increase/improve the services it provides?

APPENDIC C

INDIVIDUAL PVO FINDINGS, CONCLUSIONS AND SUGGESTIONS

ADVENTIST DEVELOPMENT AND RELIEF AGENCY (ADRA)

1.0 INTRODUCTION

On December 9, 1999, USAID signed a grant award with ADRA to provide US$945,027 to implement a program entitled "Reconstruction & Rehabilitation of Mitch Affected Areas in Las Segovias." The two main components of the grant are agriculture and environment restoration, and public infrastructure rehabilitation. An expected 12,000 rural Nicaraguans will directly benefit from this program. The Agriculture & Environment Restoration component includes: terracing (4,000 acres), living fences (50 km), family gardens (980), nurseries (100), transplants (210,000), silos (600), micro-irrigation (10), and disaster awareness. The Infrastructure component includes: bridges (25), roads (200 km), schools (10), and infant feeding centers (5). In additi on, ADRA/Nicaragua signed a PL 480 Title II Agreement to receive 8,800 MT of food aid valued at US$1.4 million, to provide logistic, financial and food support to both grants as well as to a broader program which goes under the acronym of "TAP". The Titl e II commodities have 3,000 MT programmed for direct distribution and 5,800 MT for monetization.

The TAP adds components in Health (US$2.2 million) and Water & Sanitation (US$1.5 million). The Health component is targeted at 17,000 children and includes: nutrition, acute respiratory infection, acute diarrheal infection, immunizations, prenatal monitoring, mother's health, and growth monitoring. The Water & Sanitation component will reach 30,000 Nicaraguans, and includes: hand dug wells (90), drilled wells (30), gravity flow water systems (11), wells with tanks and pumps (9), latrines (1,650), and health education.

Although the Health and Water & Sanitation components are extremely important in the context of overall rural socioeconomic well-being, for the purposes of this report, only the Agriculture & Environment Restoration and the Public Infrastructure Rehabilitation components were analyzed. The reason is that while the former two have a strong indirect impact on rural income generation, the latter two more directly result in change in income generation.

2.0 FINDINGS

2.1 Agriculture & Environment Restoration

2.1.1 Terracing (Curvas de Nivel)

Although the word "terracing" is used in ADRA program documents, what is being done is not terracing in the traditional sense, i.e., land leveling. What is actually happening is that planting is done in contour along the slope of the land, with the use of drainage ditches and vegetation at regular intervals (also following the field's contour) to provide drainage for excessive rainfall while reducing soil erosion.

Contour planting was being implemented on lands which were often characterized by steep slopes. Some of the plots had been severely altered by erosion from the heavy rains accompanying Mitch, while others were being used for agricultural purposes for the first time. In all cases, the purpose of the contour work was to maintain the productivity of the land, thereby increasing its income-generating value.

A variety of crops were being used as erosion barriers, including grass, pineapple, sugar cane and coffee. These crops have the potential for both home consumption and commercial sale. In the case of grass, it was seen as a source of animal feed.

The use of coffee was an interesting choice, in that the program did not originally envision its use. However, another institution was promoting coffee, but had no means for including soil conservation measures in its program. Combining the two solved the problem, i.e., ADRA could implement terracing on the land, providing food for work and tree species for shade, and the other institution could supply the coffee trees and technical assistance for growing the crop.

Assessing terracing in the context of income generation, while it is not a direct income generating activity, it is an essential element of an agricultural program designed to increase income because it contributes to the sustainability of those increases.

2.1.2 Living Fences

Living fences were seen as a low-cost alternative to the increased deforestation that would have occurred had traditional fence posts been used. The concept appeared to be working as the survival rate looked adequate to provide the support necessary for the barbed wire fencing surrounding the agricultural fields.

As with terracing, the use of living fences is not a direct contributor to income generation, but it does have an indirect effect by preserving trees for more valuable uses, including firewood, building materials, soil and wildlife conservation, etc.

2.1.3 Family Gardens

Family gardens were conceived as having an important role in improving the availability of food for the family, as well as having a healthful effect due to the vitamins, etc., which would be provided by the selected crops. This was the basic rationale for selecting such things as tomatoes, green peppers, onions, cucumbers, squash, etc.

Most family gardens visited showed a significant expenditure of time, labor, and money had been invested in their construction. A major expense was the fencing required to keep roving household livestock such as chickens and pigs out since these animals have the potential for destroying the garden as they scavenge

2.1.4 Nurseries

Nurseries were seen as essential in the design of the project as there were few commercial sources available for the various planting stock which the project had planned to distribute. The planting stock which was available carried a relatively high price tag. Seeds for the forest tree species were purchased from the Forest Seed Bank, maintained by MAG-FOR.

As with other activities in the program, this was not seen in an income generating context. The system employed used food for work for the labor involved, thereby reducing the need for actual cash to produce the nursery stock.

2.1.5 Transplants

Fruit trees including, banana, plantain, papaya, orange, etc., were obtained from nurseries established by CARE. The plantings which were observed appeared to be quite healthy and growing well. Certainly the beneficiaries seemed well satisfied.

The purpose of these fruit trees was similar to that of the family gardens, i.e., improve food availability and enhance and diversify the diet. Several beneficiaries were planning to sell some of the production whenever possible.

The purpose of the forestry species was more oriented toward reforestation and for providing necessary shade for the coffee trees.

2.1.6 Silos

Producers often reported losses of up to 50% of their production when the crop was stored in the traditional manner. The major pest indicated was rats. Losing one-half of one's production represents a horrendous loss in both food for household consumption, and potential income from sales. No significant storage of basic grains was observed, as a drought in the *Primera* planting season resulted in losses which ranged from significant to total.

Metal silos clearly have the potential to reduce losses to a negligible level. This will have an impact on the availability of food for household consumption. Its impact on income generation is not as clear, however, because some interviewees indicated that they sell their basic grain production immediately after harvest because they are afraid that prices will go down if they wait.

2.1.7 Micro-irrigation

Several of the interviewees noted that the lack of water was of great concern and a real constraint on their ability to diversify into other crops. One example of micro-irrigation which was observed was on a small area of horticultural crops. An ingenious, low-tech device was used for "sprinkle" irrigation. An empty one-liter soft drink bottle was connected to the end of the hose which brought water from the source to the area to be irrigated. The bottle had numerous holes extending from the top to the bottom over one-half of its circumference. The entering water caused pressure, and forced the water out of the small holes, thereby creating a sprinkler irrigation effect. It is generally recognized that sprinkler irrigation has a much higher efficiency of water use than traditional flood irrigation. It also produces less erosion on sloping soils. An alternate source of water was being analyzed, which involved tapping into a neighbor's system which was functioning using a hydraulic ram to pump the water from the source to his field.

2.1.8 Disaster Awareness

This element of ADRA's program was not analyzed in depth because it was not seen as directly improving household income. It did seem to be aimed at selecting home sites which were less vulnerable to natural disasters, particularly floods and landslides.

2.2 Public Infrastructure Rehabilitation

2.2.1 Bridges

One bridge was visited that had been destroyed by the flood waters associated with Hurricane Mitch. The major damage had been to the supporting structures, which had been undercut by the water. A temporary structure had been erected, but it was doubtful that it would continue to support vehicular traffic for very long. The replacement bridge was very well constructed, and would mean that once again the communities served by the road would have unhindered access.

2.2.2 Roads

One road was visited where food for work was being utilized to the road. Beneficiaries were not interviewed.

2.2.3 Schools (Not observed)
2.2.4 Infant Feeding Centers (Not observed)

2.3 Other Findings

The choice of interventions, e.g., the decision to concentrate on crops rather than small domestic livestock, was based upon the belief that Mitch's damage to crops was greater, and recuperation would be quicker.

There is some misunderstanding between ADRA/Nicaragua and USAID/Nicaragua over the framework within which ADRA implements the project. ADRA understands that the USG auditors (USAID, GAO, etc.) take a strict interpretation of the program agreement, i.e., anything which is not expressly written in the agreement is not allowed. The example ADRA cited was its inability to buy coffee seeds to produce coffee plants because it is not included in the agreement. USAID ERD office maintains that ADRA has the latitude to make these changes, and that no second "strict" interpretation of the agreement exists. What appears to have happened is that the ERD office maintains that Section 1.4 BUDGET of Attachment 1 is the controlling factor, while ADRA/N is using Annex E Budget, Attachment 2 as the guiding factor.

3.0 CONCLUSIONS

In terms of the agreement, as signed by ADRA and USAID, the program is moving forward pretty much as envisioned, with the exception of roads which are behind anticipated targets.

The quality of the interventions is excellent, with the possible exception of road construction. There is a pressing need to use machinery to prepare the roadbeds, rather than depending solely on manual hand labor.

The program includes wide gamut of implementation activities, and a varying beneficiary pool. What the beneficiaries have most in common is that they are all poor.

4.0 SUGGESTIONS

4.1 Short Term

1. Develop and apply diagnostic instruments that can identify those geographical zones and beneficiaries who can respond to an income generation program to the extent that they will be moved significantly toward, and preferably above, the poverty line, aside from those beneficiaries who are in a survival situation who need different interventions.

2. Develop and apply a methodology which can identify activities that have the greatest income potential for the beneficiaries involved. This must include an analysis of the target market or markets, and a strong cost/benefit analysis of agricultural intervention. This could be done in coordination with other technical assistance agencies like Winrock, or with Chemonics. ADRA could collect cost of production and marketing data from a sample of beneficiaries to determine earnings potential.

3. Broaden crop interventions to include those which have the best potential for increasing income. Examples of this include coffee and tropical fruits in other areas, and higher value options for family gardens, e.g., herbs, etc.

4. Raise the technical standards for road rehabilitation and employ equipment where necessary. This may have the effect of reducing the program target for kilometers of road to be completed because of the higher investment per kilometer required to raise technical standards. Focus food-for-work on the ancillary works that are necessary to maintain the road and minimize maintenance costs, e.g., drainage works, culverts, bridges, etc.

4.2 Longer Term

1. Broaden agricultural interventions to include small domestic livestock, e.g., chickens, ducks, pigs, etc. This will have the added effect of providing more benefits to female family members.

2. Because the best information at this time indicates that less financing will be available for follow-on programs, ADRA needs to focus on those activities with the greatest income generating potential in their next effort.

3. ADRA should review its in-house expertise vis-a-vis an income generating program, and make decisions regarding what staffing changes are required. They also need to include the technical knowledge which is already available in other agencies such as GON agencies, private sector companies, and other sources, e.g., Chemonics and Winrock, etc., as well as the experiences gained by other ADRA programs throughout the world.

CARE

1.0 INTRODUCTION

CARE/Nicaragua is currently implementing two separate activities under the Hurricane Mitch Recovery and Rehabilitation Program, the reconstruction of rural infrastructure, principally roads, through 'cash for work' employment generation, and agricultural rehabilitation in the municipality of Posoltega. While both activities are extensions of already ongoing CARE activities in other parts of Nicaragua, they are being implemented as discreet programs with separate staff and funding sources. The agricultural activity began in June 1999 and the rural infrastructure activity in October. Both are scheduled to terminate in December of 2001. USAID resources are $8,292,683 for the rural infrastructure activity and $742,000 for the agricultural rehabilitation activity.

These activities were originally conceived of as relief and rehabilitation activities and neither was designed to be sustainable nor to generate beneficiary income over the long run. Nevertheless, as implementation has evolved, the staff of both are seeking ways to emphasize sustainability as well as to generate long-term income for beneficiaries. Additional emphasis is also being placed on documenting the generation of income, both actual and potential.

2.0 FINDINGS

2.1 Road Rehabilitation Program

2.1.1 Overview

The original goal of the Road Rehabilitation Program was to construct 1,440 kilometers of rural roads, several environmental mitigation activities, two drainage systems, one containment wall, three irrigation canals, and two bridges. Based on Mission concerns related to the quality of the roads being rehabilitated, the target number of kilometers under the activity was subsequently lowered to 850; two international road engineers were contracted; and some road building machinery was purchased. The program operates in 17 municipalities in the Departments of Estelí, Matagalpa, and Jinotega. A cash-for-work (CFW) methodology is being employed which includes the use of manual labor to the greatest extent possible so as to provide immediate cash payments to the families affected by Mitch. The program also focuses on strategic alliances among CARE, the local municipality and intended beneficiaries, and coordination with other public and private organizations operating in the program areas. In order to formalize these alliances, contracts are signed between the community and the respective municipality and CARE. These agreements specify the contributions that will be made by each, which are usually in-kind in the case of the communities and the municipalities. Workers are paid every two weeks by the municipalities with CARE-provided resources and under the supervision of a CARE technician.

Upgrading the quality of roads increased the cost per kilometer from approximately $3,000 to $6,000. The number of participants in CFW households correspondingly decreased from the original 24,000 goal to the current 11,800 (20 percent of which are women) due to the decrease in kilometers and the agreed-to use of some heavy equipment to meet revised quality specifications. Consequently, the revised Impact Goals of the two-year program are:

- To provide short-term income generating opportunities for 11,800 households (approximately 70,800 people) in the departments mentioned above, and
- To repair primary infrastructure, including 850 kilometers of roads, damaged by Hurricane Mitch. This will include approximately 100 projects affecting 17 municipalities and 500 communities.

The determination of which roads to rehabilitate is done by the municipalities based on the following CARE criteria and under CARE supervision. These include:

- Those affected by Mitch.
- That they connect more than two communities.
- A potential to increase agricultural production exists in the area.
- High levels of unemployment in the area.
- Community willingness to participate in a cash-for-work program.
- That the geographic conditions of the area permit the use of hand labor.

Worker selection is based on the following criteria:

- One worker per family for up to 90 days of paid labor. (The daily wage is normally 90 percent of the prevailing local minimum wage so as to not compete directly with other gainful employment opportunities.)
- Residence in the area affected by the road.
- Workers must be a minimum of 16 years old.
- The level of poverty and/or food insecurity.
- Priority for women, especially women-headed households.

There are also seventeen indicators including several concerning economic impact that are tracked to support the achievement of the two Impact Goals. The CARE/Estelí office is also in the process of contracting with the University of Nicaragua to allow Master's level graduate students to conduct thesis research in the communities benefiting from road building. The emphasis of these thesis will be the socioeconomic impact of the roads on the target populations. This is important to point out since the only economic indicator mentioned in the CARE Cooperative Agreement concerns the short-term income benefits stemming from the CFW program.

An additional element in the CARE methodology is the use of social workers whose job is to organize the various communities along the roads being rehabilitated, select the workers based on the criteria mentioned above, and assist in the collection of data for the 17 performance indicators. This community liaison function is seen by the consultants as being critical to the involvement of the local populations in the CFW program, assisting the community in making decisions as to where the roads will pass, where drainage channels will empty out, gaining right-of-way permission in some cases, and in the possible long-term maintenance of the roads.

During the assessment team's field visit, the question of economic impact was continuously discussed. Even though no impact statistics are available, it was obvious to the team, USAID and CARE representatives that the roads will bring numerous economic benefits although some will not be immediate. These include:

- Increased commercial activity through the establishment of local businesses.
- Significant decreases in transportation costs. (Along one of the yet-to-be- completed roads visited, it currently costs C$/ 30 to 40 to transport one cwt. of produce to market by horse. Once the road is complete and bus service becomes available, this will drop to C$/ 5/cwt.).
- Crop diversification will expand, especially into higher value crops
- Production costs will drop due to lower transportation costs for inputs.
- Post-harvest losses incurred during transport to market will decrease.
- More land will be brought under cultivation.
- Land values will increase by an estimated average of 100 percent.

- Community services will improve/expand.
- Increased vehicle traffic will provide greater access to the outside world. (In the case of both roads visited by the assessment team, bus operators had already requested permission from their respective municipalities to establish bus routes along the roads.)

The consultants traversed two roads, one of which was about 95 percent complete (Trinidad to Las Limas, a horseshoe shaped route of about 14 kilometers beginning and ending at the Estelí-Managua highway) and the other about 75 percent complete (the San Nicolas-Santa Clara road of about 8 kilometers). Work crews including many women were carrying out the work under the supervision of a crew boss in such a manner that a compacted, surface-filled road with good drainage was the result. In conversations with people living along both roads, the roads' potential economic benefits was the main topic brought up by those interviewed. As an example of increased commercial activity, on the Trinidad to Las Limas road, the consultants encountered a commercial truck carrying soft drinks bringing commercial products via vehicle to the area for the first time.

To further confirm our observations, the assessment team interviewed a councilman for the municipality of San Nicolas at the end of one of the roads visited. He said the road would be the most important development that has ever happened to the town. Nevertheless, he expressed concern how it can be maintained in the future. The CARE Cooperative Agreement does not address the issue of maintenance or the long-term sustainability of the road. Cognizant of this omission, CARE leaves a road maintenance plan with the community, as well as some hand tools and wheelbarrows once a road is completed. However, no further financial or technical help is available to implement the plan. The possibility of setting up tollbooths to raise revenue for future maintenance of the roads was also discussed, but this concept so far has no basis in Nicaraguan law.

Regarding potential economic impact, in a recent study of Food-for-Work road in Bangladesh (also a CARE project), the Internal Rate of Return on a well maintained rural road was more than double accepted international norms, indicating that investment in rural infrastructure is not only good for farm family beneficiaries, but also it is good national investment.[2]

2.1.2 Road Conclusions

Current information from CARE confirms that 321 kilometers of roads were completed as of the end of the third quarter of road rehabilitation activity. Also, income generating opportunities had been provided to approximately 6,000 households in the targeted departments. On balance, there is very satisfactory performance in meeting the Impact Goals, especially when the inclement weather caused by recent rains is taken into consideration.

From the consultants' brief site visits, it appears that the roads are being constructed at required standards.

At least 20 percent of the workers are women, with this figure rising to 50 percent in some cases.

Of greatest concern is the question of future road maintenance. The roads are considered to have a useful life of two to four years depending on vehicular traffic and rain. If economic impact and income generation are to be sustained, maintenance will be an important issue to address. With information provided by CARE technicians, the consultants calculated a rough maintenance cost per kilometer of about $250 per year. A team of ten people could provide maintenance work on an average of 16 kilometers of road two months before the rainy season (March and April) and two months after the rainy season (October and November) for a total cost of $4,000 per team per 16 kilometers. The communities and municipalities are disposed to maintain the roads, but do not have the resources to do so.

[2] *Final Evaluation: Integrated Food For Development Project* for CARE/ Bangladesh and USAID/ Bangladesh; Associates in Rural Development; Burlington, Vermont; December, 1999.

2.1.3 Road Suggestions

Immediate action should be taken to devise a program to provide for the long-term maintenance plans CARE develops after road construction. Perhaps a 50-50 split between Food-for-Work programs and a cash contribution from the respective municipalities could be implemented. However, the feasibility of this and other potential financing arrangements need to be studied between the food aid donors and the local municipalities. The total yearly cash cost (not using FFW) for 850 kilometers of CARE-supported roads would be approximately $213,000, which appears reasonable considering the importance of the roads to future income generation in the areas affected.

The process of conducting case study research on the socioeconomic impact of the roads using graduate students should be accelerated and put into place as soon as possible. The economic impact of the roads being built should not be the only indicator used in these studies. Rather, other social indicators should be included as well.

2.2 Agricultural Rehabilitation Program

2.2.1 Overview

The Agricultural Rehabilitation Program was originally designed to impact on 350 of the families most affected by the Posoltega landslide that covered two towns and caused 2,500 deaths. The project includes support for basic grain and horticultural production, crop diversification including cassava and plantain, the planting of fruit and forest trees, and the promotion of small-scale chicken and swine production. At present, approximately 30 percent of the available funding is directed at the original 350 families who have been relocated to housing plots on a small farm provided by the Posoltega municipality, while 70 percent is directed at farm families in the same municipality who were able to remain on their farms. The inclusion of farm families who were able to remain on their farms raised the number of intended beneficiaries to 1,200 families. Implementation includes the strengthening of community organizations, training, support for women, and the promotion of beneficiary-controlled revolving credit funds.

In the case of the 350 families that were relocated, many still have access to their agricultural lands surrounding the landslide area. However, while many of them are willing to return to work these fields during the day, most are not willing to take the risk of moving back permanently. This often means traveling as much as two to three hours each day on foot, bicycle or on horseback. Part of the CARE program provides credit for these people to purchase the bicycles and horses.

CARE currently implements this activity with one project director, one supervisor, and eight extension agents. This results in an extension agent to beneficiary ratio of 1:125 and a community ratio of 1:3 or 4 which is thought to be high.

2.2.1.1 Agricultural Production and Productivity

The Posoltega activity is currently reaching 995 families of which 757 are headed by men (76 percent) and 238 by women (24 percent). Total income generated from the various agricultural activities promoted by CARE (from one to six depending on the family) is currently estimated at $326,484, or an average of $328 per family in the first year of the program. The vast majority of this income comes from grains and pulses including corn, sorghum, soybeans and red beans, with lesser amounts coming from tomatoes, green peppers and squash. These particular crops have been chosen on the basis of food security and income potential, especially in the case of horticultural crops. Yields either approximate, or have the potential to approximate, regional averages.

Of the 995 families currently included in the program, 711 are planting grains and pulses (71 percent), and 284 are planting horticultural crops (29 percent), although some families are

involved in both. Seventy families have joined the poultry program and 27 are participating in the swine program.

2.2.1.2 Credit

CARE uses an approach to credit that provides in-kind loans under the supervision of local councils whose members are elected by community beneficiaries. These councils sign a contract with CARE in which they agree to make sure that their members repay their loans. Repayments of seed and planting material are made in kind and are sold by the councils with the proceeds being deposited into a revolving fund. (For example, in the case of soybeans, for each cwt. lent, one cwt. must be paid back, or at least stored for use the next season. In the case of cassava, for each cwt. lent, four cwt. must be paid back, to be distributed to other farmers during the next season.) In the case of fertilizer or other inputs, their cost is repaid in kind, converted into cash by the councils and also deposited into the revolving accounts. Surpluses over and above the amount received on credit are kept by the beneficiaries for home consumption or for sale in the marketplace. This program is relatively. As such, no information is available on repayment rates or actual sales by the councils. Interest or maintenance of value charges are not collected at present although CARE is planning to implement one or the other, or both in the near future. CARE provides no direct marketing services to beneficiaries.

2.2.2 Agricultural Rehabilitation Conclusions

The 350 families who were relocated, and who lost their agricultural land, will most likely remain in a state of extreme poverty for a long time to come. These people should most likely be treated as welfare recipients until they can be provided with alternative agricultural lands or otherwise absorbed into the economy. It is therefore beyond the scope of CARE to provide for their long-term self-sufficiency.

This, however, does not appear to be the case with the farmers who no doubt lost a great deal due to the hurricane, but who remained in possession of their land and who have the potential to improve their income generating capability. While CARE activities with this segment of the Posoltega population have been well implemented as a relief and rehabilitation program, in the future there may have to be some changes to the current methodology.

2.2.4 Agricultural Rehabilitation Suggestions

First and foremost, crop selection should be reconsidered based on a careful analysis of marketing opportunities and the income generating potential of those opportunities. Once food security issues have been addressed, which is believed to be the case with many farmers in this group, the adoption of higher- value crops can be considered. Parallel to this, CARE could place increased emphasis on the development of marketing services, including market identification, information, and decreasing marketing costs.

Second, the provision and use of agricultural production credit will also have to be adjusted. While the current provision of credit and its repayment in kind have functioned well under relief and rehabilitation conditions, program beneficiaries will need to be prepared and redirected towards more conventional and commercial credit delivery mechanisms.

Cooperative League of the United States of America (CLUSA)

1.0 INTRODUCTION

CLUSA was granted $7.6 million under the Hurricane Mitch Supplemental Funding from USAID. These additional funds were designated to finance activities to be undertaken by CLUSA as an extension and expansion of its core Development Assistance-funded Small Producer Program. The activities were oriented to the economic reactivation and watershed restoration of areas affected by Hurricane Mitch. In order to rapidly move forward, CLUSA partnered through subcontracts with Development Associates, Thanksgiving Coffee, ATMA International, and Zamorano (the Pan American Agricultural College). The program components and total budget breakdown are:

- Incremental CLUSA Technical Assistance and Training for commodity production, processing and marketing (includes the Development Associates subcontract for oversight and coordination). $1,653,853.
- Quality Coffee: Technical assistance and training in coffee quality improvement (includes Thanksgiving Coffee subcontract and long-term CLUSA expatriate services). $841,936.
- Supervised Credit Fund: ATMA subcontract to provide technical assistance and funds to implement the credit activities. $3,487,510.
- Watershed Restoration and Management: Zamorano subcontract to provide technical assistance and commodities to implement the watershed component. $1,616,701.

The goal of CLUSA's three-year old Small Producers Program is to increase farmer income, and the Mitch add-on was designed with that same goal and incorporates its Small Producer Program methodology in order to achieve it. The Small Producer Program LOP continues until 2003.

2.0 FINDINGS

2.1 Incremental CLUSA Technical Assistance and Training

2.1.1 Overview

As a result of the Hurricane Mitch supplemental funding CLUSA was able to expand its ongoing technical assistance and training activities in terms of both the number of beneficiaries, as well as its geographic coverage. In the case of the former, this included soybean and sesame growers in the departments of Chinandega and Jinotega in the municipalities of Somotillo, Rancheria, San Lucas, Tonala, El Congo, and Monterosa. In the case of the later, it included an expansion into the department of Jinotega to assist small coffee growers and to a certain extent some cocoa growers as well.

The methodology used by CLUSA in these new areas and crops continues to be the same as that used under its Small Farmer Income and Employment Generation Activity and according to their Cooperative Agreement includes:

- A core focus on increased income as the driving force behind all activities;
- Selecting farmers who already have access to land and a minimum level of resources, technological knowledge, and production experience;
- Providing farmers with a range of options and allowing them to choose the options which they feel most comfortable with including the level of technology, the use of credit, and marketing channels;
- Democratic group management through transparency; and political neutrality.

Based on field data collection by the consultants, who visited three organizations of coffee producers and four organizations of soybean and sesame producers, there is no doubt that the

farmers are pleased with the technical support, training, and, in most cases, marketing services being provided by CLUSA.

When attempting to extrapolate to the total Mitch Activity level through an analysis of the targets specified in the Cooperative Agreement, the First Annual Work Plan, and the Quarterly Reports, the assessment team encountered certain confusing data. The following tables were prepared by CLUSA to clarify the subject.

TABLE ONE: Year One Implementation Plan
(Results and Indicators taken directly for the USAID Results Framework)

Indicator	Measurement	LOP Target	Total Yr. 1 Targets
IR 2.1 Farmers in Mitch - affected areas adopting environmentally friendly agricultural practices	Farmers with verified adoption of USAID specified sustainable practices	Total 10,850	6,000
IR 2.3 Surface areas of watersheds that are protected by watershed stabilization	Hectares benefited by tangible improvements	Total 2,500	1,200
IR 2.5 Number of small producers assisted with USAID-financed credit	Farmers receiving loans	Total 5,000	2,000

TABLE TWO: Revised Table by Component

Component	Original Grant Adopters (LOP)	Yr. 1 planned	Yr. 1 est. Actuals	Planned / Actual	IR
I. Technology Transfer	1,000 (a)	1,000 (a)	+/- 900	90%	IR 2 .1
II. Coffee Quality	2,500	1,880	1,308	70%	
III. A Watershed/ Hillside Agriculture	7,350	3,000	+/- 3,600	120%	
Total Farmer Adopters	10,850	5,880 (c)			
III B. Watershed/ Hillside Agriculture	Hectares restored/ stabilized: 2,500	1,200	+/- 800	67%	IR 2.3
IV. Credit Funds	Farmers w/ credit 5, 000 (b)	2,000 (b)	1,635	82%	IR 2.4

(a.) 1,000 was both the LOP and First Year project in the Revised Work plan. May need adjustment.
(b.) Original grant plan that will require adjusting after reduction in loan fund.
(c.) Year One Work plan in TABLE ONE calls for 6,000; document text say 5,800

The consultants base the following comments on the information received during field visits to seven of the CLUSA-supported farmer groups.

In the case of the three groups visited that are growing coffee, all had adopted the CLUSA-recommended environmentally sustainable technological packages designed to lower production costs, maintain yields comparable to conventional coffee technology, and, once certified as 'organic', receive a premium in the marketplace. This technology also has an added benefit in that not only are overall costs of production reduced, but the relative proportion of labor costs compared to other inputs is greatly increased, resulting in increased returns to labor be it the farmer and his/her family or hired outside labor. According to very conservative estimates provided by CLUSA, the average reduction in yield per *manzana* of environmentally sustainable coffee compared to conventional coffee is 20 percent. However, this is more than made up for through a reduction in average production costs of 58 percent and an increase in price per cwt. of 18 percent. (Price premiums for environmentally sustainable coffee of between 40 and 60 percent have been obtained in other countries.) The net result of this is a 208 percent increase in profitability per cwt.

CLUSA provides 'on the job' training in environmentally sustainable coffee cultivation as well as in the economic rational for switching from conventional production methods. CLUSA technicians also visit each farmer between one and three times per week.

In terms of financing, described more in detail below, two of the groups visited received credit for labor payments from a local cooperative (Flor de Pino), and one was receiving credit from the CLUSA/Mitch activity. Marketing services were also being provided to one of the groups by the same cooperative that, in turn, plans to sell in bulk to local coffee buyers. The second group sells directly to local buyers based on which one offers the least deductions. (Or rather, which one cheats the least in the weighing process, according to several members interviewed, since the price offered is the same for all buyers.) CLUSA is arranging for the marketing of the coffee of the third group. None of the three groups are involved in the CLUSA-supported coffee quality program described below.

Turning to the soybean/sesame producer groups in Chinandega, all were severely affected by Mitch, recent droughts, and a marketing arrangement last year with a local company that accepted the harvests of all four groups (and many other small producers, as well) and then declared bankruptcy without paying the farmers in spite of signed contracts. One of the four groups has received CLUSA technical assistance in production technology since 1996, and the other three since 1997 (pre-Mitch). The 'Mitch' supplemental funding allowed CLUSA to expand the services it provides to these groups into credit and marketing. According to the groups interviewed, income from soybeans was seen as good in 1996 and 1997, Mitch devastated their crop in 1998, and all lost everything in 1999 due to the bankruptcy fraud experienced in the marketing process. It was reported that the 1999 yields were the best ever experienced by those interviewed.

Farmers in all four groups are familiar with both soybeans and sesame, all well as corn. As was stated above, part of the CLUSA methodology is to provide farmers with several options and allow them to choose the one that they feel the most comfortable with. These four groups have done so. Two of the groups have been planting environmentally sustainable soybeans for several years, one since 1996 and the other since 1997. In the case of the third, some members plant soybeans while others plant sesame, while in the case of the fourth group all members planted soybeans in 1997, 1998 and 1999. However, this year all members of this group decided to plant sesame. Several factors appear to be critical to their decision making process; 1) the stability of the market (since many small producers were 'burned' by the bankruptcy of the local company mentioned above, some are reluctant to accept the risk of an unsure market this year); 2) production costs are lower for sesame than for soybeans requiring less credit and therefore less risk in paying back the credit; and 3) lower risk in the case of sesame since it is more drought-resistant than soybeans. Finally, all groups that have planted soybeans have used the CLUSA-promoted environmentally sustainable technology that, like coffee, represents lower overall production costs and higher returns to labor. Nevertheless, little attempt has been made to identify and exploit the market 'niche' that is available for soybeans produced under environmentally sustainable technology. Based on the actual experience of these four groups, profitability between crops and technologies varies as follows:

- Corn- C/.100-200/*manzana*
- Conventional Soybeans - C/. 500-800/*manzana*
- Environmentally Sustainable Soybeans- C/. 1,200-2,000/*manzana*
- Environmentally Sustainable Sesame- C/. 1,500/*manzana*

In order to obtain credit through CLUSA all four groups are required sign purchase agreements with known buyers. In the case of soybeans, CLUSA assisted the groups in obtaining purchase agreements with the del Campo Cooperative at the government fixed price of $10.50 per cwt. In the case of sesame, CLUSA arranged for a tentative agreement with the same buyer. In this case, however, the agreement establishes a floor price of $30 per cwt. that might, or might not, increase depending on the prevailing export price at the time of harvest.

2.1.2 Technical Assistance and Training Conclusions

- The CLUSA methodology appears to be well suited to the targeted beneficiaries.
- The CLUSA data information system portrays inconsistent and unconvincing data to the outside observer. Proper data most likely exists, but it is at times confusing with possible overlaps between the CLUSA Small Farmer program and the CLUSA/Mitch program.
- There does not appear to be as much coordination between the four activity components as there should be.
- The international price differentials for soybeans produced under environmentally sustainable technologies are not being exploited.

2.1.3 Technical Assistance and Training Suggestions

- CLUSA may need to place more emphasis on the consistent and transparent use of data that tracks its progress as well as the data it uses to argue its case for the various crops and technologies that it promotes. Data from their DA-funded activity should be kept separate from 'Mitch" related data.
- CLUSA needs to better coordinate its technical assistance and credit components, and its coffee quality component in the case of that crop. As part of the 'offering of options' process, a complete package should be one of the options available to beneficiaries. There should also be more overlap between the areas where the Zamorano watershed component is working and the other CLUSA/Mitch components.
- The fields used to produce environmentally sustainable soybeans should be certified as such and the market for that type of soybeans exploited.

2.2 Coffee Quality Component

2.2.1 Overview

Like the Technical Assistance and Training Component described above, this component is an outgrowth of CLUSA's DA-funded program that was already under implementation prior to 'Mitch'. As such it is difficult to separate the two programs based on funding sources other than to state that the number of direct beneficiaries increased from 1,900 to 2,500. Of this number 1,800 were projected to adopt the CLUSA-recommended technologies that would lead to higher quality coffee for the export market. The principal activity in this regard is the training of farmers in the taste preferences of the international market and in the subtleties of how different processing methods can impact on the taste of the final product. Additionally, 10 tasting/quality control 'cupping' laboratories were proposed to be established, "to provide tangible evidence to long-term buyers that Nicaragua is serious about improving its coffee flavor quality," five in the first year and five in the second.

This component is well ahead of its proposed target, and two important additional activities have been added that will add substantially to its potential for success. As of September 30, 2000, 1,308 farmers had received technical assistance and practical training in coffee quality improvement, well above the 1,200 target for the first year of implementation. Three hundred additional farmers are expected to be trained before the end of the year. While no cupping laboratories have yet been established, this is by design since they will not be needed until this year's coffee harvest begins in December. Additionally, 30 to 40 mini-labs have been added to the work plan in order to bring these facilities closer to the farmers, and a regional and national laboratory are also planned for next year.

Since CLUSA's Cooperative Agreement was signed, two additional activities have been added to this component making it more complete. These include the establishment of 5 centralized 'wet' processing mills for the 2000/2001 crop year in Yalí (Jinotega), San Juan del Rio Coco (Madriz), Las Sabanas (Madriz), and two in El Cua (Jinotega), as well as assistance in putting assisted

farmers in contact with potential coffee buyers, both domestic and international. The Supervised Credit Fund Component explained below is providing funding for this activity.

At present most coffee farmers do the initial processing of their coffee (wet processing) individually on their own farms. This is probably the most critical step in the processing of quality coffee and in assuring consistency in the quality of coffee. Currently, there is wide variation in the practices that farmers use in this process, leading to great variations in the quality that is produced. When bad quality beans are mixed with low quality beans entire shipments can be affected resulting in highly discounted prices for all producers. By concentrating the wet processing in centralized locations, CLUSA hopes to be better able to assist farmers in controlling quality and thereby reduce or eliminate the heavy discounts that Nicaraguan coffee currently receives in the international marketplace. As the process is further fine-tuned, CLUSA predicts that rather than discounts farmers can expect to earn premiums over prevailing international prices.

CLUSA is also attempting to identify domestic dry processors and exporters, as well as international buyers of premium coffee, thereby providing farmer groups with alternative markets to traditional local buyers. Nevertheless, while the consultants applaud CLUSA's attempts at increasing competition in the marketplace, only one domestic buyer/processor (La Esperanza) and one international buyer (CBI) have so far been identified.

One issue was identified that deserves further study and analysis. This component tends to work with the better-established organizations of coffee producers that are not, in the majority of cases, the same groups of coffee producers as those assisted by the Technical Assistance and Training Component described above. While the selection criteria for both groups appears to be the same (i.e., development potential, group cohesion, access to land, etc.), there is almost no overlap between the two components.

2.2.2 Coffee Quality Conclusions

- In general terms, this component is well conceived and over the course of implementation has been adjusted to meet the perceived needs of targeted beneficiaries as well as the demands of the international market.
- The identification of domestic buyers and processors, and international buyers of coffee has not developed very far as of the writing of this document.
- There is almost no overlap in terms of beneficiaries between this component and the technical assistance and training component.

2.2.3 Coffee Quality Recommendations

- CLUSA needs to identify a greater number of potential buyers of coffee who are trustworthy, willing to deal with small producers, and who understand the implications of producing high quality coffee for export. The following methodology is suggested. CLUSA should first establish specific selection criteria for potential coffee buyers. A public request should be published in the principal newspapers of the country seeking buyers/processors interested in purchasing coffee produced by CLUSA-assisted farmers and/or their organizations. Based on the response to this request, buyers/processors would be selected according to their reputations and pre-established selection criteria. Lastly, these pre-selected buyers/processors should be put in contact with the CLUSA-assisted farmer groups and allowed to present the terms under which they would be willing to purchase their coffee. Each group would then be able to select the buyer that best appeals to them.

- This component needs to begin to work more closely with the Technical Assistance and Training Component and to select groups that can benefit from the services of both. That component seeks to improve farmer income through a reduction in production costs, while this component seeks to improve farmer income through a reduction in quality

discounts, or the achievement of price premiums based on higher quality coffee as a result of improved processing technology. One is the logical extension of the other and both components need to work together.

2.3 Supervised Credit Fund Component

2.3.1 Overview

The fund is designed to provide small farmer production and post-harvest financing in the Mitch-affected areas. According to the CLUSA Year One Workplan, November 1999-October 2000 "the primary activities to be financed include production, post-harvest processing, buying and marketing of certified organic and conventional products, and other designated agricultural crops and activities of small producers, farmer organizations, solidarity groups and farmer-owned businesses." Over the two year LOP, ATMA International would achieve the following indicators:

- Disbursing US$ 2.15 million in loans.
- Reaching 5,000 farmers.

CLUSA/ATMA agreed with USAID to retain control of the funds for an extended period of time, and ATMA currently acts as executor of the funds and operates under the name of *Financiera Agricola* (FINAG). FINAG disburses loans through a partnership arrangement with two commercial banks (Banco del Cafe and BANPRO) that have branches in the Mitch-affected areas.

ATMA initially carried out numerous operational activities including the selection and training of credit officers, identifying and pre-qualifying potential clients (producers and groups), and working with NGO and PVO technicians, who would be providing services to farmer beneficiaries. This intense work resulted in $865,700 in loans being booked during the first quarter of program implementation. These loans were primarily for coffee processing and export commercialization, input commercialization, a nursery business, and the financing of organic certification for producers. Emphasis was on procedures and keeping credit risks low, since producers sign for each other and are not required to offer other collateral. By the end of the first quarter $91,627 had been disbursed.

During the next two quarters, the total amount of loans disbursed increased to $375,471, or about 35 percent of the first year's target of $1.1 million, mostly to cooperatives and producers. The number of producers assisted with USAID-financed credit during the first three quarters was 1,150. Repayment problems have been negligible.

Approximately $850,000 in new disbursements were anticipated in the final quarter of the year, of which $556,000 are estimated to have been made (the fourth quarter Quarterly Report has not yet been finalized). Nevertheless, this amount is expected to increase dramatically by the end of the calendar year since the coffee season is just beginning. It is expected that loan disbursements will total over $1.0 million by that time, which will include over $210,000 in financing for wet processing mills, and several large intermediary loans will also be made. ATMA estimates that an additional 935 producers were assisted in the fourth quarter for a year one total of 2,085.

The Fund: At the end of the fourth quarter, the fund has outstanding loans of approximately $138,000 and reflows of $ 466,000 plus $11,000 in interest. On September 29th USAID notified CLUSA that $1.0 million would be de-obligated from the fund, leaving an estimated $ 485,000 available for future drawdowns. Therefore, the credit fund amount currently totals about $ 1,100,000.

Interest Rates: The subject of interest rates has been discussed at length between the consultants and ATMA. The effective annual interest rate paid by FINAG clients varies between 10.5 percent and 18 percent, depending on the loan recipient. The lower rate is normally approved for intermediaries, such cooperatives since guarantees are required in the form of

physical custody of the product (mostly coffee) and the sales proceeds are paid directly to the intermediary. This reduces the risk considerably for FINAG as compared to production credit to producers, and, because of this, ATMA feels the reduced rate is justifiable. Eighteen percent is the normal rate charged to producers on dollar denominated loans. With only co-signing as collateral, FINAG charges the higher rate.

FINAG Loans: FINAG loans are made in U.S. dollars and must be repaid in dollars. Consequently, the official government devaluation index of 8 percent (although actual inflation is estimated at 14.5 percent) must be added in as part of the effective rate, bringing the nominal total to 26 percent for producers. No additional fees are added for technical assistance, supervision, or legal fees.

Other Lenders: Other donor-financed NGOs operating as *financieras* are also in the market (small producers do not have access to commercial banking resources). For example, these include FAMA, Nitlapan and Acodep. Although two producer groups stated that they were borrowing at 27 and 30 percent respectively, FAMA's presently charges a base rate to producers of 24 percent, and adds the devaluation index of 6 percent (according to local information this percentage is destined to increase to 8-9 percent), plus 3 percent for supervision and 1 percent for legal fees, for a total of 34 percent. The other two lend at 21 percent, plus the same percentage increases.

Subsidy: Based on this comparison, it would appear that USAID is supporting subsidies in the credit market, although ATMA insists that it is only lending at the lower end of the market. It must also be kept in mind that this is an emergency program to assist in the recovery of Mitch-affected areas and lower rates may be justified until a semblance of recovery has taken place. Nevertheless, conversations with producers in the field confirm that they, obviously, much prefer ATMA rates versus the competition.

Unfortunately, not enough time was available to interview other lenders to ascertain their repayment rates and the health of their operations. Additionally, and more importantly for this assessment, no information was uncovered that analyzes the capacity of producers to actually repay at a 34 percent rate, and, if they can, if there is any potential for them to subsequently increase their incomes.

Sustainablity of the Fund: ATMA firmly states, and the consultants agree, that with available financial resources and as currently structured, the fund is not self-sustainable.
Total available funds (approximately $ 1.1 million) are simply not sufficient to allow for a multiplier effect to take place. A much larger fund (perhaps $6.0 to 8.0 million) would be needed to lower margins and produce a higher gross income. The problem of fixed costs would also have to be addressed. Currently, CLUSA/ATMA technical assistance, training, and credit supervision are free. When these costs are factored in, interest rates would probably at least reach those of other lenders in the market, i.e. 31-34 percent.

2.3.2 Supervised Credit Conclusions

- ATMA designed and implements the Supervised Credit Fund in a quite professional manner. The goal of its lending methodology is to assure repayment while providing borrowers with the potential to increase incomes, and it appears this is being achieved. For example, soybean producers are required to sign buyer contracts before a loan is approved, and ATMA assists in identifying such buyers so that the producers are assured payment.

- Program indicators are being satisfactorily reached:

1. Total disbursements as of the end of the fourth quarter were approximately $565,000 versus an anticipated $1,050,000. The shortfall can be attributed to the agricultural production cycle, particularly with coffee production. The current estimate for total disbursements is $1.0

million by the end of the calendar year, which, based on real world agricultural credit needs and prudent credit management, is acceptable.
2. Two thousand small producers were to be assisted with USAID -financed credit. The current estimate is that 2,085 will be assisted.

- The original CLUSA request for the credit fund was $5.5 million. At this level it was projected that financial viability could be achieved over the longer term. The fund level was approved at $ 2.1 million, and it has subsequently been reduced by $1.0 million. At this level, long-term sustainablilty is not viewed as possible. This brings up several questions, such as:

1. Is the credit fund to be viewed as an "economic recovery fund" or a vehicle for longer term credit assistance to the Mitch-affected areas?
2. Who will be the ultimate owner of the credit funds?
3. Will sustainability require the creation of a new entity to institutionalize FINAG?
4. Can loan funds from other sources be leveraged to help generate sufficient income to cover expenses?

2.3.3 Supervised Credit Recommendations

- Allow ATMA to administer the fund using the most cost-effective and market-oriented methodology. For example, this might include more intermediary loans, which could help fulfill the longer-term developmental needs of the market and result in lower transaction costs for the fund compared to small production loans.
- Conduct an impact study (during this production cycle) of producer loan utilization, repayment capability, and potential income generation. This should include loans disbursed at FINAG rates and those at other similar institutional rates, i.e. FAMA.
- Based upon the results of the impact study, make a decision as to the viability for institutionalizing the credit fund. If the decision is negative, decide final ownership of the credit funds.
- If the decision is positive, conduct a feasibility study to determine the best institutional model to implement, including the creation of a larger capital base.
- Utilize the final two years of CLUSA's Small Producer Program to continue technical assistance to Mitch-affected areas in order to continue to support credit operations.

2.4 Watershed Restoration and Management

2.4.1 Overview

The CLUSA Mitch Year One Workplan designates Zamorano to "provide on-farm, demonstration-based training to small producers and local technicians in soil conservation and stabilization, reforestation, ecological pest management, sustainable organic production practices, tree planting, crop rotation, and other topics designed to recover damaged watersheds and hillside farms" in the Mitch-affected areas. Activities are implemented under three modules: the Sustainable Production Technique Module, the Sustainable Hillside Farming Module, and the Practical Watershed Recovery and Management Module.

Indicators established to track the achievement of this work over the two year LOP are:

1. 7,350 adopters of improved watershed management techniques,
2. 2,500 hectares under improved watershed management, and
3. 2.0 million trees planted.

CLUSA/Zamorano further defined these indicators to target 25 micro-watersheds, with income generation activities established in each one. Although not part of the original project, this goal came as an extension of CLUSA's already functioning methodology under the Small Producer Program to assist small-scale farmers to earn more income. It was reinforced by Zamarano's

desire to provide Mitch-affected beneficiaries with opportunities that would encourage them to remain on their land, rather than move to nearby towns. Zamorano coordinates with CLUSA agribusiness technicians to develop business plans, budgets and marketing strategies with farmer participants through technical assistance and training.

For example, during the consultants' field trip we visited a small community where perennial plants such as mango, avocado and other fruit trees had already been distributed by Zamorano, and were in the process of being planted using environmentally sustainable practices. Vegetables seeds will also be provided to those who survived with nothing after Mitch. An abandoned chicken/egg production facility is also being studied for reactivation, and the community well was repaired. Longer-term the community/producers will need credit and perhaps can qualify under the Supervised Credit Fund.

Additionally, in the same watershed area, Zamorano is assisting the owner of a nursery in the production and marketing of perennial plants and fruit trees as a commercial venture. The owner already received a loan from the credit fund and has hundreds of maturing plants. Both of these activities are representative of those carried out under the Sustainable Production Techniques Module.

Also observed on the trip were hedgerows being planted on hillsides to help prevent erosion. Scientific surveys show that soil damage from Mitch was significantly less in areas planted in perennial crops such as coffee, in comparison to annual crops and degraded pasture. Therefore the planting of perennials is being undertaken to help prevent tree cutting and the resulting erosion that occurs. These activities are carried out under the Sustainable Hillside Farming Module.

Practical watershed recovery and management is the overarching thrust of Zamorano's work. This module is carried out via technical assistance and training to impart the importance of the watershed to farmers and to carry out a community action plan to protect it. A learn-by-doing training concept is used to teach measures required for an area to become stable and protected. In the longer-term, Zamorano expects to establish this concept in at least 50 communities.

As of the end of the fourth quarter (estimate), approximately 3,600 adopters have been trained, 800 hectares are under improved management, and 1.1 million trees have been planted.

2.4.2 Watershed Management Conclusions

- Zamorano management of the Watershed Component is most impressive. The personnel are extremely dedicated to not only meeting the objectives of the program, but also going the extra mile. CLUSA/Zamorano staff are dedicated to watershed restoration and management, and the economic reactivation of flooded farms.

- Program indicators are being met or surpassed, except for hectares under improved watershed management. The year one projection for this activity was 1,200 hectares restored or improved in key micro-watersheds. This number was projected at 800 just two weeks ago; however, we understand that recent torrential rains may further reduce that number.

2.4.3 Watershed Management Recommendations

- The Watershed Component should accelerate its efforts to access loan funds from the Credit Fund for community projects, since the program only has one year left and no decision has been made on the final disposition of the fund. This will most likely require ATMA to assess the feasibility of community projects in much the same way they work with cooperatives and other producer groups.

- CLUSA/Zamorano should take immediate action to overcome the loss in momentum in the hectares restored, or alter the target indicator to fall more in line with actual conditions caused by the recent unexpected flooding.

CATHOLIC RELIEF SERVICES

1.0 INTRODUCTION

CRS is implementing its Agricultural Rehabilitation and Credit project through six national counterparts, three regional Caritas organizations and three local NGOs. This project builds on previous CRS USAID and non-USAID projects in agriculture and credit. It is a three year effort, two years and $6.33 million of USAID Mitch funds complemented by $3.326 million from CRS funds for Year Three.

The goal of the project is to contribute to post-Mitch rehabilitation and reconstruction efforts by improving resources conservation and food security for poor farm families. It has two principle components, an agricultural productivity/crop diversification component and a credit component. The agricultural productivity/crop diversification component is working in 248 communities with 11,000 families. According to CRS reports and field observations, it appears this target will be fully met within the next month or so.

Production activities involve a number of sub-components. To be discussed in production are: 1) basic grains, 2) crop diversification, 3) coffee production, 4) vegetable production, 5) animal production and 6) irrigation. Storage of basic grains will be discussed, as will soil conservation and agroforesty activities.

The cross-cutting methodology in all CRS agricultural production activities is community organization and will not be discussed, though this activity frequently takes a great deal of extension agent time. It should be recognized that the success or failure of a given activity frequently depends on this activity as much as on any other single factor.

Most if not all of these activities are meant to be repaid in kind or in cash into a revolving fund. Given its importance, this subject will be addressed in its own section.

2.0 FINDINGS

2.1 Basic grain production

The CRS basic grain component is an important but not overwhelming project priority. Project staff have recognized that basic grain production is a high-risk activity in rural Nicaragua and promotion of basic grains only takes place in microclimate zones that are favorable to its cultivation. At the same time, CRS has taken a strong stance regarding organic cultivation and has placed emphasis on growing basic grains without the addition of chemical fertilizer.

Where basic gains are cultivated, the methodology has been to work via a revolving fund mechanism, providing an in-kind loan of certified seed and recouping the loan in the form of a two-for-one repayment in grain (rather than seed.) Since the revolving fund does not require that the farmer assume financial obligation for any *cash* outlay (for fertilizer, for instance), in the case of significant losses as those which occurred during the Spring 2000 *Primera* season, the project is able to write off the loss of the in-kind loan without prejudicing the farmers

2.2 Crop diversification including vegetable cultivation

The CRS program is promoting a tremendous variety of crops as substitutes for basic grains. Among the crops being promoted are: pineapple, plantain, fruit trees, coffee, cassava, a wide varieties of vegetables, mung bean, soybean (for green manure) *pitahaya*, sweet potatoes, and

others. Project staff have a broad vision of the importance of moving farmers out of basic grain production and into higher value, more productive crops whenever possible.

CRS programming is working vigorously on the issues of peasant farmer over-reliance on traditional crops vs. diversification of crops and export crops and as above, the project has a wide "menu" of agricultural interventions. The idea is that the choice of intervention will be decided between technical staff and farmers depending on the agro-ecological conditions of each community. Some cases were observed during the field travel where program interventions were "assigned from the top" --based on budget or annual programming targets, without an appropriate diagnosis of the environment. This resulted in sometimes inappropriate technologies or crops being promoted on ill-suited land.

The plots visited showed some successes and some failures. It may be that the wide selection of cropping possibilities has exceeded extension agents' abilities to be knowledgeable about each of the crops being promoted. Alternatively, there may have been so many things going on, one or other crop received less than adequate follow-up. In any case, the wide variety of potential crops at the project's disposal is impressive.

2.3 Coffee production

Project documents report that coffee forms a part of project activities, but the assessment team did not have the opportunity to visit any plots and no comments will be ventured.

2.4 Animal production

Animal production does not seem a high project priority. Field data suggest that about five-to-seven cows or oxen were distributed per village. This number seems to have been assigned on the basis of a budget availability or some other pre-established number—rather than responding to farmer demand, for instance. In the case of cattle or bull purchases, the project established a time-consuming but quite effective practice of each animal being vetted by a committee of a CRS staff person, a counterpart staff person, a veterinarian and the prospective buyer. Though the process was slow, it does seem to have resulted in the purchase of a number of healthy, good-looking animals. Paying back the loan cost of a cow or bull is proving difficult, however. A quick 'cost-benefit stream' was developed during the field travel which indicated that almost every liter of milk produced by the cow over three years would have to be sold in order for the three-year loan to be paid within the stipulated time period from milk alone.

The distribution of a package of ten pure-bred chickens has proven popular but there are a number of reports of losses, due to theft and accidents as much as to disease. This year the project will provide vaccination possibilities at the same time as the chickens are distributed to try to reduce the number of chickens who do not live to the egg-laying stage. The majority of chicken loans were for six months and have been paid off promptly, indicating that there is a reasonable profit in farmstead poultry raising.

2.5 Irrigation

The CRS project is engaging in a tremendous variety of experiences in irrigation. Among the technologies being promoted are the pulley rope pump (*mecate*), the direct hollow piston pump (EMAS in Nicaragua/ also called the 'Yakku' in Bolivia and 'Tara' in Bangladesh), simplified drip irrigation, barrel storage/drip irrigation, small reservoir construction, dug well excavation with drip irrigation, and a number of others. Showing a serious commitment to the theme, CRS has contracted the services of an irrigation consultant whose report was finished on September 29 2000. The cost of most of these system is less than $100 per half-*manzana*, one of the lowest costs the assessment team has every seen. A wide number of cash crops are being produced with this water, and the potential for future income generation is tremendous, potentially one of the project's most dramatic successes.

The target for CRS by December 2000 is 500 parcels under irrigation, of which 125 have been accomplished to date. Achieving that target would be an enormous project accomplishment.

2.6 Grain storage

Though activities in grain storage have been going on in Nicaragua for several years, and this component is not exclusively a CRS activity, it appears to be another of the project's dramatic successes. The activity involves the project's providing a corrugated tin grain silo in various sizes with loan financing. Excepting farmers who lost their *Primera* harvest, the silos have produced significant economic return. There was a multitude of reports that price gains of over one hundred Cordobas or more were realized between maize that was kept off the market at harvest time when the price was C$/ 60 and sold several months later for C$/ 200 per hundredweight. Farmers are unanimous that with appropriate drying and care of the silo-stored grain, crop losses have been reduced from up to fifty percent (50%) per crop to almost zero. In Cordobas, many farmers report several hundred percent gains in price per hundredweight stored, *more than half* the estimated annual income of (1998) C$/ 3876 for rural peasant farmers in one crop alone. Thus a quadruple gain is realized: twice the amount of grain available for sale and in many cases more than double the sales price. This is a terrific achievement in improved family income and food security.

The CRS project has distributed a total of **3,805** silos to farmers with an average storage capacity of 13 cwt, 2,475 tons of improved small-farm storage. Calculations of the economic benefit of this output using data provided by these interviewees suggest the potential economic impact of this intervention in a non-drought agricultural season could be $ 437,000, or $140 per silo per crop season.[3]

2.7 Soil conservation and agroforestry activities

Significant soil conservation structures are visible throughout the project area, including live and dead barriers planted along the contour; water run-off ditches; sedimentation traps; pineapple, grasses and pigeon pea used for soil retention; agro-forestry species and others. A number of soil conservation plots were visited during the field travel and discussions held with farmers who were enthusiastic, knowledgeable and articulate about the benefits that conservation brings to their field. In some cases, the ability of farmers to understand the fundamental concepts behind the physical structures was seen to be weak. These weaknesses were discussed with field staff who commented that during the first year or two of activities, a number of lessons would not be learned in their full complexity (correctly configured contour lines, for instance) and subsequent years would be required to solidify the learning. Nevertheless, substantial gains are taking place.

2.8 Revolving Fund recovery

Almost every project input is provided to the farmer under the concept of a revolving fund. How the fund operates is quite varied however. In the case of beans, the farmer receives twenty pounds of certified seed and should return forty pounds of harvested grain. In the case of pineapples, the farmer receives the parent plant and is meant to return several second generation "sons." In the case of chickens, the farmer returns the purchase price of the chickens loan in cash to be deposited in the community bank account. In other cases, the community assigns an in-kind cost to the articles (e.g. insecticide sprayer equals twenty five pounds of maize) While farmers and project staff seem completely familiar with how it all works, it certainly is confusing to an outsider.

There is wide variation in management quality of the loan reflows. In the cases where the loan is paid back in cash in Caritas counterpart areas, there was evidence of a well designed community loan register system, with individual loan register cards, a receipt system, bank vouchers, etc. In non-Caritas areas, the assessment team saw a case where loan re-flows are going to be handled by a community group whose European-funded cooperative had just gone bankrupt three months previously.

[3] 13 cwt. X C$ 140 net increase in sales price X 3085 silos/ $12.85:1C$.

It was explained that the creation of these community-run funds grew out of an USAID prohibition against loan re-flows benefiting the counterpart organization. If true, this seems to be a cumbersome and unwise decision, leading to the funds disappearing under poor village management.

2.9 Other Production Issues (see Appendix B, Interview Guide, for format)

- Regarding program *philosophy*, the Hurricane Mitch project was an add-on to a CRS agricultural production project that was in the process of being approved as Mitch hit, thus USAID's focus on "income generation" fits with well CRS' preferred programming stance.

- CRS's implementation *methodology* is exclusively through counterpart organizations and the project finances a large corps of extension workers on the counterparts' payroll. Also, technical assistance takes the form of monthly technical committee meetings, as well as frequent accompanying field visits. CRS staff are fully sensitized to the "devolved" nature of this relationship. This methodology sometimes seems to bring a more hands-off relationship between the highly qualified CRS agronomists and the CARITAS counterpart staff with less academic formation. However, the gains in the potential sustainability of interventions through counterpart organizations appears to offsets this operational "distance" quite well.

- CRS programming is attuned to *gender* issues. The project target is that thirty percent (30%) of project beneficiaries will be female and that 30% of field staff will be also. These targets have been reached. A number of strong female staff could be encouraged to keep this issue in the forefront.

- Regarding key *anticipated vs. actual results*, the project appears to be well on track. The number of beneficiaries reached with one or other intervention has already reached nearly the total projected for the entire life of the project. Farmers (male and female) report enthusiastically how the project has improved their lives. Some activities are behind, including the number and dollar value of loans to females, but these should not distract from the fact that the project is achieving a large measure of planned outputs.

- One project *constraint* mentioned by many interviewees was the drought during the 2000 *Primera* season where most of basic grains planted under project auspices were completely destroyed. Promotion of mini-irrigation as well as non-traditional crops are meant to address this constraint. In the assessment team's view, a second constraint may be that project staff are performing a number of input-supply/bulk purchase functions that take them away from pure agricultural extension.

- It would appear the project has considerable future *potential impact*. The first year of activities has been spent in addressing production diversification issues, basic grain storage, wide-spread promotion of irrigation technology and long-term resource generation. With the project's moving more into marketing (see discussion in a Section 5.0), the next two years can be used to build on this synergism, strengthening the quality of the activities and deepening the economic gains.

- Until now, the project has focused on crop storage at the individual level, rather than in community-owned centers of *acopio*. This was an appropriate choice of intervention and, it is suggested, the focus should continue at this level for the next year or two—with a small number of experiments in community storage. (See Marketing below.)

- Regarding *gender* issues in crop storage, the project may be in a position to be more influential in targeting women's involvement in grain storage than it has so far.

3.0 AGRICULTURAL CONCLUSIONS

The CRS project is well on track and has every indication of achieving substantial gains in farmer income over the near and mid term. It is fomenting a powerful mix of new and higher value crops

as substitute for basic grains and doing so from an organic farming perspective, thus not falling into the trap of financing uneconomic fertilizer loans for basic grains. It is successfully promoting low-cost irrigation technology in an innovative and dynamic way. It is energetically promoting on-farm grain storage with excellent results.

4.0 AGRICULTURAL SUGGESTIONS

4.1 Work with the same beneficiaries—do not expand

The CRS project has reached almost 90% of its intended beneficiaries only a third of the way through the project life. The temptation to expand the number of beneficiaries next year should be resisted, and the same beneficiaries whom the project worked with this year should continue to be worked with next year. In order for the early gains of the project to be sustainable, it is important that project staff and beneficiaries be given a year of "consolidation."

4.2 Continued emphasis in crop diversification

The project is making excellent progress in diversifying agricultural production. These activities should continue in the second year (and beyond.)

4.3 Continued emphasis in irrigation
4.4 Continued emphasis in grain storage

The CRS project has had dramatic and innovative success in irrigation and in grain storage. The economic benefits of these two technologies on farmers' lives is almost incalculable and further work should continue. The project should dedicate more resources and more time and energy into maximizing these gains.

At the same time, it would be useful for the sake of publicity and to demonstrate the impact of the project that CRS hire an agricultural economist to do a professionally done cost-benefit analysis on a randomly selected number of these irrigation systems and silos. The results of such a study could be used to demonstrate to the donor how effectively the Mitch resource has been used to improve farmers' livelihoods.

4.5 Maintain current emphasis on animal production

The impact of improved cows on the lives of selected beneficiaries will be significant, even if the economic cash-flow of milk production means that net gains to income will not begin to accrue until approximately the fourth year. Thus, the animal husbandry component is worth continuing but, it is suggested, at not much more intensity than at the present. Since the beneficiaries of last year's cows in some measure seem to have been selected by the community based on their ability to care for the animal —i.e., those in the village who already had a least half a dozen animals before the program arrived (thus the more prosperous) —when the project plans a given number of cows per village, it is proposed that criteria be developed to give the animals to needier farmers (and women) rather than the better-off.

4.6 Evolution of project design and activities into short-term/long term focus

Soil conservation activities bring long-term benefits rather than producing short term gains in income. Given CRS' program successes, short-cycle production and infrastructure activities have the potential to satisfy farmers' basic needs over the short term while the project works to improve the sustainability of long term agricultural gains. A clearer articulation of CRS' programming philosophy in terms of "strategic plan"—e.g. 2 to 3 years focused on short-cycle crops and soil conservation followed by 3 to 6 years involvement in long term gains— might help field and counterpart staff conceptualize their roles , interventions and impact better. A do-able

goal in this scenario could be to convert these project areas into prosperous small farmers over the course of the next decade

4.7 Begin to distribute inputs and interventions on a cost-recovery basis

As part of working toward a longer term focus, it may be appropriate for CRS and counterpart staff to get out of the business of acting as the farmers' supplier of seed and agricultural supplies. It is suggested that CRS and the counterpart organizations give consideration to moving out of the ag. commodities logistic business to concentrate on more important roles and functions (improved ag. extension and conservation, for instance.) One way to do this would be to distribute all loans to project beneficiaries in the form of cash—and for CRS and counterparts to stimulate market mechanism to satisfy the demand for these agricultural supplies.

5.0 AGRICULTURAL MARKETING

5.1 Agricultural Marketing Findings

From the beginning of the USAID-funded Mitch activity, CRS had a market analyst on staff. This individual trained counterpart promoters in data collection and product analysis appropriate to the agricultural production and marketing systems in each zone, and this early initiative has been instrumental in developing marketing models particular to each zone. As a part of CRS' strategy in emphasizing the importance of market analysis as an integral component of the project, counterpart organizations have been encouraged to hire market analysts to assist the project field staff and beneficiaries with marketing activities. In general, the marketing analysts perform the following functions:

- Complete strategic marketing plans;
- Conduct marketing studies;
- Compile information on agriculture commodity prices;
- Develop and maintain agriculture marketing information;
- Facilitate the creation of communications between beneficiaries and intermediaries;
- Organize and facilitate training activities for farmers and the project's promoters on quality control, product pricing, and identify and negotiate with buyers;
- Evaluate the marketing system of farmers for selling farm commodities; and
- Prepare and disseminate bi-weekly commodity price bulletins.

The market analyst with Caritas Matagalpa, for example, goes to the market every Tuesday to collect agriculture commodity price information. With the information, she prepares a bi-weekly price report and distributes it to the promoters for dissemination to beneficiaries in their respective zones. Since January 2000, the market analyst has also conducted 7 training activities with 252 farmers on marketing and pricing commodities, etc. The following studies are an example of reports produced by the marketing analysts: " Sistema de Informacion Sobre Precios en la Comercializacion de los Productos Agropecuarios"; "Criterios Para la Compra de Bovinos Destinados a Bueyes"; and "Proyectos de Vinculos de Mercados".

In the municipality of San Dionisio, the marketing analyst and other Caritas Matagalpa staff are engaging in a new activity with a commercial storage house, Ecograno, by organizing farmers to collectively process, classify, dry, store, and fumigate grains. The credit department of Caritas Matagalpa is arranging financing to allow farmers to sell when prices are higher some months after the harvest. According to the CRS Annual Operating Plan for the period September 2000-2001, it is planned that the marketing units will work with the Post Harvest Program of INTA and Zamorano University.

5.2 Agricultural Marketing Conclusions

The integration of a marketing component to complement and strengthen the overall objectives of the project can result in increasing farmer incomes through a variety of interventions such as: training; extending credit; identifying new agricultural products; extending the growing season with

new and different crops and irrigation systems; and increasing farmer's knowledge, choices, and options when selling into the market place.

5.3 Agricultural Marketing Suggestions

- CRS should continue the integration of the marketing and commercialization component with the agricultural extension and credit component;
- The marketing analyst could:
  - ✓ Develop an annual training plan (including the type of training events, duration, and number of participants), and the training plan could be budgeted into the project's overall training plan activities each year;
  - ✓ Seek to engage outside technical expertise in marketing and commercialization expertise available though the Chemonics, CLUSA, the private sector, and other institutions for the purpose of providing training and technical expertise;
  - ✓ Arrange for exchange visits between producers within the project zone and areas where similar crops and farm products are being grown and sold;
  - ✓ Place a priority on identifying, implementing, and managing economic and income generating strategies and activities for women;
  - ✓ Conduct studies and identify opportunities for the private and commercial sectors to buy and sell goods and services with individual farmers and farmer groups;
- The project could invest in training activities for the marketing analyst to continue to develop his/her expertise.

6.0 CREDIT PROGRAM

6.1 Credit Program Findings

USAID and CRS have been working cooperatively on credit activities since April 1995 when the first Cooperative Agreement was signed. This initial activity had as their objective to form 240 communal banks with 6,000 clients as beneficiaries, primarily in urban areas. As a follow-on to this activity that ended in 1998, CRS financed a "bridge project" between 1998-1999. Under Mitch funds, there are essentially two types of lending programs: credit and revolving fund.

CRS counterpart organizations in the credit and revolving fund programs follows.[4]

CRS Counterpart Agency	$ Credit	Revolving Funds
Caritas Matagalpa	yes	yes
CARITAS Jinotega	yes	yes
CARITAS Esteli	yes	no
FUNDECAP	yes	no
ADDAC/Esteli	no	yes
Sociedad Garmendia Jijon/Chinandega	no	yes
FIDER/Esteli,	no	yes
INPRHU	no	yes

The lending policies for the credit cash loans and the revolving fund loans are different.

- The credit cash loan portfolio loans are for up to six months with an interest rate of 2.5% per month.
- The revolving fund loan program can lend up to periods as long as three years with interest rates at 4% per year, plus indexing payments to the Central Bank exchange rate for the US dollar to maintain the value of the loan in Cordobas.

[4] The assessment team visited the INPRHU and Caritas Matagalpa field operations and project staff during the period of September 28 to 30, 2000. It was not possible to make field visits to CRS' other counterparts.

Both the cash credit loan program and the revolving loan fund program sometimes operate in the same communities at the same time. Both loan programs charge interest penalties if payments are made late.

CRS has developed comprehensive credit policy manuals for the credit and the revolving fund programs as outlined in the documents: "Politica para el Manejo de los Recursos de Recapitalizacion'; and Diagnostico Comunitaria, Capacitacion Pre-Credito; Formacion de grupos Solidarios; Manual de Entrega y Formalizacion de Credito; y Monitorea y Seguimiento de Credito; Cierre de Cyclos; y Auditoria.

A. Credit

USAID is providing $816,668 for credit, and CRS is providing $169,411 for a total of $986,079 for the credit fund. The credit activity has11,000 families as its goal with an average loan of approximately $236/family for up to six months. In the first year of the cash credit loan program, all of the funds, $986,079, projected to be loaned over the life of the project were loaned out. In Caritas Matagalpa, the credit cash loan program has developed a good system of tracking loan performance and prepares a report every two weeks for each credit agent on all loans the agent is supervising. The report includes amounts loaned, due dates, interest rate, delinquency payments, name of the person who borrowed the money, and the overall portfolio delinquency rate expressed as a percentage. The counterpart organizations employ 22 promoters (of which approximately 33% are women) to manage the credit activities that loan in cash.

According to targets vs. actual figures contained in the project 3rd Quarterly Report, the project has loaned the following amounts:

Results Framework Indictors
Project Reporting Period: April to June 2000

Indicator Name	Unit	Planned Targets			Prior Total	This Quarter	New Total
		1999	2000	2001			
Number of small producers assisted with USAID credit	# of Males	760	1,498	1,255	2,295	1,271	3,566
	# of Females	1,744	3,495	2,929	2,079	1,040	3,119
Number of loans disbursed to agricultural producers	# loans to Males	527	3,038	7,519	3,170	1,934	5,104
	# loans to Females	2,105	7,089	20,157	2,837	1,582	4,419
Dollar value of loans disbursed to agricultural producers	$ value of loans to males	$117,453	$508,436	$1,542,843	$496,519	$275,053	$771,572
	$ value of loans to Females	$274,056	$1,186,351	$3,599,968	$436,704	$225,043	$661,747

From the table, it is worth noting that the projections indicate that between the years 2000 and 2001, it is planned that the number of loans (including re-flows) will essentially triple. The emphasis in the loan portfolio in term of the number of loans and the dollar value of the loans to women is impressive.

In reviewing the projected cash flow in the worksheet "Flujo deCaja Proyectado— Fondo De Credito" provided by the CRS Credit Director, the information concerning the repayments on loans is as follows:

Repayments as a %age of planned recuperation

Institution	% Executed
Caritas Matagalpa	136%
Caritas Jinotega	156%
Caritas Estelí	38%
FUNDECAP	79%

The assessment team is cognizant that the Caritas Estelí credit programs is relatively new, and is still in a "learning curve" that impacts on current performance. FUNDECAP is a more experienced lender and reasons for the shortfall require further study.

B. Revolving Fund

USAID is financing $2,569,065 for the revolving loan fund. The revolving fund loan program is new. The first loans were made in February 2000. Eleven promoters are responsible from managing the revolving fund activities.

The fund has three components:

- Fomento
- Fondo Revolvente en Especies
- Fondo Revolvente en Efectivo

To date, the revolving fund has expended $1,422,009 to capitalize beneficiary agriculture activities. $1,147,056 remains in this fund to be disbursed. Of this amount, approximately 30% ($344,117) is programmed for the "Fomento" component, essentially sunk costs that do not have to be repaid. There remains $802,939 in the "Fondo Revolvente en Especies" and the "Fondo Revolvente en Efectivo" to be disbursed.

The "Fondo Revolvente" pays out in corn, bean and sorghum seeds and the farmers have to return 1.5 seeds for every seed borrowed. The first cycle in the "Fondo Revolvente" is lent in materials or animals and the farmer has to pay back the "monetized" value in Cordobas. The repayments ("reflows") are supposed to become available for further lending *at the community level*. For example, in the community of Molino Sur, Matagalpa, loans were made for chickens and agricultural fumigation sprayers at the same time. The loan for chickens was for a period of six months whereas the loan for the sprayers was for one year. The repayment on the chicken loans has a delinquency rate of 8% at the present time.

Reviewing the performance of the majority of the loans that have been made in the revolving fund loan program (Fondo Revolvente) is not possible at this time as the loan periods are not yet due. Below are the loan periods according to the type of loan.

Category	Loan Period
Chickens	6 mos.
Silos, water pumps, fumigation pumps, piping	1 yr.
Cows, oxen, & productive infrastructure	3 yrs.

The quarterly reports submitted to AID do not report on the performance (return of principal, payment of interest and penalties, maintenance of value, number of borrowers, etc.) of the "Fondo Revolvente". The reports provide AID with information on the types and number of materials, animals, and farm inputs that were "loaned" in the first cycle.

6.2 Credit Program Conclusions

The entire credit program, both the cash credit program and the revolving loan fund, is an important part of CRS' and counterparts' development activities. The dollar amount, $3,385,733,

of these activities represent 53% of the total USAID funding ($6,333,020) for the project. The revolving fund program loan portfolio, $2,569,065, represents 41% of the total of USAID financing for the project. The revolving loan fund is not directly managed and supervised by the CRS Credit program. Rather, this activity is under the agriculture department within CRS. The revolving loan fund is intended to be managed by the communities and the repayments will not re-enter as cash flows into CRS or its counterpart credit programs but will remain in the community and be re-loaned, ostensibly maintaining value and covering operating costs with interest.

In most parts of the world, programs like the CRS one have not been successful for a number of reasons. Managing credit requires a level of sophistication and technical knowledge that is most often not available at the community level. Requiring community members to make loan decisions, charge penalties and interest, recuperate the value of the loan in the time period agreed upon among neighbors, friends, and family members can be fraught with conflicts among the community and susceptible to charges of personal gain. Boards of Directors also change and internal supervision that was initially envisioned can easily erode. Once the Mitch Rehabilitation and Reactivation project ends, promoters who are presently supervising the revolving fund activity at the community will no longer have their salaries directly paid out of project funds and there is no clarity how their future salaries will be paid? Charging an annual interest rate of four percent (4%) on three-year is also well below market interest rates for such loans.

There are relatively few performance results so far due to the revolving loan fund having recently been initiated, and it is too early to study repayment rates and thus make definite conclusions. However, continuing to infuse new credit into the revolving loan fund program should be re-thought.

CRS and its counterpart organizations are also managing a cash credit program that has developed loan policies, methodologies, and repayment procedures over a longer period of time. Would it be beneficial, practical, or advisable to transfer funds that have not yet been committed from the revolving loan fund into the cash credit program? If the revolving loan fund is not successful, it will negatively impact on CRS and its counterpart organizations in the regular credit program?

6.3 Credit Program Suggestions

CRS should consider transferring funds that have not yet been spent in the revolving fund loan program into the cash credit loan fund program. The process would involve all CRS's counterpart organizations and community groups in the deliberations. The process of transferring the funds could be initiated on a gradual basis. In the deliberations, it would have to be made clear to the project beneficiaries that transfers would be made into the cash credit program which the beneficiaries would have access to. It must be noted, however, that in certain cases, some CRS counterpart organizations (ADDAC, Sociedad Garmendia Jijon, FIDER/Esteli, and INPRHU) are not managing cash credit program activities under Mitch auspices (though they are under other CRS programs in the amount of approximately $280,000.) If funds were transferred into the credit fund, this would essentially provide additional capital to the credit fund which has presently has its entire portfolio out in loans ahead of schedule.

If the above is not possible, CRS should give thought to stopping the "revolving" fund idea and simply deliver the inputs as "fomento," that is, sunk costs.

If CRS were to decide to transfer unspent money from the revolving loan fund program into the cash credit program, this would also require modifying credit policy manuals as present credit policies do not cover longer time periods nor certain credit activities such as financing the purchase of cows, oxen, etc. Transfer of funds would also require placing the revolving loan fund promoters within the cash credit loan activities.

CRS and its counterpart organizations should be encouraged to monitor more carefully and report the performance of the "Fondo Revolvente" to USAID in the Quarterly Reports concerning the number of loans made, return of principal and interest, delinquency rate, and maintenance of the value of the portfolio.

The "Fondo Revolvente" policy of lending long term (up to three years) and at an annual interest rate of 4% should be reviewed.

At present, the first cycle loan that goes out in the "Fondo Revolvente" is in materials or animals. CRS and its counterpart organizations should consider eliminating this policy and making the loan to the beneficiaries directly in cash.

Caritas Estelí is relatively new in terms of managing credit activities and its repayment rates are presently lower than they should be. FUNDECAP, an experienced lender, is in the same situation for reasons which are less clear. CRS should monitor the performance of these loan portfolios carefully and provide the organizations with additional supervision and technical assistance to ensure that the operations do not fail.

Community solidarity groups have bank accounts and are making payments into these accounts. CRS should carefully monitor the financial solvency of the banking system and bank where the beneficiaries have established their accounts to ensure (as much as is possible in Nicaragua) that the banks are solid and the beneficiaries' money will remain safe. The absence of banking sub-offices in the smaller towns is another obstacle in this regard.

In many credit programs, the credit agents receive part of their compensation based on the performance of the loan portfolio. CRS could consider initiating such a compensation system whereby certain standards of the agent's portfolio are identified (repayment rates, low delinquency rates, etc.) and the agent's performance and partial compensation are based on meeting "results". The assessment team recognizes that personnel policies of counterpart organization would likely have to be changed, and that could take some time.

The cash credit program has lent the full $986,079 originally allocated to the cash credit program. Other Indictor goals have yet to be met. For example, Caritas Matagalpa has lent its full portfolio yet still has as an objective to reach an additional new 1,000 clients which will more than likely not be a realistic goal. It is suggested that CRS discuss with its counterpart organizations and review goals to see if they are realistic and attainable. If not, CRS should work with USAID in re-formulating the goals.

In reviewing the Caritas Matagalpa operation where there are both cash credit and revolving fund loans, it appears that coordination and communication between the agricultural department and the credit department could be improved. It is difficult to measure performance if one department does not have the necessary financial projections against which to do so.

PROJECT CONCERN INTERNATIONAL (PCI)

1.0 INTRODUCTION

On December 21, 1999, USAID signed a grant award with PCI to provide US$760,519 to implement a program entitled "Rapid Reconstruction & Sustainable Recovery". The three main components of the grant are the Agricultural project, the Chicken project, and a Road Rehabilitation Project. This latter activity is being financed in combination with a PL 480 Title II grant, which provides for food-for-work and most administrative costs. The "Mitch Project" covers the cost of implements and tools needed for infrastructure repair. An expected 18,200 rural Nicaraguans (2,600 families) will directly benefit from this program. The Agricultural project (US$517,276) includes: basic grain production (800 families), grain storage (800 families), family gardens (800 families), and improved agricultural practices, including agroforestry for firewood production.

The Chicken Project will provide income generation to 1,000 families. It will also improve the nutrition of the family, and improve the genetics of the native varieties of poultry. PCI distributes the chickens to various Community Councils who in turn distribute them to selected families. Each final beneficiary, almost exclusively women, receives nine hens and one rooster along with three months of food concentrate. It is anticipated that chickens will begin egg production after

the fifth month. The month prior to initiation of egg-laying, the chickens are to be fed a concentrate made from locally available materials to ensure their adaptation to a native or local diet. Vaccinations are done prior to distributing the poultry, and the beneficiaries are responsible for continuing the scheduled vaccinations. The operation is financed via a revolving fund whereby the recipients are required to return ten eight-week-old chickens (nine hens and one rooster) to the Community Councils for distribution to other program beneficiaries.

Nine hundred kilometers of roads and paths, along with 50 bridges are to be constructed or repaired.

2.0 FINDINGS

2.1 Agriculture

2.1.1 Basic Grain Production

Basic grain production was chosen because maize and beans constitute the major crops beneficiaries grow. Most of the production is consumed in the household, although some is sold to purchase other items such as clothing, soap, sugar, etc. Basic grain production was also selected because there could be a rapid recovery cycle. Unfortunately, there was a drought during the *Primera* planting. Overall, about 35% of the bean crop and about 15% of maize was lost. However, a significant number of producers in the most affected areas lost their entire production.

The system used to finance the seeds is that for every unit of certified seeds a beneficiary receives, he or she returns two units of selected seeds to the program. These are then given to other beneficiaries, and the number of beneficiaries thereby expands. It is a rotating fund using seeds instead of cash. Several beneficiaries interviewed said that the crop failure made it difficult to repay the seeds. However, the rains for the *Postrera* have been good thus far (in fact excessive is some areas), and beneficiaries interviewed were optimistic that given a normal-to-good harvest, they could meet the payback requirements.

2.1.2 Basic Grain Storage

Beneficiaries reported significant post-harvest losses -- up to 50% using traditional storage methods. To reduce this, metal silos are being provided. While the failure of the crop in *Primera* precluded actually observing basic grains in storage, the beneficiaries manifested their confidence that post-harvest storage losses would be reduced to a minimal level.

2.1.3 Family Gardens

The principal role of the family gardens was to improve the family diet in terms of variety and nutrition. Secondarily, it provided some income for purchasing other household items. From the gardens observed, it appears that certain vegetable species are more adapted to agro-climatic conditions than others.

2.1.4 Improved Agricultural Practices

Improved Agricultural Practices encompass a variety of activities, including organic fertilizer production, soil conservation techniques, reforestation for firewood, family gardens and fruit trees. The thrust seemed oriented at diversifying and improving the family diet through the consumption of foods having higher vitamin and nutritional value. The rationale for the trees-for-firewood seemed to be more understood by the beneficiaries as a source of fuelwood, and less so as a soil conservation measure. The scale of the activities observed indicated that the initiatives in this category were more of an income saving intervention, rather than having a significant income generating theme.

2.2 Chickens

Beneficiaries of the poultry program seemed well aware that poultry production could improve household income and family health. They also expressed a strong recognition of the need to pay back the ten chickens so that others could benefit. Sales occur both in terms of eggs and of chickens. The main difficulty involved in marketing is due to the distance to markets. The closer the proximity to markets, the higher percentage of eggs or hens that can be sold. Several beneficiaries mentioned that one attractive element of the poultry program was the improved health benefits it would provide to their families, especially children.

Several beneficiaries expressed the need for PCI to continue providing the concentrate ration until the chickens actually begin to produce eggs. They stated that the drought which had severely affected *Primera* production had also affected their ability to provide adequate alternative concentrate. That alternative includes maize or sorghum, which is in limited supply due to the earlier crop failure. They also requested that PCI supply them with small hand grinders that could be used to prepare the ration.

2.3 Infrastructure

One road was visited that was being rehabilitated using Food for Work. The main activity observed was the enlarging of drainage ditches along side of the road bed.

A second road was seen, however neither the beneficiaries of the Food for Work activity nor the potential beneficiaries of the road were interviewed, because we were unable to reach the community. A tree had fallen across the road, making it impassable.

2.4 Other Findings

Several of the beneficiaries interviewed had no land, and were working land they rented, usually on a share-cropping basis.

The marketing system is very restrictive. Buyers are reported to act in collusion to hold down prices using a system whereby a producer may be visited by several buyers, but the first buyer always offers the highest price. Subsequent buyers always offer progressively lower prices, therefore the producer is under tremendous pressure to accept the first offer.

No financing for agricultural activities exists – not from formal sources like coops, etc., nor via the marketing chain. Several beneficiaries, when asked what they would do if a source of financing were available, chose coffee as their highest priority for applying for loan funds. Others would use it to expand basic grain production. Fertilizer purchase, pesticides, irrigation and potato were also mentioned.

3.0 CONCLUSIONS

In terms of the agreement, as signed by PCI and USAID, the program is moving forward pretty much as envisioned, and the quality of the interventions visited is generally excellent. The only possible exception would be ensuring that the roads are less susceptible to factors such as collapsing banks, etc., that could cause the road to become impassable.

The program includes a wide gamut of implementation activities, and a varying beneficiary pool. What the beneficiaries have most in common is that they are all poor.

The rotating fund based upon returning selected seeds for certified improved seeds is interesting but contains potential problems. First among them is the quality, including productivity, of the seed being returned. For beans, this is less a problem because beans are a self-pollinating crop, therefore loss of productivity over time will be due primarily to a buildup of diseases within the seeds with each generation. Eventually production will begin to decrease and new certified seeds will need to be used.

The problem with maize is similar because it is open pollinated. (Note: Although those interviewed said that the maize was a hybrid, it is really an improved open pollinated variety.) This means that it can lose its productivity with each successive generation.

4.O SUGGESTIONS

4.1 Short Term

1. PCI could develop and apply a diagnostic instruments that can identify geographical zones and beneficiaries who can respond to an income generation program to the extent that they will move significantly toward, and preferably above, the poverty line, apart from beneficiaries who are in a survival situation who requires other types of interventions.

2. PCI could develop and apply a methodology that can identify the activities which have the greatest income potential for the beneficiaries involved. This should include an analysis of the target market or markets, and a strong cost/benefit analysis of any intervention contemplated. This activity could be carried out done in a cooperative way with other PVOs, or with other technical assistance agencies like Winrock or Chemonics. Costs of production and marketing data can also be taken from a sample of beneficiaries to determine earnings potential.

3. Broaden crop interventions to include those which have the best potential for producing income. Examples of this include coffee, and higher value options for family gardens, e.g., herbs, etc.

4. Review the policy on supplying concentrate for three months versus continuing some form of assistance until the chickens begin to generate income. The idea to phase in a diet made from local ingredients is excellent, so perhaps some additional assistance with ingredients which are difficult to procure, e.g., maize, etc., might be an effective way to ensure that gains are not lost.

5. Analyze the need to provide hand grinders on a case-by-case basis to ensure that this is not a constraint that could inhibit the ultimate success of the poultry activity. Since other hand tools were supplied to crop producers, this change would not seem to be represent a large change in program philosophy.

4.2 Long Term

1. Explore the possibility of expanding local commercial sources of agricultural inputs and equipment. One way would be to work with local merchants by supplying them with a list of items which the local beneficiaries will need. Thereafter, some form of coupon could be provided to the beneficiaries which they can use to purchase inputs and small hand tools including grinders from local merchants.

2. As noted in the Conclusions section above, there will be a periodic need to replace seeds, and PCI should not be in the business of attending to that need. The benefit/cost analysis should identify the actual cost of the certified seeds, and the beneficiaries should cover this cost from their production. Typically, improved seeds do not constitute a major element in the cost of production, especially when the benefits of those seeds are factored in.

3. Because the best information at this time indicates that less financing will be available for follow-on programs, PCI needs to focus on those activities with the greatest income generating potential in their next effort.

4. PCI should review its in-house expertise vis-a-vis an income generating program, and make decisions regarding staffing changes. It also needs to take into account the technical knowledge that is already available in other agencies such as colleague PVOs, GON agencies, private sector companies, and other sources, as well as the experiences gained by other PCI programs throughout the world.

SAVE THE CHILDREN-U.S. (SAVE)

1.0 INTRODUCTION

On December 12, 1999, USAID signed a grant with SAVE to provide US$2.391 million to implement a program entitled "Basic Infrastructure, Economic Reactivation and Disaster Mitigation & Preparedness Program. The three main components of the grant are Economic Reactivation (ECOFAMI), Basic Infrastructure Rehabilitation (CAMINOS), and Disaster Preparedness & Mitigation (MITIPRE).

The activities of the ECOFAMI component are agricultural rehabilitation through: soil and water conservation, agroforestry, basic grain production, household gardens, improved post-harvest storage, and small-scale poultry and pork production. Approximately US$1.0 million has been budgeted for this and is directed to 12,650 beneficiaries (2,500 families).

The CAMINOS component will focus on repair and reconstruction of rural roads and bridges which will reopen access to markets and services such as health and education. This activity has a budget of US$1.1 million, and is expected to benefit up to 75,000 people (17,500 fam ilies).

The third component, MITIPRE, includes training of local residents in disaster preparedness, early warning systems, and coordination among the several GON and NGO organizations that would be called upon to provide assistance in an emergency situation. US$351,000 has been budgeted for this component.

A separate PL 480 Title II grant has been awarded to finance some administrative costs of REIMPRE and provide food for the Food for Work activities.

2.0 FINDINGS

2.1 ECOFAMI

2.1.1 Soil & Water Conservation

Soil and water conservation appear to have two interrelated actions. One is the removal of debris (rocks, trees, etc.) from land that can be restored to some level of productivity in a cost-effective manner. The second is a program of maintaining the productivity of the fields through soil conservation and water management techniques such as contour planting, live barriers, dike construction, etc. This gets at the need to sustain economic gains that are derived from agriculture, although this idea was not always apparent in conversations with beneficiaries.

2.1.2 Agroforestry

Agroforestry had three functions in the SAVE program. First was reforestation that could lead to the production of trees for fuelwood or construction. The second was to provide some form of income from lands which were too damaged by erosion to be restored economically. An example of this would be the planting of trees between rocks and other debris. The third function involved planting fruit trees (banana, papaya, avocado, citrus, etc.) near the family home to provide a more varied an nutritious diet, as well as a potential source of income through the sale of the production.

2.1.3 Basic Grain Production

Restoration of basic grain production centers on a program of providing certified seed of the most common basic grains (maize, sorghum, beans) through a revolving fund mechanism. Producers repay in seeds to a community-based seed bank. Although significant improvements in production were expected during the *Primera*, the drought drastically reduced the harvest. The current outlook is for a much-improved harvest of the *Postrera*, in light of the current rains and soil moisture. Seed germination and initial vegetative growth should be very good to excellent.

2.1.4 Household Gardens

Like fruit tree production, household gardens often serve a dual purpose, i.e., improve household diet and improve household income. Several beneficiaries mentioned that the lack of water, either rainfall or irrigation limited the productivity of household gardens during the dry times of the year.

2.1.5 Post Harvest Storage

Beneficiaries who used traditional storage techniques reported significant post-harvest losses in basic grains – estimates ranged up to 50%. Those interviewed saw the metal silos as the best solution to the problem.

2.1.6 Small-Scale Poultry & Pork Production

The small-scale domestic animal production element was generated by a survey that indicated protein consumption in the targeted households had declined during the post-Mitch period. SAVE saw this element of the ECOFAMI project as providing both improved diets and incomes.

SAVE has implemented an implementation strategy that is different from those observed elsewhere. They only provide the poultry, but not any concentrate or other features. They believe that the only way to successfully achieve the continuing impact of improved diet and income begins with selecting appropriate beneficiaries. SAVE selects only those for whom the introduction of the animals will not result in competition for food with the family's need. Therefore, the participants should be able to provide the necessary locally made concentrate from the outset.

Several beneficiaries mentioned that they would like to receive additional support with the food for the poultry until the birds become economically productive.

2.2 CAMINOS

2.2.1 Bridges

One site was visited where Food for Work was being utilized to improve a section of a road that was impassable during the rainy season, as well as construct a drainage culvert to allow drainage along a natural course. It was evident that the road reconstruction would be totally incomplete without this structure.

2.2.2 Roads

The site visited contained a drainage construction work and an improvement of about 2.5 km. of road surface. A key piece of the road improvement was the section just before the drainage culvert and the principal road. Beneficiaries said that this section, which turned into pure mud with the rain, cut off access to the community, as well as access by the community to health care and other services. The improvements being done would solve this problem.

This Food for Work activity involves two shifts: the first from 6:00 AM to 12:00 PM, the second from 1:00 to 7:00 PM.

A second access road was being opened on a much less technical level. Previously the community had only a footpath that wandered through neighboring fields and crops. The local producers had donated the land for a road on the condition that the program install fencing along its borders to avoid trespass by livestock.

2.3 MITIPRE

An overview of the MITIPRE element was given is the SAVE office in Leon. Because it is not an income generating activity, no follow-up discussions of it were held with beneficiaries in the field.

2.4 Other Findings

Several beneficiaries interviewed had micro-enterprise activities in addition to their agricultural production and marketing. Some had oxen, which they rented out for plowing neighbors' fields. Payment was often in work, i.e., two days labor for one day of plowing. A day's labor with a team was six hours (5:00 AM - 11:00AM), as the oxen could not be worked for longer than that per day.

Several beneficiaries noted that low prices were inhibiting additional investment. One even felt that it would be hard to make much economic headway, given the resources and conditions in which they were living. This was in marked contrast with other beneficiaries interviewed who expressed optimism about the future.

Although not a direct income generating initiative *per se*, SAVE has estimated that 15-20 workdays are lost per year due to illness. They estimate that it is probably higher for women, as they lose additional time as they must also care for sick family members.

3.0 CONCLUSIONS

In terms of the agreement as signed by SAVE and USAID, the program is moving forward pretty much as envisioned, and the quality of the interventions visited is generally excellent.

The program includes wide gamut of implementation activities, and a varying beneficiary pool. What the beneficiaries have most in common is that they are all poor.

The rotating fund based upon returning selected seeds for certified seeds contains several potential problems. First is the quality, including productivity, of the seed being returned. Beans are less a problem because they are a self-pollinating crop and therefore loss of productivity over time will be due primarily to a buildup of diseases within the seeds with each generation. Eventually production will begin to decrease and new certified seeds will need to be used.

The problem with maize is similar, because it too is open-pollinated. This means that it can lose its productivity with each successive generation. Experience in other places has shown that new certified seed needs to be planted on a somewhat longer term, but periodic, basis. Sorghum may have similar constraints.

The quality of road construction observed in the field travel is much higher than that usually found with Food for Work or Cash for Work activities. The benefits of having some machinery (SAVE was using a mechanical compactor) is clearly demonstrated as an efficient application of resources. Better design will have a longer useful life and less maintenance costs per year than roads which are constructed solely by hand.

4.0 SUGGESTIONS

4.1 Short Term

1. SAVE could develop and apply a diagnostic instrument to identify geographical zones and beneficiaries who can respond to an income generation program to the extent that they will be moved significantly toward, and preferably above, the poverty line.

2. It could develop a methodology that can identify activities that have the greatest income potential for the beneficiaries involved. This should include an analysis of the target market or markets, and a strong cost/benefit analysis of any crop intervention contemplated. SAVE could collect cost of production and marketing data from a sample of beneficiaries to determine earnings potential.

3. Broaden crop interventions to include those which have the best potential for producing income. Examples of this include coffee in other areas, and higher value options for family gardens, e.g., herbs, yucca, papaya, *pitahaya* etc.

4.2 Long Term

1. SAVE could explore the possibility of expanding local commercial sources of agricultural inputs and equipment. One way would be to work with local merchants by supplying them with a list of items the beneficiaries will need. The project could then provide some form of coupon to the beneficiaries which they could use to purchase inputs and small hand tools, including grinders, from local merchants.

2. As noted in the Conclusions section above, there will be a periodic need to replace seeds, and SAVE should not be in the business of attending to that need. The benefit/cost analysis should identify the actual cost of the certified seeds, and the beneficiaries should cover this cost from their production. Typically, improved seed does not constitute a major element in the cost of production, especially when the benefits of those seeds are factored in. Then instead of a repayment to a community seed bank, the project could use the repayment as part of the ration for a safety net program, including Food for Work or Cash for Work activities.

3. Because the best information at this time indicates that less financing will be available for follow-on programs, SAVE needs to focus on those activities with the greatest income generating potential in their next effort.

4. SAVE should review its in-house expertise vis-a-vis an income generating program, and make decisions regarding what staffing changes are required. They also need to include the technical knowledge which is already available in other agencies such as colleague PVOs, GON agencies, private sector companies, and other sources, e.g., Winrock, Chemonics, etc., as well as the experiences gained by other SAVE programs throughout the world.

WORLD RELIEF

1.0 INTRODUCTION

World Relief (WR) is implementing its Hurricane Mitch Agricultural Reactivation Project in fourteen municipalities of the Departments of Las Segovias (Ocotal and Quilalí) and Wiwilí. The project builds on previous WR USAID and non-USAID projects in agriculture and credit. The project is a two year, $6.366 million activity, with some counterpart funds from WR.

The goal of the project is to enable small farm families to recover from the damage of Hurricane Mitch and prevent future damage by sustainably restoring farmland and production, post-harvest, and marketing capital. It has three components: 1) small farmer appropriate technology/demonstration/training and technical assistance; 2) recovery of crop collection and marketing services through the distribution of inputs and supplies and the provision of agricultural credit; and 3) the creation of agricultural collection and marketing centers (*centros de acopio*). To make agricultural gains sustainable over the mid term, the project proposes to strengthen a local non-governmental organization called *Pueblos in Acción Communitaria* (PAC).

The project proposes to work with 5,600 men and 2,500 women heads-of-household. In its June quarterly report, the project reported reaching fifty eight percent (58%) of its target for men and forty three percent (43%) of its target for women.

Production activities involve a number of sub-components. To be discussed are: basic grain production, crop diversification, coffee production, vegetable production, animal production and irrigation. Storage of basic grains will be discussed, as will soil conservation and agroforesty activities.

The cross-cutting methodology in all WR agricultural production activities is community organization and will not be discussed, though this activity frequently takes a great deal of extension agent time. It should be recognized that the success or failure of a given activity frequently depends on this activity as much as on any other single factor.

Most if not all of these activities are meant to be repaid in kind or in cash into WR credit system. Given its importance, this subject will be addressed in its own section.

2.0 AGRICULTURAL FINDINGS

2.1 Basic grain production

World Relief's program does a lot of work with improved seed, primarily maize and beans. The methodology of the activity has been to finance the farmers with an in-kind loan of certified seed, and to recoup the grain at harvest at a ratio of 2:1 or 1:1. The improved seed frequently comes from the USAID improved seed program.

Fertilizer loans to accompany the planting are an important part of the activity. The value of the fertilizer is taken out as a loan and the commodity delivered to the farmers at farm gate at below-market price. A price differential of C$/ 20 per hundredweight was reported by many farmers compared to market prices, perhaps reflecting WR's bulk purchasing power. The value of the loan is to be repaid to WR upon harvest. During the field observations, it was noted that the demand for fertilizer to complement distributed seed was quite high.

Results of the seed/fertilizer loan package have been problematic in some crop zones. Input/output crop analysis conducted by World Relief indicate that cultivation of basic grain with fertilizer in dry zones is not an economic proposition at small farm level: harvests are subject to too many environmental and climatic variables to be worth the risk. During the recent *Primera* (spring) season, a substantial number of farmers interviewed indicated that they lost their entire basic grains crop and, thus, are now significantly in debt to World Relief because of the fertilizer debt. In areas that receive more rain, the relationship between input and output was reported by field staff more favorably but the data could not be confirmed during this trip.

World Relief/Managua had previously established guidelines that recommended that fertilizer not be distributed (loaned) to farmers for basic grains in dry zones, and field staff were cognizant of that recommendation. However, these guidelines were ignored in the case of farmers who had adequate collateral to cover the value of a fertilizer loan. One (well-off) farmer reported owing over C$/ 15,000, (US$ 1,170), considerably over the normal limit for a WR loan, because he had pledged household assets as security on the loan.

World Relief reports that it distributed the seed/fertilizer loans, (perhaps against its better judgement?) after receiving encouragement from USAID and the GON to respond to the *Primera* drought in this fashion. It also reports that much of the inputs that went out for basic grains was through a program with the Ministry of agriculture including *bonos* (incentives) for planting, managed outside its regular credit portfolio.

2.2 Crop diversification and vegetable production

During the field visits, plants of cacao, fruit trees, pineapple, vegetables and tomato were seen growing in the field. In areas where the assessment team did not visit, WR reports that it also promotes other alternative high-value crops: apples, raspberries, blackberries, peaches and macadamia in the high areas as alternative to coffee; and plantain, cinnamon, allspice, black pepper, nutmeg, cloves and other fruits in the low areas.

2.3 Coffee production

WR is working on a substantial scale in coffee. The bulk of the activity is in providing improved seedlings: on scale for coffee plantations, as garden cultivation, and as part of soil conservation activities.

There are two loan packages for coffee, one for financing replacement of old trees and fertilizer (*renovación*) and cash financing to cover a farmer's cash needs at harvest time for harvest labor

costs and others. Other coffee loans are provided for coffee de-pulpers, motors, pumps, etc. The value of credit in the World Relief portfolio dedicated to coffee is significant: approximately twenty-five percent (25%) of beneficiaries are coffee growers while the value of money loaned to coffee growers is approximately sixty-five percent (65%) of total money loaned.

2.4 Vegetative propagation

World Relief has three farm resources centers, one in Las Sabanas in Somoto, a highland area; one in Quilalí, an intermediate area; and one in Wiwilí, a humid lowland area. These centers serve as demonstration sites for training events and also as a source of much of the vegetative material that is distributed to farmers: vetiver plants, agroforestry seedling, improved coffee seedlings, pineapple rhizomes and others.

2.5 Animal production

Animal production activities seem to be taking place here and there in WR areas. One women reported receiving a loan for four cows, another man reported receiving a loan for bull. The activity does not appear to be a significant part of the WR portfolio.

2.6 Irrigation

World Relief is experimenting with various irrigation technologies. One mechanized pump/drip irrigation system was visited where the farmer reported a C$/ 23,000 ($1,800) harvest of tomatoes on one-half *manzana*, more than enough to pay off the value of the irrigation system with one crop. The drip irrigation system was noteworthy in that it consisted of low-technology using easily available vinyl tubing with holes screwed in by hand.

WR is also constructing mini-irrigation systems to benefit quarter-*manzana*-or-less parcels of vegetable cultivation by women. It was unclear the extent of these interventions, and the one system inspected showed somewhat low-quality work in the *captación*, indicating the need for more WR supervision. WR also reports that it has experimented with other irrigation technologies and that costs ranged in the $1,500 per *manzana* range though none of these systems were visited. It appears that the WR experience in this sector should be encouraged.

2.7 Grain storage

Though activities in grain storage have been going on in Nicaragua for several years, and this component is not exclusively a WR activity, it appears to be one of the project's dramatic successes. The activity involves the project's providing a corrugated tin grain silo in various sizes with loan financing. Excepting farmers who lost the *Primera* harvest, the silos have produced significant economic return. There was a multitude of reports that price gains of over one hundred Cordobas were realized between maize that was kept off the market at harvest time when the price was C$/ 60 and sold several months later for C$/ 200 per hundredweight. World Relief included this finding in one of its quarterly reports and similar data were corroborated throughout the project area. In addition, farmers are unanimous that with appropriate drying and care of the silo-stored grain, crop losses have been reduced from up to fifty percent (50%) per crop to almost zero. Thus a quadruple gain is realized: twice the amount of grain available for sale and in many cases more than double the sales price. In addition to hundreds of farmers to whom silos have been sold, the assessment team interviewed several women who were successfully storing and selling grains and had received WR loans to begin the activity also.

In addition, in several project areas WR took the innovative step of looking for an entrepreneurial artisan who had received training in silo manufacturing and loaned this man start-up capital so that he could produce more silos for WR farmers, thus contributing to the sustainability of the technology. A total of **695** silos have been distributed to farmers.

Farmers who had a surplus last cropping season universally report reduction of post harvest loss going from forty or fifty percent to zero and gains in sales price of up to four *hundred* percent. Where the *Primera* drought erased any potential to store the harvest, such gains are still potential

rather than actual, but with any sort of favorable *Postrera* harvest, such gains will be achieved. In Cordobas, many farmers report several hundred percent gains in price per hundredweight stored, *more than half* the estimated annual income of (1998) C$/ 3876 of rural peasant farmers. This is a terrific achievement in improved family income and food security.

2.8 Soil conservation

Significant soil conservation structures are visible throughout the WR project area, including long stretches of vetiver and other grasses used as live barriers, live and dead barriers planted along the contour, water run-off ditches, sedimentation traps, pineapple used for soil retention, agro-forestry species and others. A recently planted demonstration plot was visited in La Calera that was very well constructed and will prove a powerful learning site for farmers of the area. A similar demonstration site a little further up the road at Caliguate had been planted several years ago and had at least a dozen different soil conservation/ crop demonstration parcels under cultivation. Soil conservation is an activity with a long time frame, and the visible results of WR conservation activities dot the countryside and speak of long, careful work in this promotion.

2.9 Other production issues/ (see Appendix B, Interview Guide, for format)

- Regarding programming *philosophy*, USAID's focus on "income generation" fits World Relief's preferred programming stance well. Senior WR staff report that it has proven slow for junior staff to break away completely from the "relief" syndrome and focus on farm profitability, an observation the assessment team tends to support.

- Regarding *choice of agricultural interventions*, approximately two-thirds of WR beneficiaries are focused on basic grain production via improved seed and fertilizer loans. This has proven a risk-filled choice of technology. Coffee producers form another quarter of the beneficiaries, and it appears that interventions in this crop are proving profitable. WR has a fifteen year programming horizon, and conceptualizes its role as working with farmers "where they are," i.e., with farmers' current cropping systems in the short term while engaging in promoting improved agricultural cropping systems and technology improvements over the mid and long term.

- WR's implementation *methodology* involves the organization in a number of direct service roles to beneficiary farmers: in the delivery of under-market priced inputs to the farmer; in provision of agricultural credit; in growing and distributing vegetative stock; and in the proposed processing (cleaning, drying, classifying, packing and storing) of coffee. Retention of coffee until prices rise is being considered as a future program component.

- In *gender*, because of its focus on basic grains World Relief's program is substantially behind in reaching female beneficiaries. The loan portfolio, for instance, has distributed agricultural commodity loans of $ 248,000 to men, and only $ 21,600 to women, eight percent (8%). Its women's beneficiary list is twelve percent (12%). This is a slow achievement compared to WR's working with men.

- One major constraint the project faced was the drought during the 2000 *Primera* season that wiped out almost all of the basic grain production in some WR project zones, though reportedly the mid and lower zones were not as much affected. A second constraint has been slowness of farmers to adjust to a new and tougher credit policy. In the opinion of the assessment team, the new policy is an appropriate one, even if farmer acceptance remains slow for some months.

- Until now, the project has focused on crop storage at the individual level, and not yet for centralized cleaning, drying, classifying, packaging and storing basic grains, cocoa and coffee. Given that a large *centro de acopio* is being built for these purposes at Murra, this focus will change over the next year. It will be suggested that collection and drying activities to take place at Murra be evaluated carefully for their cost/benefit before large scale activities are undertaken.

- Regarding *gender* issues in crop storage, the project may be in a position to be more influential in targeting women's involvement in grain storage.

3.0 AGRICULTURAL CONCLUSIONS

The World Relief project is on track in providing hurricane relief and rehabilitation to thousands of farmers, with clear potential to improve farmer income. The assessment team believes that improved income will eventually be achieved but the agricultural component should be adjusted in light of past experience. WR/Managua recommendations on the non-use of fertilizer for basic grain production in dry areas needs to be reinforced and applied without exception.

4.0 AGRICULTURAL SUGGESTIONS

4.1 Stop financing fertilizer for basic grains in dry areas

From discussions with thoughtful WR senior staff, it is clear that the institution is convinced that fertilizer loans in dry areas for basic grain production are not appropriate. In spite of Head-office recommendations, basic grain/fertilizer loans were placed and some farmers have lost a significant sums of money. A policy of no fertilizer loans for basic grains should be promulgated immediately for dry zone cultivation. For intermediate and humid zones, a careful cost-benefit analysis should be conducted to ensure that adequate gains are being achieved. In the fact of vigorous farmer pressure against this idea, implementation will require clear commitment and enforcement to ensure the policy is applied.

4.2 Adjust the program to reach women participants more effectively

It would appear that there are a number of relatively easy ways in which more female beneficiaries could be reached. One would be to hire a high-powered female Sub-Coordinator to bring a higher institutional profile to the subject. Another would be for the project to research cattle and small animal financing and expand current activities in this sector directly to women. A special "credit window" could be created for women's activities. WR reports that a successful strategy in other countries is targeting women's loans for small commerce, food-making and sale, etc. It also seems easy to add to each (male) extension agent's annual planning, a target of ten or fifteen women clients. Finally, it would appear that a number of small farm women in the Quemazón area have been trying to pay off fertilizer/basic grain loans for several years, only to dig themselves deeper into debt. One suggestion would be that the project write off these loans when the loss is clearly due to crop failure.

4.3 Continue the emphasis in post-harvest storage and irrigation

The project is having significant success in the promotion of post-harvest grain storage, with substantial gains in farmer income accruing as a result. It does not appear to the assessment team, however, that project staff are fully appreciative of how much an impact they are having. It is appropriate that the organization do a random sample qualitative/quantitative evaluation that could documents these substantial gains. It also seem useful that an ambitious programming target could continue —perhaps with the slogan "a silo in every house?" — and maximize the gains this component has achieved.

In like fashion, it is possible that the irrigation activities, if strengthened, could have a larger impact on a number of farm families. The number of WR beneficiaries working in agricultural production (basic grains) is probably ten times those working in improved agricultural infrastructure, and a better balance might achieve quicker results.

4.4 Bring a better balance to the credit directed to coffee production compared to other project components

Coffee credit is over-balanced compared to other program components. Implementation of some of the suggestions above would direct more project resources to non-coffee activities and to give non-coffee growing areas a better chance to access project financing.

4.5 Drop the attempt to finance agricultural extension services through credit recuperation

The World Relief document proposes that a portion of the interest generated on agricultural loans as well as charging for various agricultural services will be used to finance the agricultural extension and technical assistance functions provided by the project. The assessment team knows of no experience in the developing world where this has been achieved successfully and suggests that WR programming be allowed to move away from this laudable, but highly unrealistic goal. It seems quite appropriate to envisage that the WR program "subsidy" take the form of WR's assuming financial responsibility for extension staff salaries, rather than trying pay for agricultural extension from low-margin, peasant farmer loans. It will be difficult enough for the loan portfolio to achieve sustainability without this added financial drain.

4.6 Establish a special credit window to finance free-market agricultural suppliers

It is possible for WR to strengthen market mechanisms. One fertilizer dealer has a limited working capital, reducing his ability to stockpile fertilizer; and a WR loan to enable him to expand his volume would benefit WR farmers at the same time as improving the income of this merchant. In like fashion, WR could begin thinking of "decentralizing" the growing of vegetative stock and buying from selected growers or suppliers rather than growing the materials on its own.

4.7 Build more on project successes

The assessment team has the impression that project staff do not appreciate how much the project is achieving, and they may not know how to exploit the gains. Silos have been mentioned above. Several irrigation schemes have had dramatic success but have not been widely divulged. Also, extension workers seem to be directing their attention to the *whole* community rather than dedicating time to working with the most energetic and proactive farmers. Working with fewer but more energetic or forward-thinking farmers might allow the project to produce more economic impact faster.

4.8 Re-orient the project's long-term goals and sustainable impact

Soil conservation activities bring long-term benefits rather than producing short term gains in income. Given WR's fifteen year development horizon, short-term production and infrastructure activities have the potential to satisfy farmers' basic needs over the short term while working to improve the sustainability of long term agricultural gains. A clear articulation of World Relief's programming philosophy in terms of "strategic plan"—e.g. 2 to 3 years focused on short-cycle crops and soil conservation followed by 3 to 6 years involvement in long term gains -- might help field staff conceptualize their roles, interventions and impact better.

5.0 AGRICULTURAL MARKETING & COMMERCIALIZATION

5.1 Findings

World Relief initiated a new project component in July 2000 by hiring two agricultural marketing and commercialization technicians for Ocotal and Quilalí. The project plans to hire a third marketing person for Wiwilí. The marketing component is complementing and strengthening advances being made in agricultural production and storage and seeks to work with both producers and project agricultural extensions to:

- Gather and disseminate marketing and product price information;

- Provide technical assistance and training to both producers and other project staff on marketing information;
- Work with intermediaries and wholesalers in gathering pricing information and market demand for agricultural products;
- Assist farmers in preparing credit applications in response to market demand and price fluctuations;
- Assist farmers on how to price and sell products;
- Improve quality control and presentation;
- Conduct diagnostic studies on potential new agricultural markets and products that could be introduced to the farmers, how to price and sell these new products, etc.; and
- Respond to both farmers and project extension agents' requests with specific technical assistance in matters concerning marketing and commercialization problems and interventions.

The marketing specialists are preparing and distributing "Boletines Agro Economicos" every two weeks that include price information (for both the producer and the buyer) on basic grains, vegetables, fruits, milk products, etc. The bulletin also includes market commentary, identifies markets where the demand exceeds supply, and the general movement of product into marketing centers. The project has also prepared studies in the "Market Analysis of Black Pepper, Nutmeg, Cinnamon, and Cloves in Nicaragua," and a study on the "Profitability of Storing Basic Grains at the Small Farm Level". The marketing specialists have organized and conducted training activities for farmer's groups on pricing information and how to market farm products. Staff are presently completing the final statement of work for a market study on agricultural services.

During the visit of the assessment team, it was noted that project beneficiaries and extension agents identified the importance of marketing information and the need for the services of the marketing and commercialization specialists. The project is making a conscientious effort to engage the expertise of the CLUSA marketing component and other institutions on post harvest issues, marketing and commercialization.

5.2 Agricultural Marketing and Commercialization Conclusions

The implementation of this new component is timely and should complement production, storage and marketing activities. The bulletins and diagnostic studies will serve to increase knowledge and understanding of market dynamics, pricing strategies and structures, opportunities and risks. Training activities being conducted and planned by the marketing team will provide useful and timely information to both producers and project agricultural extensionists.

5.3 Agricultural Marketing and Commercialization Suggestions

- Continue the integration of the marketing and commercialization component with those of the agricultural extension and credit components ;
- The marketing and commercialization specialists have not seen a job descriptions and should be given a copy of this document;
- This component should develop an annual training plan and the training plan should be incorporated into the project's overall training plan;
- Copies of the bi-weekly pricing and marketing bulletins should be distributed to farmers and community groups and reviewed by them with assistance from project extension agents;
- The marketing specialist should continue to engage outside technical expertise in marketing and commercialization available though the Chemonics ARAP project, CLUSA, the private sector and other institutions;

- The marketing specialist should arrange for exchange visits between producers within the project zone and other areas in the country where similar crops are being grown and sold;
- The marketing specialist should place a priority on identifying, implementing, and managing economic and income generating strategies and activities directed to women;
- The marketing specialist should conduct diagnostic studies and identify opportunities for the private and commercial sectors to conduct commerce and buy and sell goods and services with individual farmers and farmer's groups;
- The project should provide the marketing staff with their own budget and also invest in training activities for the marketing staff to continue to develop their own expertise.

6.0 AGRICULTURAL CREDIT PROGRAM

6.1 Credit Program Findings

According to the targets and actual figures contained in the Agricultural Reactivation Project 3rd Quarterly Report of July 15, 2000 the project has loaned the following amounts.

Project Reporting Period: April 1, 2000 to June 30, 2000

Indicator Name	**Unit**	**Planned Targets**			**Prior Total**	**This Quarter**	New Total
		1999[5]	**2000**	**2001**			
Number of small producers assisted with USAID credit	# of Males		1500	2500	1459	591	2050
	# of Females		500	700	163	121	284
Number of loans disbursed to agricultural producers	# loans to Males		2550	4080	1302	826	2128
	# loans to Females		450	720	116	124	240
Dollar value of loans disbursed to agricultural producers	$ value of loans to males	$73,822	$511,631	$1,023,262	$148,109	$100,322	$248,431
	$ value of loans to Females	$6,419	$44,489	$88,978	16,457	$5,144	$21,601

It is worth noting that World Relief is also using its own funds to finance credit activities in Ocotal, Quilalí, and Wiwilí with the dollar figure loaned up to August 30, 2000 as follows[6]:

Description	**Amount $**
• A.M # 634-1600	$103,487
• A.M # 740-2900	$135,297
Total	*$238,784*

[5] The quarterly report did not include disaggregated information on the number of small producers with USAID financed credit or the number of loans disbursed to agricultural producers for the 1999 period up to the time of the report.

[6] Based on the World Relief Nicaragua financial report: "Indicadores de Cartera", Creditos de Octubre 1999 Cortados al 30 de Agosto 2000, and using an exchange rate of $1 US = C$/12.85 Cordobas

An analysis of the first table from data contained in the World Relief Third Quarterly Report concerning the number and amount of loans to women versus men from the last column "New Total" indicates that a relatively minor percentage of women 13.8% (284/2050) are being assisted with USAID financed credit. In addition, women only received 7.9% of the total loan portfolio disbursed in the column on "New Totals." These percentages are generally congruent with the information contained in the "Planned Targets" column per the corresponding Indicators when disaggregated by gender.

Further, it is worth noting from the first table that a significant portion of the project total loan portfolio, 42% has been allocated as of June 30, 2000 based on total projections ($636,361) for the years 1999 and 2000 versus the "actuals", $270,032, as found in the disaggregated column ($248,431 + 21,601) New Total. Allowance has to be made, of course, as the reporting period was through June 2000 which essentially leaves a significant portion of the year in which to make loans based on the agricultural calendar and credit demand. It is assumed that loans from the internal World Relief funded activities # 634-1600 and #740-2900 will also continue at roughly the same rate as reported above. Projections for loans, $1,112,240, in calendar year 2001 essentially double from the $556,120 that is projected to be lent in 1999[7]. One can wonder if lending $1,112,240 in 2001 might be too ambitious an objective when one begins to take into account drought and other factors that could affect managing "reflows" and placing new credit. The financial information from the table does not include the monetized value of the "in-kind" loans that World Relief has made in this project.

From its reconstruction credit portfolio, World Relief is lending a considerable amount not in cash but in materials (fertilizers, pipe and hoses for irrigation, barbed wire, fumigation pumps, etc) that are stocked in its warehouses or bought wholesale and then loaned to farmers[8]. For example in Ocotal, a total of C$/1,627,025 Cordobas was lent. Of this amount, C$/ 807,077 Cordobas (49.6%) was lent in materials, and C$/ 819,948 Cordobas (50.4%) was lent in cash.

World Relief has also completed a credit manual: "Reglamento Operative para Promocion y Administraction de los Servicios Financieros" as of June 2000. The manual is quite complete and serves as a good guide for the entire credit program. The project's field promoters (includes hygiene/nutrition, irrigation, and agriculture extension agents in Ocotal, Wiwilí and Quilalí) are mostly men 80% (37 out of 46). Women promoters represent 20% (9 out of 46) of the total for this project activity. These promoters are also responsible for determining the credit needs in their respective communities and working with the farmers on credit issues. The job descriptions do not expressly identify agricultural promoters as supervising their respective credit portfolio to ensure high repayment rates, eliminate delinquency, etc.

The farmers often make their loan payments directly to the extension agents who give them a provisional receipt until the money is deposited with World Relief in the regional office. It is understood that World Relief presently serves as the banking institution for the credit program and that eventually PAC will assume responsibility for managing the credit program. There is no one responsible full time for managing the credit program in the Managua office—rather this responsibility is divided among individuals with other responsibilities. World Relief is in the process of transferring all loan portfolio information in Excel data bases to an Oracle data base which should have greater capability to provide financial data and analysis on loan performance, etc. The Quarterly reports do state the negative impact on the credit program from the drought that started last year Nov. and Dec. and extended into May/June 2000 and greatly affected basic grains in certain regions.

6.2 Credit Program Conclusions

The loan program is an important part of World Relief's development approach and represents a significant resource for working with farmers to increase income. World Relief is initiating innovative farming activities in many areas: fruit trees, spices, drip irrigation, vegetable

[7] It is assumed that these loan projections include "reflows" as well as new credit money.
[8] Based on information provided by the project's credit official in Ocotal as of Sept. 27, 2000

production, increasing farmer's choices in term of what to plant, etc. The credit program can support these activities at the farm level and beyond by:

- Establishing new supply mechanisms;
- Strengthening existing free market supply systems; and
- Increasing farmer's profit margins in the storage, marketing, and selling of agricultural goods and products.

6.3 Credit Program Suggestions

- Due to the importance and size of the credit portfolio, WR could consider conducting a comprehensive review of its loan portfolio to review accomplishments and develop a strategic plan for the future direction, personnel and institutional needs, and emphasis of the credit program in increasing farmer incomes. This review should include the long term sustainability of the credit program and the feasibility of working with the banking sector, promoting farmer access to the banking system[9];
- Increase the opportunities for rural women's economic activities and dollar amounts loaned to them[10];
- Place a greater priority on the credit program by identifying someone with credit expertise full time at the national level to supervise and develop its full potential;
- Ensure that there is sufficient technical credit expertise on the national and regional level and credit committees;
- Continue to place emphasis on technical training in the area of credit (interest rates, pricing products, basic accounting, etc.) for farmers and the community level;
- Conduct a review of the role and functions of the Credit Officials at the regional office level to involve these persons more in supervising and ensuring good lending practices as outlined in the credit policy manual. Expand their role to ensure that the loan portfolio maintains a high re-payment rate;
- To maintain the value of the Cordoba in the credit portfolio, index the Cordoba against the dollar using the Central Bank's official exchange rate figures;
- Weigh the alternatives of stopping lending materials in kind and make future loans in cash;
- Consider university qualified, (Business Administration, Accounting/Finance, or Economics) experienced credit extension agents to manage the credit[11]; and
- Continue to closely monitor the credit portfolio, delinquency rates, re-flows, and the quarterly and yearly credit program credit objectives to meet Indicator targets. This will ensure that the highest lending standards are not lowered to meet projected lending targets, number of loans made, dollar amount of money lent, etc. If necessary, adjust the goals and targets of the Indicators to more accurately reflect

[9] This suggestion for a comprehensive review is also linked to the following section on Pueblos en Accion Comunitaria (PAC) where the hiring of an Organizational Development specialist is proposed to assist World Relief and PAC sustainability. Ideally one person with both credit and organizational development skills could be contracted to perform both reviews.

[10] The credit policy could be expanded so that loans be made to women in small commerce, food processing/transformation and selling, making clothing, and other cottage industries.

[11] This would mean that that the current responsibilities whereby agricultural promoters are supervising the credit program would be transferred to credit specialists. Credit specialists also would need to become more active in working with the private and commercials sectors in encouraging and stimulating buying and selling of agricultural commodities, supplies, inputs, etc.

cautious and prudent lending policies to ensure the highest quality loan portfolio possible by minimizing risks, delinquency, and default rates.

7.0 PUEBLOS EN ACCION COMUNITARIA (PAC) AND SERVICE/RESOURCE AND TRAINING CENTER

7.1 PAC and Service Center Findings

An essential component of World Relief's overall development strategy is to create a sustainable development organization. To this end, "Pueblos en Acción Comunitaria" was established in 1996 as a counterpart organization to World Relief, with PAC eventually planned to be completely autonomous and self sustaining. PAC is intended to develop into regional and a national network of small producer rural women's membership associations with a national directorship. World Relief has developed a long range strategy that covers a span of approximately 15 years in which to concentrate on the organizational development of PAC.

Presently, World Relief is in the process of constructing several *centros de servicio y acopio* in Murra, Quilalí, and Wiwilí. Future plans are being made to construct other centers in Bocay, Condega, Plan de Gama, and Ocotal. World Relief is also building two centers for training activities: one for the high tropics in La Sabana; and, one for the low tropics in Wililí. It is estimated that each training center will be able to accommodate approximate 40 persons for training activities. The approximate total budget allocated to building and equipping these centers comes from three budget categories[12]

Investments	**Total AID**	**Total World Relief**
Infrastructure	$889,271	$20,000
Productive Equipment	$1,000,746	$285,978
Working Capital (Centers & Farm Stores)	$988,804	
Land		$130,500
Total	$2,878,821	$436,478

The above figures do not represent actual costs but are illustrative in terms of the anticipated resource levels required for these and other important project investments. The amounts represent a significant commitment of project resources. The PAC is planned to eventually operate and mange the *centros* and the two training centers.

In interviews with farmers, World Relief field staff (administrators, supervisors, coordinators and extension agents) and the regional PAC Board of Directors, the assessment team became aware how important it is that organizational development of PAC occur if future sustainability is to be achieved. It became clear that project staff and potential future beneficiaries were not fully aware of the potential operating costs of these centers, and the role and financial commitment of the PAC in operating them. The team felt that the depth of knowledge concerning the purpose and future of service centers planned and under construction will require greater promotion. Developing the PAC and transferring operations to such an organization is a long term process.

7.2 PAC and Service/Resource and Training Center Conclusions

World Relief has placed a strong emphasis in this and its other USAID -funded activities to promote and assist with the development of a local institution that will one day be fully

[12] "Summary Annual Operating Budget by Line Item, table N° VII 2.1 of December 31, 1999 from. Kevin Sanderson Country Director of World Relief to USAID. $300,000 was subtracted from the Infrastructure budget line item as this amount is expressly for improving roads. World Relief also intends to reduce the Productive Equipment budget line item by +/- $200,000 in its next budget presentation to USAID.

sustainable. Requiring further study are the local demand for center services and PAC's ability to manage the operating and fixed costs on a long term basis.

7.3 PAC and Service/Resource and Training Center Suggestions

WR could consider conducting a review by an Organizational Development consultant of the progress to date in establishing the PAC, and develop a strategic plan (with input from both World Relief and PAC) for the involvement of the PAC in the operational and financial aspects of the service centers. This review could include a comprehensive assessment of the rural based demand and ability to pay for the range of services that the centers and farmer's stores could potentially offer; and

WR could consider not constructing further centers beyond the three that are presently under construction in Murra, Quilalí, and Wililí until such time as the comprehensive study has been completed and analyzed within World Relief and PAC.

APPENDIX D
FIELD VISIT SCHEDULE

Team 1

World Relief

	Community	Municipio	Department
9/25	Guasuyuca	Pueblo Nuevo	Ocotal
	Juan Alfaro	Somoto	Ocotal
	WR Ocotal staff meeting		Ocotal
9/26	Las Calabaceras	Santa Maria	
	La Quemazón	Santa Maria	
	La Calera	Santa Maria	
	Caliguate	Santa Maria	
	Dipilto	Santa Maria	
9/27	Murra	Quilalí	Estelí
	Los Jabalíes	Quilalí	Estelí
	Arenales	Quilalí	Estelí
	WR Quilalí staff meeting	Quilalí	Estelí
Catholic Relief Services			
9/28	Miramar	Las Sabanas	Somoto
	Nueva Esperanza	Las Sabanas	Somoto
	La Playa	San Lucas	Somoto
	La Culebra	San Lucas	Somoto
9/29	Molino Sur	Sébaco	Matagalpa
	El Rodeo	Terrabono	Matagalpaí
	Apatú	Terrabono	Matagalpa
	Carrizal	San Isidro	Matagalpa
	El Corozo	San Dionisio	Matagalpa
	Aguas Frias	San Isidro	Matagalpa
	Soledad de la Cruz	San Isidro	Matagalpa
9/30	La Joya	Jinotega	Jinotega
	El Cacao	Jinotega	Jinotega
TOTAL	**25 site visits**		

Team 2

Project Concern International

Date	Community	Municipality	Department
09/25	Quebrada Grande	Yali	Jinotega

	Pavona Abajo	Yali	Jinotega
	Gamalote	Yali	Jinotega
09/26	Las Calpules	La Concordia	Jinotega
	La Esperanza	La Concordia	Jinotega
	El Salto	La Concordia	Jinotega
	Wiscanal	La Concordia	Jinotega

Adventist Development & Relief Agency

09/27	Muyuca	Jicaro	Nueva Segovia
	Sandiego	Jicaro	Nueva Segovia
	Carrizal	Jicaro	Nueva Segovia
	El Arado	Jicaro	Nueva Segovia
	El Calvario	Murra	Nueva Segovia
	El Carmen	Murra	Nueva Segovia
	El Doradito	Murra	Nueva Segovia
	San Pablito	Murra	Nueva Segovia
	Las Vitorias	Murra	Nueva Segovia
09/28	Los Arados	Mozonte	Nueva Segovia
	Paso Hondo	Pueblo Nuevo	Esteli
	El Carao	Pueblo Nuevo	Esteli
	El Horno	Pueblo Nuevo	Esteli
	Son Cuan	Pueblo Nuevo	Esteli

Save the Children

09/29	Sirama Sur	Chichigalpa	Chinandega
	Los Zanjones	Posoltega	Chinandega
	Cristo Rey	Quezalguaque	Leon
	Las Marias	Telica	Leon
	La Sirena	Telica	Leon
	Los Patos	Telica	Leon
09/30	Tololar #2	Posoltega	Chinandega
	Tololar #3	Posoltega	Chinandega
	Pellizco Oriental	Chichigalpa	Chinandega
	Pellizco Occidental	Chichigalpa	Chinandega

	Cosmapa	Chinandega	Chinandega
TOTAL	**32 site visits**		

Team 3

CLUSA

Date	Community/Organization	Municipality	Department
9/25	Cigarera		Jinotega
	Las Segovias		Jinotega
9/26	Yali	San Rafael del Norte	Jinotega
	La Esperanza		Leon
9/27	Los Chaquitones		Jinotega
	Santa Isabel		Jinotega
	Paso Real		Jinotega
9/29	La Grecia #2		Chinandega
	La Grecia #1		Chinandega
	Carlos Perez Lira		Chinandega
	Bayardo Chavez		Chinandega

CARE

Date	Community/Organization	Municipality	Department
9/28	Trinidad -Las Limas	Los Toldos	Esteli
	San Nicolas-Santa Clara	San Nicolas	Esteli
9/30	Santa Marta	Posoltega	Chinandega
	Las Lajas	Posoltega	Chinandega
Total	**15 site visits**		

APPENDIX E

Interview List

USAID/ Nicaragua

Mr. Ray Baum, Chief, Office of Economic & Rural Development
Ms. Lilliam Baez, Office of Democratic Initiatives
Mr. Roberto Berrios, Office of Economic & Rural Development
Mr. Paul Crawford, Office of Economic & Rural Development
Mr. Leonard Fagot, Office of Economic & Rural Development
Dr. Efrain Laureano, Office of Strategic Management & Assessment
Mr. Tomás Membreño, Mitch Coordinator

Adventist Development And Relief Agency

Mr. Anthony Stahl, Country Director
Mr. José María Briones, Director of Agricultural Programs
Mr. Cristian Chaverría, Infrastructure Projects Supervisor
Mr. Darcy de Leon, Director of Evaluation
Mr. Rodolfo Henriquez, Director of Programming
Ms. Ileana Torres, Administrative Assistant
Mr. Roberto Villegas, Agriculture Programs Supervisor

Mr. Domingo Henriquez, beneficiary in Muyuca
Ms. Silvia Lira, beneficiary in Muyuca
Mr. Eriberto Fuentes, beneficiary in Sandiego
Mr. Bernardo Fuentes, beneficiary in Sandiego

Mr. Patroinio Escalante, beneficiary in Sandiego
Ms. Guadalupe Rizo, beneficiary in Carrizal
Mr. Leonel Moncada, beneficiary in Carrizal
Mr. Francisco Salcedo, beneficiary in El Arado
Mr. Miguel Gomez, beneficiary in Los Arados
Mr. Juan Sanchez, beneficiary in Los Arados
Mr. Rafael Marin, beneficiary in Los Arados
Ms. Esperanza Ponce, beneficiary in Paso Hondo
Mr. Lucan Benavides, beneficiary in El Carao
Mr. Alejandro Zamora, beneficiary in El Carao
Mr. Juan Casco, beneficiary in El Horno
Mr. Jose Angel Lopez, beneficiary in Son Cuan
Mr. Jorge Cruz, beneficiary in El Calvario
Ms. Margarita Herrera, beneficiary in El Carmen
Mr. Baudulio Lagos, beneficiary in El Doradito
Mr. Porfirio Palma, beneficiary in San Pablito

CARE International

Mr. John Veerkamp-Deputy Director
Mr. Daniel Cortez-Manager, Posoltega Agricultural Program
Mr. Francisco Colorado-Technical Advisor
Ms. Lisetth Diaz-Community Liaison Officer
Mr. Porferio Herrera-Regional Director, Esteli
Mr. Felix Jimenez-Program Coordinator
Mr. Rainev Manolo Parales-Technician
Ing. Juan Ramon Villanueva-Road Technician
Mr. Juan Ramon Villareyna-Technician
Lic. Basilio Reyes Bendon-Councilman, San Nicolas

Road Crews
Trinidad-Las Limas-3 groups, 10 people
San Nicolas-Santa Clara-3 groups, 8 people
Farmers
Santa Marta, 1 farmer
Las Lajas, 2 farmers

Catholic Relief Services and Implementing Sub-Grantees

Mr. Lutful Gofur, Deputy Director, CRS
Ms. Martha Regina Borrell, Sub-Director Credit Program CRS
Ms. Sixta Inez Garcia, Director Credit Program, CRS
Mr. Orlando Moncada, Director Agriculture Program, CRS
Mr. Santos Palma, Agriculture Director Zone I, CRS
Ms. Marla Tomino, Sub-Director Credit Program, CRS
Mr. Marco Zeledón, Agriculture Director Zone II, CRS

Ms. Bertha Lidia Baez, Técnico Agrónoma, CARITAS Matagalpa
Mr. Jacabo Casanova Fuentes, Coordinator CARITAS Matagalpa
Mr. José García, Ag. Extensionist, CARITAS Matagalpa
Ms. Elda Manna Gutierrez, Marketing Advisor, Rural Credit Program, CARITAS Matag.
Mr. Alejandro Hernandez, Supervisor Rural Credit Program, CARITAS Matagalpa

Mr. Arlen Jose Hernandez Perez, Supervisor Revolving Fund Loan Program, CARITAS Matagalpa
Ms. Maria Jose Valdivia, Director of Credit Loan program, CARITAS Matagalpa

Mr. Luis Molina, Loan Coordinator, CARITAS Jinotega
Ms. Amparo Pérez Baldivia, Loan Coordinator, CARITAS Jinotega
Mr. Ronmer Rivera, Agricultural Coordinator, CARITAS Jinotega
Mr. Roger Torres, Ag. Extentionist, CARITAS Jinotega

Ms. Janette Hernandez, Promotor Mira Mar, INPRHU
Mr. Edelberto Manadaga, Credit Promotor, INPRHU

9 women farmers from the community of Mira Mar
8 men and women farmers from the community of Nueva Esperanza
6 members of Board of DirectorsRevolving Fund Loan Progr. community of Molino Sur
6 members of Board of Directors of Credit Program from the community of Molino Sur
6 members of Board of Director of Ag. program from the community of El Rodeo
8 members of the community of Apatú
8 members of the community of Las Joyas
Mr. Selso Susa Hernández, Ag. Promoter, Apatú
Mr. José Luis Laguna, Ag. Promoter, Carrizal

Cooperative League of the USA
James Cawley-Vice-President for International Operations
Peter Fraser-Mitch Program Manager
Donald Richardson-Credit Component Manager
Carlos Sanchez Perez-Production Manager
Mike Schwartz-Coffee Quality Component Manager
Rob Walle-Zamorano Watershed Management Component

Julio Centeno-Production Technician, Jinotega
Danilo Daxila -Agro-business Technician, Jinotega
Edwin Fletes-Production Technician, Jinotega
Juan Francisco Martinez-Training Coordinator, Esteli
Esteban Ortega-Agro-business Technician, Chinandega
Luis Sonarriba-Training Coordinator, Chinandega
Guillermo Toruno-Agro-business Technician, Jinotega
Pedro Vargas-Production Technician, Chinandega

El Gorrion Multiple Service Cooperative-Yalí
- Otoniel Rodriguez-President
- Antonio Castillo-Vice-President
- Ana Maria Castillanos-Treasurer

La Esperanza Coffee Processing Plant-La Esperanza
- Javier Mejia-President
- Roberto Mejia-Buying Agent
- Alonso Mejia-Plant Manager

Cooperative Business International-Coffee Importers

Robert Badington-Smith-Regional Manager
Cooperatives/Farmer Organizations
Coffee
Los Chaguitones-10 members
Santa Isabel-5 members
Paso Real-5 members
Soy Beans/Sesame
La Grecia # 1-3 members
La Grecia # 2-3 members
Carlos Perez Lira-5 members
Bayardo Chavez-6 members

Project Concern International
Dr. Leonel Arguello, Country Director
Dra. Elba Matamoros Montenegro, Monitoring & Evaluation Coordinator
Mr. Mario Quintana, Food Aid Director

Mr. Alejandro Rizo, President of Quebrada Grande Community Board and other community members
Mr. Arturo Canales, farmer in Pavona Abajo
Mr. Isidro Arauz, President of Gamalote Community Board and women beneficiaries of the poultry activity
Mr. Doroteo Zeledon, President of Los Calpules Community Board and agricultural program beneficiaries
Meeting with the program beneficiaries in the community, La Esperanza
Ms. Maria Lourdes Blandon, President of the Wiscanal Community Board and women beneficiaries of the poultry activity

Save The Children USA
Mr. Swaleh Karanja, Country Director
Mr. Javier Lacayo Salaverry, REIMPRE & Food Security Program Manager
Mr. Winston Montiel, CAMINOS Project Manager
Mr. Eddy Ochoa, Finance Manager
Mr. Ronald Torres Prado, ECOFAMI Project Manager

Ms. Darling del Rosario, Director CENI in Sirama Sur
Mr. Juan Blandon, beneficiary in Sirama Sur
Mr. Jesus Munguia, beneficiary in Los Zanjones
Mr. Pedro Moran, beneficiary in Cristo Rey
Mr. Domingo Lopez Perez, beneficiary in Los Mangles
Ms. Luby Maltez, Supervisor of road project in La Sirena and group of beneficiaries working in a Food for Work program
Beneficiaries in Food for Work program repairing road in Los Patos
Ms. Erlinda Gonzalez, beneficiary in Tololar #2
Mr. Gerald Paredes, beneficiary in Pellizco Oriental
Mr. Angel Romero, beneficiary in Pellizco Oriental
Mr. Marcos Antonio Perez, supervisor of road project in Pellizco Occidental
Mr. Eufemio Baca, beneficiary in Pellizco Central
Ms. Guadalupe Baca, beneficiary in Pellizco Central

Mr. Juan Carlos Davila, beneficiary in Pellizco Central

World Relief
Mr. Kevin Sanderson, Director
Mr. Rafael Flores, Coordinator Region I
Mr. Pedro Gutierrez, Regional Coordinator for Ocotal, Wililí, Quilalí
Mr. Mario Perez, Sub-Director and Executive Director of Pueblos en Accion Communitaria (PAC)

Ms. Jamileth Alavarez, Agronomo, Sta. Maria
Mr. Oscar Danilo Cardoza, Agronomo, Jicaro
Mr. Eddy Espinosa, Director of Marketing and Commercialization— Quilalí
Mr. Jerry Casco Hernandez, Credit Official, Ocotal
Mr. Eugenio Lorento, Sub-Cordinator, O
Mr. Edwin Lazo, Director of Marketing and Commercialization, Ocotal
Mr. Julio Mendez Casco, Coordinator, Ocotal
Mr. Pedro Rodas Calero, Agronomo, Dipilto
Mr. Arles Perez, Agronomo, Murra
Mr. Pedo Pablo Ruas, Sub-Coordinator, Conodega
Ms. Leda Isabel Talavera, Administrator, Ocotal

Mr. Gregorio Martinez Rios, President, Ocotal Region PAC Board of Directors
Mr. Pedro Joaquin Perez, Treasurer, Ocotal Region PAC Board of Directors
Mr. Mauricio Lopez, Coffee Farmer, Dipilto
Ms. Sandra Ardon Sandoval, Credit Officer, Quilalí
Mr. Ernesto Rodriguez Rivera, Coordinator, Quilalí
Ms. Mercedes Moreno Zelaya, Administrator, Quilalí
10 men and women farmers from the community of Guasuyuca
6 women vegetable/ irrigation beneficiaries from the community of Las Calabaceras
6 men and women farmers from the community of Quemazón
1 soil conservation women in Caliguate
1 coffee farmer in Los Jabalíes
6 farmers from the community of Arenales

APPENDIX F
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World Relief

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Catholic Relief Services

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