



**MIDTERM EVALUATION
LAND USE PRODUCTIVITY ENHANCEMENT PROJECT**

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PREFACE

Chemonics International and the Land Use and Productivity Enhancement (LUPE) midterm evaluation team (see Annex G) wish to thank LUPE, USAID/Honduras, and Associates in Rural Development (ARD) for their cooperation, assistance, and support throughout the evaluation. We are also grateful to the LUPE beneficiaries and contact farmers who gave of their time and shared their experiences with us.

An evaluation is always disruptive to the job at hand. Despite the extra work occasioned by the evaluation and the sometimes probing questions, all project personnel and officials maintained a surprisingly cheerful attitude and friendly demeanor. The evaluation team sincerely hopes to have contributed to the success of the project.

PROJECT IDENTIFICATION DATA SHEET

1. Country **Honduras**
2. Project Title **Land Use and Productivity Enhancement**
3. Project Number **522-0292**
4. Project Dates
 - A. First Project Agreement **February 8, 1989**
 - B. Final Obligation Date **February 9, 1997**
 - C. Most Recent PACD **February 8, 1997**
5. Project Funding
 - A. AID Bilateral **\$36,000,000**
 - B. Host-country Counterpart **Lps. 24,000,000**
 - C. Total **\$50,000,000**
6. Implementation Mode **Host-country**
7. Project Designers **USAID/Government of Honduras**
8. Responsible Mission Officers
 - A. Mission Directors **John A. Sanbrailo, Marshall Brown**
 - B. Project Officers **John Warren, John Jordan**
9. Previous Evaluations **None**

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ACRONYMS

AID	Agency for International Development
ARD	Associates in Rural Development
COHDEFOR	Honduras Forestry Development Corporation
DICTA	Dirección de Investigación de Ciencias y Tecnologías Agrícolas
FDP	Forestry Development Project
FHIA	Fundación Hondureña de Investigación Agrícola
GIS	Geographic Information System
GOH	Government of Honduras
IPM	Integrated Pest Management
LUPE	Land Use Productivity Enhancement Project
MNR	Ministry of Natural Resources (GOH)
NGO	Nongovernmental Organization
NRM	Natural Resources Management
NRMP	Natural Resources Management Project
PACD	Project Activity Completion Date
PIC	Project Implementation Committee
PIL	Project Implementation Letter
PMEU	Project Monitoring and Evaluation Unit (LUPE)
PP	Project Paper
SRN	Secretariat of Natural Resources (MNR)
TA	Technical Assistance
USAID	United States Agency for International Development
WCF	Woman Contact Farmer
ZAMORANO	Pan American Agricultural School

EXECUTIVE SUMMARY

The purpose of the midterm evaluation of the Land Use and Productivity Enhancement (LUPE) project is to examine LUPE's management systems, and natural resource management and extension activities to assess the effects of project activities and progress toward expected outputs and objectives and to make recommendations for project improvement.

The evaluation team consisted of seven specialists in hillside agriculture, forestry ecology, agricultural extension, gender, postharvest and marketing, organization and management, and data management (see Annex G). After orientation by USAID and LUPE, each team member traveled extensively in the project area and visited LUPE field offices and project beneficiaries. Findings were based on interviews; document review; attendance at conferences, workshops, and training sessions; and field observations. Each team member reported findings, conclusions, and recommendations in separate reports to the team leader, who consolidated them into one report.

Conservation and production technologies. Technologies for soil conservation and production of basic grains are well integrated and adapted to meet the goals of the project: improving the profitability and sustainability of hillside agriculture. LUPE is currently refining its technologies to increase efficiency and cost effectiveness and should emphasize these efforts with a view to replicability and sustainability.

Extension. LUPE's extension and training methodology is among the most advanced in Central America for a project of this type. It could be improved through greater integration of the technology and extension components and more attention to the production system as a whole.

Gender considerations. LUPE women extensionists are reaching larger numbers of clients at a faster rate than any other LUPE component. LUPE's approach is gender-segregated, however, with women having access only to "women's" activities—some of questionable appropriateness, cost effectiveness, and impact. LUPE should strengthen its extension component by engaging extensionists, women or men, who can deal with both household and field activities on a less segregated basis.

Postharvest interventions and marketing. LUPE has introduced various basic grain storage techniques for different farm types. These seem to be well accepted and appropriate. Fruit and vegetable processing (canning and drying) has met with limited success, however, because it is expensive and of little cultural value. Marketing fresh vegetables and fruits is an impressive and successful activity for increasing household incomes and should be emphasized for beneficiaries with production potential and access to markets.

Organization and management. LUPE's main problem, which caused delays in project implementation, has been resolved with the appointment of the current directorate. Some aspects of organization and management could be improved, such as better logistical support (particularly transportation and autonomy over the use of discretionary funds at the regional level), and feedback for management and decision making.

Data management. LUPE should complete its requirements for collecting baseline data for monitoring and impact evaluation. Minimum requirements should be determined and the missing information collected and reported as quickly and efficiently as possible, from the least costly sources. A geographic information system (GIS) is not needed. The Planning, Monitoring, and Evaluation Unit (PMEU) should be strengthened and reclassified as a support unit within the organizational structure.

General. LUPE has leadership and a high proportion of dedicated, capable, and motivated staff at all levels. The technical assistance team is carrying out its assigned role with good backstopping from the home office. Project management and oversight is among the best we have seen on AID-funded projects.

Original targets (output indicators) for LUPE are being scaled back based on information about numbers of potential beneficiaries and a better characterization of the project area. Financial resources are being reshuffled to provide a stronger thrust for training of contact farmers by nongovernment organizations (NGOs). LUPE has an excellent chance of meeting its revised targets and attaining its objectives, assuming continued administrative stability and increased, less gender-segregated, technical assistance input.

SECTION I INTRODUCTION

A. Description of Project and Primary Objectives

The Land Use and Productivity Enhancement (LUPE) project, a semi-autonomous administrative entity, was created by the governments of the United States and Honduras to improve the profitability and sustainability of hillside agricultural production. LUPE promotes available production and conservation technologies through a network of two regional headquarters, nine area offices, and 44 extension agencies staffed by male and female extension agents. The LUPE project covers an area of 18,000 square kilometers and some 60,000 farm families in central and southern Honduras. LUPE also promotes home improvement and community level activities. Beneficiaries to date are about 9,000 small hillside farm families, with varying degrees of participation.

B. Summary of Current Status of the LUPE Project

At the mid-point of the project, LUPE is approximately one quarter of the way toward attainment of original goals and one third of the way toward attainment of proposed revised goals for number of project beneficiaries. Attachment 1 to a draft action memorandum (March 10, 1993) neatly summarizes goal attainment at the midpoint of the project (see Annex C). The actual number of families LUPE works with at any given moment will vary depending on the rate of technology adoption and the number of technologies a family adopts. Since 1989, when LUPE began operations, it has reached some 9,000 families. Currently LUPE is working with slightly over 5,000 families. This is about where the project should be at this stage as the adoption process tends to snowball toward the end of the project. LUPE would be even further along had it not been for administrative problems, now resolved, which plagued the project for the first two years.

LUPE is staffed and operating in all planned areas. Turnover of personnel has been and is a cause of some concern, but is understandable in light of the previous administrative problems and the LUPE salary scale. In general, LUPE personnel are highly motivated and capable and have very good rapport with their clients.

C. Purpose of the Evaluation

The evaluation team's brief mission was to (1) examine LUPE's management systems and natural resource management (NRM) and extension activities, (2) assess the effects of project activities and progress toward expected outputs and objectives, and (3) make recommendations for project improvement.

SECTION II FINDINGS, CONCLUSIONS, AND RECOMMENDATIONS

A. Evaluation of the Current Situation

A1. Significant Achievements

LUPE has established 44 field offices staffed by two to four extensionists. The field offices are supported by about 20 specialists at the regional level and coordinated with the two regional offices and the headquarters in Tegucigalpa. LUPE is now serving about 500 contact farmers and 5,000 producers. Until the planned impact evaluation is conducted, it is impossible to quantify soil conservation and productivity gains taking place as a result of LUPE's technologies. In the communities visited for this evaluation, however, there is sufficient evidence that these gains are taking place. Furthermore, contact farmers who are now being selected and trained are increasing LUPE's effectiveness and outreach significantly. Through contact farmers, LUPE is establishing a permanent presence in a greater number of communities. This presence, in turn, is being translated into better and more customized services, as well as a much needed mechanism to monitor processes of technology adoption and use.

The LUPE extension methodology is one of the best in Central America for technology transfer without a research component.

LUPE technologies get the following report card:

- Environmental soundness - good to excellent
- Technical feasibility - good
- Economic feasibility - a probable good
- Cultural acceptability - good to excellent
- Social soundness - good to excellent

This report card is solid, but there is room for improvement. The evaluation team found that LUPE, the technical assistance team, and project management are aware of the problems and already have plans for improvements in most instances.

Evaluators were very impressed with the enthusiasm, dedication, and capability of the LUPE staff. Overall, they are doing an excellent job, often under serious constraints such as lack of transportation and per diem arrears.

A2. Problems and Constraints

The LUPE project's primary problem was administrative, specifically, an ineffective directorship. USAID and the technical assistance team believe this problem has been

resolved with the appointment of a new director and subdirector in early June 1992. The evaluation team agrees.

Some constraints now facing LUPE, such as inadequate transportation and lack of funds to provide incentives to beneficiaries, are due to the original project design and/or project management decisions.

Other problems, such as inadequate logistical support and late payment of per diem, affect morale and are largely attributable to government bureaucratic requirements, most of which are outside the control of the project.

Some of the problems resulting in high turnover of field staff have apparently been resolved with the change in director. Other problems, such as young, untrained *promotoras* living and working in rugged, isolated field locations, are inherent to the project design.

The fact that a baseline study slipped through the cracks at the beginning has come back to haunt the project.

A3. Effectiveness of the Technical Assistance Team

The technical assistance team is task-oriented, dedicated, and has done an excellent job in technical training and implementation. Team members are competent in their fields and have a great deal of experience in Central America. They have excellent relations with their counterparts in LUPE and are highly respected for their expertise. The technical assistance team interacts well and often with USAID project management, which is also of the highest calibre. The team is well backstopped by its home office.

B. Natural Resources Management and Sustainable Agricultural Technologies

B1. Specific Findings

B1a. Finding 1: Priority Given to Conservation Activities

Sufficient emphasis is given to conservation activities. Most LUPE technology recommendations combine conservation and production activities. In fact, it would be impossible in most cases to increase production without conserving soils and water. LUPE usually recommends attention to conservation before initiating field crop production practices, which results in ecologically sound systems of continuous cropping.

Some LUPE conservation technologies, such as rock walls and ditches, require considerable labor. These technologies will become increasingly harder to extend as the project progresses. LUPE recognizes that alternate, lower cost conservation technologies are available, as illustrated in the Associates in Rural Development (ARD) April-June 1992 quarterly report: "live barriers supplemented by agronomic measures will be LUPE'S key soil conservation strategy, replacing the traditional emphasis on rock walls, ditches and terraces."

B1b. Finding 2: Additional Activities for Environmental Impact

Firewood plantations strategically located near users could aid in reducing natural forest degradation.

The project could probably benefit in some areas from intercropped cover crops such as velvet bean and dolicus, which can protect soil year-round as well as increase soil fertility. Potential also exists for stabilizing the steeper slopes with forage trees as recommended by the ARD livestock specialist.

B1c. Finding 3: Negative Impacts of LUPE Interventions

LUPE-promoted technical interventions do not appear to cause a negative impact on the surrounding ecosystem. The vast majority of project farmers do not use significant amounts of chemicals, although problems of pesticide contamination are reported in one area of concentrated vegetable production that contains LUPE beneficiaries.

B1d. Finding 4: Integration of Conservation with Sustainable Agriculture

The project is successfully integrating conservation of natural resources with sustainable agriculture. It has developed agroecological zones reflecting rainfall, altitude, and ecosystems and recommends crops and conservation techniques accordingly.

Conservation and sustainable agriculture seem to be inextricably intertwined, with perhaps the major emphasis on conservation. Most farmers we talked to agreed, some enthusiastically, with the need for conservation measures.

There are reservations about future adoption rates of costly conservation practices. The team observed early on that soil conservation on hillsides could be accomplished more cheaply in many cases, e.g., with more live barriers and fewer ditches or rock walls on the less precipitous slopes.

The ARD soils specialist concluded in 1992 that the process of sensitization, extension, and supervision for soil conservation at the farm level has been weak. He recommended revising the LUPE Soil Conservation manual, strengthening the training component in soils, and follow-up activities among other things. Most of these recommendations have been acted on.

B1e. Finding 5: Relationship of Technologies and Local Conditions

In general, extensionists and supervisors are very aware of local conditions. They seem to understand local cultural and social patterns.

The consideration given by field technicians to the relationship between technologies and local conditions is reflected in the LUPE definition of agroecological zones and the promotion of technology packages to suit the production systems of individual farmers.

Crop diversification (introduction of crops such as fruit trees, peanuts, yucca, sweet potatoes, cashew, temperate fruits, berries, and garlic) is taking place in accordance with local conditions and preferences.

B1f. Finding 6: New Technologies and Criteria

LUPE does not have a research component but has a rich source of technologies identified in research of predecessor projects and other hillside farming projects. Project staff conduct on-farm validation trials of candidate technologies.

Twelve categories of "best bet" technologies were initially selected for on-farm verification trials (see the ARD January-March 1991 quarterly report). The report states that the technologies "will be evaluated according to the following five criteria":

- Total cost
- Cost/benefit
- Risk
- Ecological impact
- Gestation time (the time needed for the technology to show results)

The following criteria were added later:

- Agroecological and field-level limitations
- Compatibility within the package of technologies
- Compatibility within the production system of the farm

Current LUPE technologies are listed in *Estrategia Técnica, 1993* and described in various manuals such as *Guía Técnica Sobre Barreras Vivas de Zacate* and *Guía Técnica Sobre Frijol de Abono*.

Criteria for selecting and applying conservation and production technologies at the field level include: slope, soil type, economic status of farmer, farmer preference, climatic conditions, field conditions, and labor availability.

LUPE has not conducted systematic benefit/cost analyses of hillside technologies or combinations of technologies. Interviewees pointed out, and we agree, that the acid test of the economic and financial viability of hillside technologies is their adoption and retention by small farmers.

B1g. Finding 7: Integration of Technologies and Project Objectives

The current mix of technologies for field crops is technically adequate to meet both conservation and production objectives of the project. As noted throughout this report, the potential exists for reducing costs of conservation measures and fine-tuning technology packages for the farm system. We are quick to point out that LUPE and the technical assistance team have already recognized this.

The original project objective was to engage 50,000 participating families. This number has been reduced to 27,000 in a proposed revision. As of January 1, 1993, 9,135 families have been enrolled as LUPE beneficiary/participants. To meet the new goal, twice as many families have to be brought into the project in the next four years as in the first four years.

The evaluation team noted two counterbalancing tendencies that will affect goal attainment. The first is the "snowball effect" that takes place as contact farmers increase in number and bring more beneficiaries into the LUPE fold, resulting in an exponential increase in beneficiaries. The second counterbalancing tendency is that beneficiaries will be harder to enroll as time passes. LUPE expects to benefit about 45 percent of the population in the project area. Farmers in this pool of candidates have differing degrees of innovativeness and ability to accept change. LUPE has already recruited many of the most promising candidates in the project area.

The evaluation team thinks that the proposed targets are reasonable, but notes that the second counterbalancing tendency may come into play. The team suggests that characteristics of remaining potential beneficiaries be examined with a view to determining their interest in and capability for adopting LUPE technologies.

B1h. Finding 8: Technology Integration Enhancement

Enhancing LUPE technologies through fine-tuning and cost reduction has been discussed above.

An example of technology integration is the ARD livestock consultant's recommendation of leguminous trees on steep slopes for grazing and soil stabilization. Another is the NGO Cosecha's idea for continuous cropping of maize/velvet beans, which is said to enrich the soil as well as stabilize it. LUPE should remain alert to new technologies and ideas for enhancing the integration of hillside technologies.

B1i. Finding 9: Appropriate Level of Effort

The level of effort in the home economics sector seems high when impacts and project objectives are considered dispassionately. Male extension agents are as capable as female agents of advising on most of the home improvement projects, especially establishing home gardens, constructing corrals and chicken coops, and feeding and caring for small animals. They may have more difficulty initiating these activities, however. By and large, the female extension agents are not prepared by training or background to advise or train in conservation, production, and large animal technologies. Turnover rate is high among *promotoras*. Some *incorporación femenina* activities, such as constructing partitions, seem to be of questionable value to the project.

Conservation practices require the most effort when LUPE technologies are initiated and, as noted elsewhere, can be "fine-tuned." It is reasonable to expect that the level of

effort of both participants and technicians will naturally shift from conservation to production as the project progresses.

B1j. Finding 10: Updated Forestry Strategy

The updated forestry strategy, as reflected in the "Política Forestal Proyecto LUPE - 1992," is solid and viable. Few activities for microwatershed management were observed in the field. LUPE's responsibility in this regard is mostly limited to planning, with responsibilities for implementation envisioned for communities and COHDEFOR.

B1k. Finding 11: Animal Management

Examples of animal management activities observed in the field included cutting fodder and constructing corrals and chicken coops. We saw photos of chickens and swine being vaccinated. Few activities for cattle and animal nutrition were noted. Integration of animal management technologies with conservation technologies is being resolved by LUPE.

B1l. Finding 12: Pest Management

There are problems with insects and diseases in vegetables. Infusions of onion, garlic, and lemongrass may not provide adequate control. The use of neem is planned. The extensionists' major recommendation for pest and disease control seems to be rotation. Integrated pest management (IPM) doctrine allows for "minimum levels of synthetic pesticides." LUPE now contracts individual consultants to train project personnel in IPM. Our impression is that the IPM component is just now getting under way.

The use of pesticides, herbicides, and chemical fertilizers by LUPE project beneficiaries is minimal and poses no threat to the environment except as noted in B1c, above. Considering the economic status and farm size of beneficiaries, it is unlikely that such a threat will arise during the project except among commercial vegetable farmers.

B1m. Finding 13: Acceptability of Crops

Field crops are very acceptable and traditional to the area. Vegetables are less acceptable for smaller families. All farms have fruit trees, most have bananas, but vegetables are not of great importance in local diets. Tropical fruits are available year-round on most farmsteads and are widely accepted. As to crops introduced (to enhance soil conservation and fertility), most farmers said they liked pigeon pea, and we heard that cowpea and dolichus are quite acceptable in the diet. We got the impression, however, that most would prefer *frijoles*. On many farms we saw yucca and taro, which are reportedly widely accepted. Introducing indigenous varieties such as medicinal plants and edible herbs into the family garden has shown potential.

B1n. Finding 14: Phaseout of LUPE Involvement

Some project areas, such as Tatumbla, are quite mature, and others will reach this stage before the end of the project. It may be counterproductive for LUPE, which offers a limited set of services, to stay in a community that has benefited from these services and needs to move forward. Conservation and productivity gains, for example, may generate a felt need among producers to organize themselves to process or market their produce. This need may in turn generate a demand for services and resources not contemplated in LUPE's mission. LUPE's inability to offer the additional services may not be understood by the farmers, who may instead see LUPE as unwilling to help.

B2. Conclusions

The mix of conservation and production technologies will meet project goals for soil conservation and increased production, but only if they are extended to the required number of families and cover the target acreage. If the technology package is not profitable to farmers, especially in the short run, adoption targets will not be met. If the technology package is not economical in the long run, retention rates will be disappointing. The solution involves carefully considering financial and economic factors and fine-tuning technologies.

The effort devoted to *incorporación femenina* activities is too high for the impacts anticipated. Project objectives could be better met if a higher percentage of extension agents were able to train and advise in both production/conservation technologies and *incorporación femenina* activities.

The animal management component is being corrected satisfactorily. As envisioned, animal management technologies will be integrated with conservation technologies and will contribute to nutrition objectives as well. The livestock manual, now in draft, will address both animal nutrition and soil conservation issues (for example, stabilizing steeper slopes with fodder legumes). The manual also makes recommendations for using dried and pounded high-protein fodder and toasted legume seeds in small-animal rations.

LUPE is promoting appropriate, compatible, tested technologies for conservation and production. To date, LUPE has not emphasized the evaluation of "cutting edge" technologies for use in the project, nor does it formally evaluate the benefits and costs of the technologies currently in use.

Irrigation to extend the cropping season or increase production in the dry season promises high pay-off in some areas, but potential sites are limited.

LUPE technicians and extensionists appear to be competent and knowledgeable and have a good relationship with the communities they serve.

Integrated pest management training for project beneficiaries, particularly in areas of concentrated vegetable production, should receive priority. Beneficiaries should be trained in

calculating correct dosages, safety measures, and viable alternatives to chemical pesticides, herbicides, and fertilizers.

Micro-watersheds management does not appear to have high priority.

Overgrazing is a serious problem affecting the ecology of the Southern region. Larger owners, who are outside the scope of the project, are mainly responsible for the problem.

Exploiting the natural pine forest for firewood is damaging the environment in some areas of the central region.

The project needs to begin emphasizing its ecological and environmental education goals.

Overall, in terms of the forestry-ecology aspects of technologies applied at the farm level, the LUPE project is a success.

LUPE should begin developing plans and procedures for withdrawing from "mature" areas that no longer benefit from its services. Project staff should plan and schedule the phaseout according to each area's degree of development and progress. LUPE should do a survey (*diagnóstico*) to determine major needs of the area beyond the scope of the project. LUPE and NGOs could help people in the area to meet these needs by helping them organize for self help or make contact with other NGOs or organizations that can provide for their needs. The proposed NGO involvement with LUPE will be an important asset in the phaseout process.

B3. Recommendations

B3a. Benefit/cost studies. Institute an activity to gather information on input requirements and costs of the LUPE technologies. Conduct benefit/cost studies on the various technologies and combinations of technologies. Give priority to technologies and combinations not obviously profitable from past experience. Keep the analysis simple, going into greater detail only when questions regarding profitability arise. A local agricultural economist could be contracted to design and launch this activity if LUPE staff need assistance.

B3b. Additional technologies. Encourage more interest and involvement on the part of LUPE technical personnel in discovering and evaluating "cutting edge" technologies for hillside agriculture and other technologies as determined by needs assessment in the project area, e.g., seed selection.

B3c. Fine-tuning technologies. Continue to fine-tune conservation and production technologies to increase efficiency and reducing costs. Fine-tuning will become increasingly important as the project reaches out to smaller farmers who have no prior connections with it.

B3d. Phaseout of LUPE involvement. LUPE should establish phaseout thresholds to withdraw from communities where it has achieved a certain level of technology adoption, and where continuing efforts are unlikely to produce further gains. LUPE will need to establish these thresholds in each community. LUPE withdrawal should be coordinated with the entry of other government agencies or NGOs to provide services different/beyond those of LUPE, such as for community development, producers cooperatives, or association strengthening.

C. Extension Methodologies and Strategies

C1. Significant Achievements

Even though there are aspects that need improvement, the LUPE extension and training methodology is the most advanced for a project of this type in Central America.

C2. Problems and Constraints

A benchmark study and analysis should have been done as early as possible in the life of the project.

The extension/training component needs a mechanism to provide a better link between the extension component and the hillside agriculture component, and to provide better support to specific components such as contact farmers and environmental education. Transport and communications at the agency level, agricultural inputs, and training materials are the most pressing needs.

Some key technical components and activities have not been implemented yet or are starting late:

- Up-to-date community *diagnósticos*.
- Field level institutional linkages and technology sharing with public or private institutions, such as NGOs, Peace Corps, and El Zamorano.
- Watershed management, activities in buffer zones and protected areas, and environmental education.
- Sustainability has not been adequately addressed.

C3. Findings

C3a. Finding 1: Application of Extension Methodology

The extension/training methodology integrates sound processes and organization in a good training approach by a group of well trained trainers with excellent teaching materials. Training modules, manuals, processes, and strategies seem to be effective. Training modules are discrete training units organized around topics on technologies or outreach methodology. Though effective in transferring a particular technology, a modular approach tends to overlook the farm as a system and the interdependencies of farming technologies.

LUPE's internal transfer of experiences and technology takes place through a very structured training and feedback mechanism, which includes workshops and non-formal hands-on training at the agency level. The training process could be improved by including systems concepts to integrate the individual modules. LUPE now relies too heavily on the technical assistance team for the technology it extends.

C3b. Finding 2: Internal Coordination of Training

The technical training component is one of LUPE's outstanding accomplishments. Training is a well conceived and executed process at all levels, from induction training of new technicians to on-the-job training of specialists and extensionists.

Technological findings, extension methods, and concepts are organized into training modules and incorporated into the extension activities.

Technical training materials are going through a process of analysis and updating of technology and concepts: the soil conservation and pastures manual and environmental education, contact farmers, marketing, and postharvest components have incorporated new ideas and knowledge based on experiences and field data collection and analysis.

The technical training of women extensionists, though generally as effective as other training activities, suffers from gender segregation, which limits the training of women extensionists mostly to women's activities (household improvement and family gardens).

C3c. Finding 3: Training Strategy and Materials

Internal training strategy and quality of materials are adequate for the project. Future activities will demand improvements in strategy and concepts, mostly to improve interaction within the training/extension component.

There is an inherent weakness in the modular approach to training and application of technologies at the farm level: it tends to promote a separation in the thought process and to make integration more difficult. The modular approach is appropriate for LUPE, but more efforts are needed to integrate the modules to support a production system.

The project has not appointed a training coordinator as planned earlier in the Project Paper and training documents. The decisions have not created conflicts, but there is a need to improve the flow of technology from the technical assistance team to the specialist. The extension and production components need a mechanism or person to improve technology flow to the extension agencies, incorporating a systems concept into the training modules. Such a person's main responsibilities should be the flow and validation of hillside agriculture technology and monitoring and feedback to component specialists and the technical assistance team.

C3d. Finding 4: Technology Sustainability

A benchmark study is necessary for evaluating technology sustainability and adoption.

Recent findings indicate positive socioeconomic benefits of some soil conservation practices (rock walls, live barriers, etc.). Farmers and technicians generally accept LUPE technology, even though in some cases it has not passed the validation stage in Honduras, but has a long history in other countries.

A high percentage of technicians and farmers are not conscious of how soil and water conservation practices fit into the farm production system.

C3e. Finding 5: Frequency of Visits

Visits are one of the most expensive strategies to promote technology adoption, especially under the hard-working conditions at agency level. Visits are currently LUPE's main strategy for reaching beneficiaries, but the necessary number cannot be completed with the current manpower and material support. An extension agent cannot make more than three visits per day under normal conditions. The need for NGO participation is obvious.

C3f. Finding 6: Work Schedules

The ten days on and four days off working schedule has been applied in the past and is used in several extension agencies such as Las Lajas and Namasigue. There is a general feeling that a flexible working schedule will improve overall time use efficiency, providing time for in-service training events outside of the agency area and promoting farmer contact during weekends.

C3g. Finding 7: Incentives and Technology Adoption

At the time of the evaluation, LUPE offered no monetary incentives and only minimum material incentives, such as seed and seedlings, to project beneficiaries. The major incentives, therefore, are the LUPE technologies themselves and training in their use. Several LUPE technicians felt that additional non-monetary incentives such as agricultural inputs would be in the interest of the project, and that timely delivery was essential.

C3h. Finding 8: Diagnostics

Agency *diagnósticos* have been a key element of the project extension methodology and have been more than adequate for the general characterization and analysis of the agency territory. A more precise *diagnóstico* is needed at the community and watershed levels to evaluate specific needs and potentials. Even though the *diagnósticos* are very good, they have not been used in an organized way for training or for stratification of farmers by production system.

C3i. Finding 9: Diagnostics and Work Plans

Information from diagnostic documents has been a key element of the agency work plan. The reorganization of agency routes, the selection and incorporation of new contact farmers, and watershed analysis require far more specific community and watershed *diagnósticos*.

The flow of knowledge and the institutional memory of LUPE have been affected by personnel turnover at agency and regional levels, and by the time lag between the NRM project and LUPE.

C3j. Finding 10: Community Selection and Project Purpose

It is standard practice to select communities using soil protection and enhancement criteria determined by field survey. Nevertheless, a small number of communities have been selected without a *diagnóstico*, that is, without an appropriate field survey and assessment of their soil protection and productivity problems and their potential solutions applying LUPE technologies.

C3k. Finding 11: Time Management for Technical and Logistical Support to the Agencies

The project is a tightly structured operating unit that follows a traditional pyramidal structure and has a very specific mandate at the operational and agency level.

Agencies and regions suffer from poor communication infrastructure, lack of vehicles and materials, and, until recently, late payment of salaries. Some specialists and supervisors, even though working hard at administrative matters and developing training courses, do not provide enough guidance or hands-on experience at the agency level. The monitoring and evaluation component runs the risk of turning into an administrative unit for data collection instead of a supporting activity that monitors technology impact and adoption.

C3l. Finding 12: Contact Farmers: Selection and Training

Although the contact farmer concept is a key element of the extension methodology and is supported in the project paper and other documents, it has taken more than two years to fund and implement training modules, engage a coordinator, and develop a policy and selection criteria for contact farmers. Meanwhile, close to 50 percent of the present contact farmers come from the old NRM project.

The selection criteria and the training of contact farmers is sound and will be shown to be very effective once questions regarding the role of NGOs and contact farmers have been resolved, as noted below.

C3m. Finding 13: Contact Farmer Use

Contact farmers are not being used efficiently due to administrative procedures that obstruct the flow of materials for demonstration plots and misconceptions from previous projects regarding incentives. Their efficient use will depend on changes and/or additions to the NGO contact farmers agreement, and on the integration of concepts and experiences that support sustainable structures and groups at the field and farm levels.

C4. Conclusions

Extension methodology application. The project's internal technology transfer is a well-conceived process of sharing knowledge about technology and experiences. However, it needs to incorporate internal communication linkages between the extension and hillside agriculture components to improve the training modules and technology validation process.

The extension methodology and training component could be categorized as a mature system, the product of an institutional process that spans ten years. It is perhaps LUPE's most important contribution to agricultural development in Central America.

Internal coordination of training. The success of LUPE's training strategy depends on motivated groups of technicians who understand and apply hillside management technologies through a modular training approach. We think that the modular approach is appropriate for LUPE. However, LUPE could benefit from training and sensitization of extensionists and specialists to make them more aware of the relationships among technologies, and to urge them to give more thought to the production system as a whole.

Training strategy and materials. There is an inherent weakness in the modular strategy to training and application of soil conservation and crop production technologies at farm level. The modular approach tends to promote a separation in the thought process and to make integration more difficult. This is the opposite of the farming systems approach, where interventions (technologies) are suspect until potential side effects and interactions have been examined.

The project has not appointed a training coordinator, nor has it devised a mechanism to improve the flow of technologies between the technical assistance team and specialist or from them to the field. Such a mechanism is needed, considering potential changes within the project, such as more emphasis on environmental education, the incorporation of NGOs, watershed activities, and pasture management.

Technology sustainability. Project efforts to introduce and validate new technology seem to be increasing productivity and diminishing soil loss. Sustainability at the farm/family level will depend on the ability of the project to design and support sustainable processes that are further supported by community structures conscious of the economic potential of soil-water management.

Time management/family visits. It takes an average of eight to ten visits to each family per year, throughout a three-year period, to transfer eight to ten technologies depending on the category of the family when the process was initiated (innovator, adopter, follower, etc.). Considering the number of families targeted, this will require five visits a day. This is an impossible task considering the resources of LUPE. The incorporation of contact farmer trainers addresses this limitation effectively.

After three years, the family needs to adopt other technologies into its production system. Adoption will depend on the availability of alternate outreach strategies, such as an improved media system approach based on radio, group interaction, and NGO involvement.

Work schedule. Flexible working schedules are needed, especially at agencies in less accessible areas.

Incentives and technology adoption. The project, despite changes in the proposed Project Implementation Letter and the Project Agreement and a timid update of the incentive policy, is still affected by the 1980s "subsidies malady." It does not foresee or want to foresee how incentives could affect sustainability of hillside agriculture at the family level.

Diagnostics. The agency *diagnósticos* have been an excellent tool for determining agency and project needs, but have fallen short as a tool for determining community needs. Community *diagnósticos* should be improved to obtain a better understanding of how farm families use their time and manage resources, or what community production activities exist outside of agriculture. While work plans and follow up activities accurately reflect information from *diagnósticos*, they will need to be modified as new LUPE activities are introduced (NGOs, watershed protection, *mini-riego*, etc.).

Community selection and project purpose. Recent changes in routes, community based diagnostics, resources, and personnel turnover are influencing community selection criteria, and a more professional selection approach is taking place. Nevertheless, criteria are not yet designed for selecting communities with the greatest potential for developing linkages with NGOs, government agencies, or community organizations.

Time management. Specialists and supervisors are not using their time efficiently to meet project and component purposes due to lack of communication infrastructure, logistical support, and sometimes technical and administrative guidance.

Contact farmers: selection and training. The component is conceptually sound; it has been proven and farmers at the field level understand and like it.

Contact farmer use. Contact farmers are in many cases inherited from the NRM project. Farmers, technicians, and managers carry with them not only positive experiences, but also sometimes negative ideas on key aspects such as incentives, women contact farmers, the family garden, contact farmer participation in community organizations, and technology analysis and validation.

Contact farmers who were interviewed are knowledgeable in the promotion of technologies, and project technicians and supervisors feel that the contact farmer approach is correct. The long-range sustainability and efficient use of the contact farmers approach depends on the proposed NGO agreement and other factors, such as support from mass media.

NGO/para-technicians agreement. Haymi and Ruttan affirm that technological advances turn into "*motores del crecimiento*" once social institutions adopt them and increase their field of action. A case study of Costa Rican NGOs showed that new technologies continue to spread as long as local organizations are able to communicate them.

The NGO agreement will definitely create a multiplier effect. But it will not ensure the technology adoption or sustainability of the process if communities and groups supported by contact farmer trainers are not incorporated into it.

C5. Recommendations

C5a. Internal Flow of Technology

The project should redefine its training strategies to support the internal flow of technologies and incorporate within the training modules a systems concept that integrates disciplines and improves interactions within the project components. Internal field level evaluations will support validations of the training modules and the monitoring and feedback processes.

It is clear that the growth of the project will affect the importance and the responsibility of the training component. A training coordinator may be needed to integrate the flow of technology to the field and improve the interaction of the component specialists and the team.

At the agency level, develop training materials that allow everybody to do everything at the farm level, thus avoiding the men/women dichotomy; promote more efficient use of time, transport, and human resources; and increase the importance of the *huerta* as a sustainable production unit at the family level.

C5b. Work Schedules and Visits

Install a schedule of ten working days and four days free to improve the efficiency of the field extensionist. Technicians should take turns keeping agency presence during weekends. For example, one technician stays while two leave or the area supervisor or a specialist stays at the agency during that weekend.

The visits as part of the extension component should be enhanced by the NGOs and by mass media technology transfer.

C5c. Incentives

LUPE needs to rethink its incentives policy to consider not only vegetative material and agricultural inputs. Training, support to family and community organizations, market information, and development of alternative enterprises are possibilities. A set of guidelines to provide incentives shall include:

- Define incentives not as a condition to participate but as reward to what has been done.
- Define incentives as a strategy to develop community/group productive activities that enhance and protect the resource base.
- Provide incentives through NGOs to speed up payment to contact farmers and for other productive activities.
- Integrate incentives, NGO agreements, and specialized communities into an organization capable of sustaining the process of technology adoption.

C5d. *Diagnósticos*

To be an instrument for analysis of adoption and sustainability, community *diagnósticos* should include a more detailed analysis of production technology of the target crops and practices plus an analysis of community potentials and limitations as they relate to soil conservation practices and market potential for crops and vegetables.

Use *diagnósticos* as the main tool during the agency induction process—and have the new technician do production technology characterizations and analyses. Technicians should have an understanding of the farm as a system.

Identify and incorporate communities that allow and support farmer organizations to develop linkages with NGOs in the area.

C5e. Contact Farmers and the NGO Agreement

Increase and accelerate logistical support to the contact farmer component, specifically on training materials production, reproduction, and design. Clearly define the women contact farmer role at the family level with the garden as a linkage of the production technology and nutritional aspects of the family. Make sure there are no women-men roles influencing the activity.

Increase the sustainability of the technologies through NGO involvement by helping organize community groups that have reached the point where a collective effort to solve problems is possible.

D. Gender Considerations

D1. Introduction

LUPE's *incorporación femenina* subcomponent is a serious effort to deal with gender issues. LUPE's staff includes 79 women, representing nearly 20 percent of LUPE's total staff. Of this total, 49 work in the *incorporación femenina* subcomponent, which is composed of 46 extensionists in 44 agencies, one specialist per region, and the central coordinator of the subcomponent.

By the end of 1992, LUPE was working with more than 5,000 rural families. About 50 percent were served by LUPE's women extensionists with a variety of technologies and activities directed at improving the home and nutrition of the rural family. In the past year, the number of women beneficiaries who are not heads of households has increased at a rapid pace. Preliminary estimates put their number well above 50 percent of new LUPE beneficiaries.

With one women extensionist per agency, LUPE's *incorporación femenina* outreach capacity is now complete. Although it is too early to fully evaluate the impact of their work, all indications are that women extensionists are reaching larger numbers of clients at a faster rate than any other LUPE component. The high rate of expansion of LUPE's women's clients is set to increase even more dramatically as LUPE finally consolidates its staff of women specialists and completes the training of women contact farmers (*productoras enlaces*) and the establishment of model homes and gardens. Women beneficiaries and their families seem to be responding enthusiastically to LUPE's outreach.

LUPE's challenge in the next four years is to consolidate the services it offers around the rural hillside farming family, moving from its current gender-segregated approach to service delivery and emphasis on traditional home improvement activities and technologies. As LUPE consolidates its staff of women extensionists and promotes the integration of services and technologies around the rural family, its overall effectiveness, credibility, and impact can increase dramatically. LUPE's efforts to deal with gender issues internally, as well as in the delivery of its services, is beginning to show results. This can be clearly seen in the enthusiasm of women participants in LUPE activities and the quick and high rate of adoption of LUPE home improvement technologies. With minor adjustments emphasizing the complementarily and interdependence of the work of women and men extensionists, LUPE should substantially increase its outreach capacity and impact.

D2. Specific Findings

D2a. Appropriateness of Technologies for Women

The unintended outcome of LUPE's serious effort to deal with gender roles is what can only be called a gender-segregated approach to technology transfer. LUPE's current approach conforms too closely to a stereotype of gender roles. While all the technologies and activities LUPE is promoting and implementing can be used by its women clients, they

are not based on a joint (LUPE and client) analysis of gender roles and prioritization of interests and perceived needs. It appears that LUPE inherited from its predecessor project a set of activities and technologies directed at women beneficiaries without a critical review of their appropriateness and impact, or an analysis of their costs and benefits.

LUPE's work with family gardens and small animals holds the most potential if these activities can produce income for the household in addition to food for an improved diet. Most income-producing activities in the gardens such as edible fruits, medicinal plants, and spices will require additional support and resources not contemplated in LUPE's design.

LUPE should modify its design to include these types of income-producing activities, thus justifying its considerable investment in its *incorporación femenina* component, or scale down its efforts and costs in accordance with the actual importance and benefits.

D2b. Access to LUPE Services

LUPE has made considerable progress in providing women with access to its services. For the most part, however, women in the communities reached by LUPE have access only to "women's" activities and are served primarily by LUPE's women extensionists. This gender-segregated approach reduces the overall impact of LUPE and seems based on gender stereotypes rather than on actual rural family dynamics and decision making.

Currently, rural women who are not heads of households are not included in any LUPE activities beyond those programmed in its *incorporación femenina* subcomponent. Greater exposure by women to LUPE's entire technology package and conservation philosophy may enhance its impact. Protecting the natural resources of the farm and increasing its productivity is as important to the women as it is to the men.

D2c. Effectiveness of Outreach and Training for Women Beneficiaries Who Are Not Heads of Households

LUPE is only beginning to train women who are not heads of households in sustainable hillside farming technologies. This training takes place or should take place in the family gardens (*huertos familiares*), of which LUPE "established" more than 1,100 in 1992. However, LUPE reports a low rate of technology adoption, deficient implementation of recommended practices by the field agents, and limited follow-up of female clients by LUPE agencies. The findings in the LUPE reports were confirmed during project site visits in Tatumbla and Concordia.

The most expedient and recommendable way to increase LUPE's outreach and training of women beneficiaries and to deal with family gardens is to make them the responsibility of the head of the field agency (as opposed to the women extensionist alone), and to require that the agronomist (male or female hillside farming specialist) lead the training of women in family garden technologies and provide assistance for establishing and operating family gardens. Family gardens should be regarded as a showcase for LUPE technologies and treated accordingly.

D2d. How Could the Logistical Support toward the LUPE WID Extensionists Be Improved?

Section F below, Organizational Management, deals at length with LUPE's problems in providing logistical support to its field extension agencies. They affect men and women extensionists equally and need not be repeated here. Instead, two gender-related considerations are examined below that affect the operational effectiveness of LUPE's women extensionists.

Women extensionists depend on the collaboration of their male colleagues for much of their work in the field. One of the most obvious means of collaboration is simply getting them to the communities they work with. They are driven there by their male colleagues in the agency vehicle. Most women extensionist do not drive and even if they did it is expected that men would still drive the agency's vehicle. Teaching women extensionists to drive would greatly increase their operational efficiency.

The implementation of *Rutas de Trabajo* and *Rutas de Asistencia Técnica* have effectively dealt with both lack of vehicles and lack of coordination among extension agents. Under the new procedure, having one vehicle is a blessing rather than a curse. Male and female extensionists are forced to plan and work together. As a result, the working environment seems better for the women extensionists as has understanding among men and women extensionists of their respective work assignments and collaboration and use of complementary skills. Further integration of the field extensionists as a team with interdependent responsibilities and skills will greatly improve the logistical support among themselves and between the agency and the regional/central offices.

D2e. More Emphasis on Women Contact Farmers?

In the past 18 months, as LUPE's administrative problems were solved and LUPE refined its selection criteria and the hiring and training of women extensionists, women contact farmers have increased rapidly. In April of 1993, 250 of 500 contact farmers were women. These farmers are in various stages of training and are implementing various LUPE-promoted technologies.

As currently conceived, women contact farmers work only in *incorporación femenina* activities. For women contact farmers to become effective change agents, it is essential that LUPE incorporate them in more than just these activities.

Because of their simplicity and the ease with which they can be adopted, home improvement technologies are well received. The same is not true for family gardens, which take longer to establish and require technical assistance and some resources (vegetative reproduction material, seeds, water, etc.). if properly attended, however, family gardens have the potential to improve family nutrition, increase family incomes, and become showcases for farm technologies promoted by LUPE.

LUPE need not change the emphasis it has placed on women contact farmers. It is recruiting them at a faster pace than men contact farmers. LUPE should, however, broaden their scope of training to include technologies offered in all its components, and consider additional income generating, community development, and environment protection activities. LUPE's women extensionists are proving effective recruiters of families into LUPE's programs and are increasing community support and involvement in LUPE's work.

D2f. Potential of LUPE's Women Participants

LUPE is only beginning to consolidate its outreach and services to women. Nevertheless, more than half of all LUPE participants are involved in *incorporación femenina* activities only. The services LUPE is delivering are limited to those traditionally considered "women's" activities—home improvement and family gardens. As important as these activities are, they are not sufficient to fully engage women's potential as agents of change. LUPE and the women contact farmers it works with need to find activities beyond the household to build on the change process initiated inside the household, such as income producing projects, community improvement and environment protection activities, fuelwood plots, and edible fruit tree nurseries.

In communities visited, the rapid diffusion of home improvement technologies is evident, as is the enthusiasm of the women involved. It was also clear that these rather simple technologies (wood stoves, closets and shelves, room partitions) have raised expectations and that LUPE's greatest challenge will be to meet them. It is apparent that women's adoption of home improvement technologies is regarded as a commitment by the women to work with LUPE's extensionists. If LUPE is unable to deliver services beyond these simple technologies, it is unlikely that it will retain the interest of the women or their commitment to participate. In fact, disillusion may set in.

D2g. Promotion and Training in Postharvest Technologies

Postharvest handling generally falls in the domain of women's responsibilities in the rural farm household. LUPE has done considerable work in this area. (See Section E, Postharvest Interventions.) LUPE's extensionists consider, however, that insufficient attention has been given to postharvest technologies. Reasons relate to the high turnover of LUPE's women extensionists and to the lack of training, resources, and equipment for demonstrating postharvest handling technologies other than basic grain (corn, sorghum, and bean) storage.

Fruit and vegetable processing by LUPE's women beneficiaries, as explained in Section E, have not been widely disseminated and/or adopted for a variety of reasons, and it is unlikely that they will be even if LUPE makes the resources available for demonstration equipment. Marketing fresh fruits and vegetables, medicinal plants, and spices where markets exist should receive more attention and resources in LUPE's *incorporación femenina* subcomponent. LUPE also needs to place more emphasis on basic grains postharvest handling.

D3. Conclusions

For various administrative and managerial reasons, the outreach capacity of this component has been slow to develop. Nevertheless, it is beginning to produce significant results. It is reaching more families than any other LUPE component and recruiting more contact farmers. Both results are laying a solid foundation for rapid growth in technology diffusion and adoption in the areas where LUPE works.

LUPE needs to quickly and effectively integrate what has become a gender-segregated approach to technology transfer. The integrating focus of LUPE's services and technologies should be the hillside farm family, not separately the men and women who live in areas served by LUPE. At all levels, but more importantly at the field agency level, LUPE's efforts and resources should focus on the family. This change in focus has been discussed within LUPE. LUPE needs to formulate its policies accordingly and implement them forcefully.

LUPE's *incorporación femenina* subcomponent needs to offer technologies and services that go beyond home improvement and family garden activities. Without income-producing projects, LUPE's potential impact among the women it serves is severely limited. LUPE's investment in its *incorporación femenina* subcomponent will be wasted if it is limited to home improvement activities.

D4. Recommendations

D4a. Dismantle the Gender Wall Within LUPE

- Integrate *incorporación femenina* activities and technologies into LUPE's extension component by redefining the roles and responsibilities of the extensionists at the agency level. Emphasize field agency team work and complementarity of skills and backgrounds rather than gender.
- Make family garden technology transfer and small livestock production the responsibility of the agency head. Women extensionists' role, while continuing to include current activities, should emphasize community liaison, organization, and training.
- Intensify the training of women extensionists in hillside farming and natural resource conservation technologies and include women extensionists in activities with men farmers. Include men extensionists in women activities. Goal should be to hire/train women or men extensionists who can work with women and men clients indistinctly.
- Broaden the scope of women contact farmers to include technologies offered in all LUPE components.

D4b. Use of Home Improvement Technologies

Use home improvement technologies as a means to contact, establish rapport with, and recruit farm families as LUPE clients.

D4c. Income Producing and Community Betterment Projects

Seek income producing, community improvement, and environmental activities that can be undertaken by women's groups.

D4d. Graduate Beneficiaries out of LUPE

Seek out NGOs or government projects to continue working with the communities where LUPE has delivered services.

E. Postharvest Interventions

E1. Specific Findings

E1a. Finding 1: Integration of Postharvest Technologies with Increased Production

New technologies for storage and protection of basic grains are the most important response of postharvest technology to increased production. Postharvest technologies promoted by LUPE include storage and protection of basic grains, fruit and vegetable canning and drying, and handling of vegetables for market. Grain storage technology includes improved grain structures (*trojas*) and storage of shelled grain in plastic bags, barrels, and metal silos. Stored grain is currently protected mostly by the use of *pastillas*, chemicals especially compounded for this purpose. Neem will be used as soon as it is available.

LUPE personnel seem quite sensitive to local conditions such as soil and climate as well as the farmer's economic conditions. Postharvest technology recommendations vary to meet these widely differing conditions. The evaluation team found that postharvest technology recommendations were appropriate to the overall program of production technologies and were receiving adequate emphasis.

E1b. Finding 2: Low Involvement in Processing Fruits and Vegetables

The adoption of fruit and vegetable processing by LUPE farmers is lower than anticipated for a number of reasons:

- Home canning is expensive—jars and lids must be purchased.
- Most products don't fit the traditional family diet. Dietary patterns are slow to change among subsistence farmers.
- Canning and sun-drying are considered a novelty by most farmers.

- Processing is labor intensive at a time when other jobs may have priority.
- Most families supplement their diet with readily available seasonal foods. This is an advantage of life in the tropics.
- The market for home processed foods is risky.

E1c. Finding 3: Appropriateness of Postharvest Technologies to Economic Levels and Geographical Zones

Alternative grain storage technologies, from low cost plastic bags to specially manufactured metal bins, are available for a range of family economic conditions.

E1d. Finding 4: Possible Alternatives for Microenterprises

Suggestions for processing and selling wild blackberries, selling home-baked goods, and opening additional farmers markets are listed in Annex F.

E1e. Finding 5: Viability of Marketing Strategies and Additional Actions

Marketing strategies promoted by LUPE are particularly impressive in the Tegucigalpa Saturday farmers market. It was observed that two groups of farmers organized by LUPE had their own assigned market area identified by a banner. Several factors distinguished these groups from others:

- Fresh produce was attractively displayed on raised tables.
- Produce was better trimmed and graded to attract the customer.
- More produce was prepackaged in plastic bags, some of which identified the LUPE project and farmer organization.
- LUPE produce appeared to be in greater demand and bring a slightly higher price.
- Vegetables had minimal pesticide residuc.

Most of these farmers had previously sold vegetables in the Tegucigalpa market but only since becoming involved in the LUPE project had they implemented the innovations mentioned above. Although they are a relatively small number of about 150 families, and not typical of most LUPE farmers, they are setting an example for the entire market and an increasing number of producers.

E2. Conclusions

All farmers interviewed in the Central Region are basically producing for the market in Tegucigalpa or selling to middlemen who operate in the area. The Choluteca district seems quite different, providing for family consumption. Selling, trading, or bartering with neighbors is more common. Usually some surplus is sold.

Postharvest interventions are concentrated on storage of basic grains and appear to be well accepted by contact farmers using the new metal silos. Because of the high cost (Lps. 200 for the 2qq size and Lps. 400 for 15qq size) and shortage of *lámina*, more isolated

are adopting the use of improved rustic structures (*trojas*) or large plastic bags that hold about 4qq of threshed grain.

E3. Recommendations

- More emphasis and resources need to be placed in postharvest technologies for storing basic grains.
- Concentrate on postharvest technologies of farm products that can be sold by women, such as edible fruits, vegetables, medicinal plants, and spices.
- Offer fruits and vegetable processing technologies only if requested by LUPE beneficiaries.

F. Organizational Management

F1. Introduction

LUPE has undergone a major restructuring over the past year. In response to several severely censorious internal and external audits and evaluations, the previous project director was dismissed in March 1992 as were several other staff. After several months of interim management, the current organizational structure was developed, a new director and sub-director were hired, and other management positions were restructured and restaffed. One major change was the elimination of one of the sub-director positions and the consolidation of control over financial, administrative, and technical/operational activities.

F1a. Overall Organizational Structure

The organizational structure is very hierarchical, with clear lines of authority and communication. This was widely reported as a great improvement over the previous situation, where much communication took place "outside of the appropriate channels." At all levels interviewed, there was general comfort with the new structure, which is generally considered to be "transparent" and logical.

F1b. Hierarchy, Flow of Information, and Decision-making

Although LUPE's project management is highly structured, lines of communication between and among levels appear relatively open. In every area, supervisors said that they were satisfied with their autonomy in decision-making, and commented on this as one of the improvements brought about by the new director. A few exceptions were noted and are discussed below.

F2. Specific Findings

F2a. Finding 1: Efficiency in Reaching Objectives

All extensionists, extension agency chiefs, and area supervisors interviewed expressed the belief that they had sufficient latitude to make decisions and carry out their work. In view of the strategy of decentralizing many of the activities (e.g., administrative support), the organizational structure appears to be well-designed to efficiently reach project objectives.

Some areas still require improvement. Although communication from the bottom up is fairly good, communication (i.e., feedback) from the central administration offices to the field staff is not as effective or consistent.

F2b. Finding 2: Regional and Area Offices

The reduction from three to two regional offices appears to have worked well. Once the decision was made to reduce the project scope, the concomitant decision to reduce the number of regional offices was logical.

The establishment of area offices greatly facilitates the implementation of project activities. With area offices, many day-to-day implementation decisions can now be made much more quickly and efficiently. The division of areas into four to five agencies is also reasonable and, for the most part, appears to work efficiently.

F2c. Finding 3: Decentralization of Administrative Support Staff

Most of the extensionists indicated a need to have more decentralized administrative support, pointing out that a considerable amount of their time is spent on administrative and logistical activities, ranging from cleaning the office and transcribing reports to boiling water for extensionists to take on travel to cholera-ridden areas. LUPE is in the process of hiring and assigning administrative support personnel to each of the area offices.

F2d. Finding 4: Effectiveness of Decision-making

The decision-making process appears to be much improved since the early years of the project. Because day-to-day decision-making is now decentralized, there is little delay in resolving most problems. Some exceptions were noted, including the authority to manage funds at the regional level. Senior management (the director and sub-director) appear committed to addressing and solving any problem or bottleneck that requires their intervention.

One of the more positive findings was the respect and support expressed by field staff for the director and sub-director. Both travel frequently to the field visiting agencies and individual farmers; this is viewed by the field staff as very positive.

F2e. Finding 5: Support for Field Extension Agents

This area requires the most improvement. Problems that were universally identified include:

- **Lack of timeliness of per diem reimbursements.** The timeliness of per diem reimbursements has improved since the early years of the project, but reimbursements still tend to be several months late.
- **Untimely provision of materials and supplies.** Although there has been improvement over the past year, in many cases materials and supplies still do not arrive at the agency in a timely manner.
- **Purchase of inappropriate or expired materials.** In addition to occasional delays in delivery of supplies and materials, there have been a number of cases where the materials delivered have already expired (e.g., seeds, vaccines). Part of the reason is inadequate planning or lack of sufficient detail in purchase requests by extensionists; another reason is a lack of understanding of technical requirements on the part of administrative personnel.
- **Untimely repair of vehicles.** This is one of the most serious logistical support problems and most directly affects the ability of the extensionists to carry out their jobs. Again, there has been improvement over the past year, but much remains to be done. In any given area, two to three vehicles are likely to be either out of commission or in serious need of repair. In these cases, extensionists were using other methods of transportation to try to meet their goals including walking, bicycling, taking buses, and begging rides.

A further complication is that because repairs usually take so long, extensionists are reluctant to take their vehicles in for minor repairs or regular maintenance for fear that they will be without a vehicle for several months. Vehicles are, therefore, frequently operated with poor brakes, clutches, steering, etc., causing dangerous driving conditions and ultimately costing more time and money to repair when they break down.

- **Lack of appropriate field vehicles.** The vehicle predominantly used by extensionists, the Jeep Cherokee, is not the most appropriate for the driving conditions in the project. In addition, parts and service for the Jeeps are more difficult to find than for Toyotas.

F2f. Finding 6: Personnel Management

In general, all personnel interviewed believed that personnel management in the project has vastly improved in the past year. A number of people were promoted, consistent with the new emphasis on promoting from within before looking outside the project to fill empty positions. The personnel evaluation system is now more universally and objectively

applied, and salaries were reviewed and increased last year (15 percent cost of living adjustment plus a 10 percent merit increase). Almost all personnel interviewed believed that they were receiving adequate and appropriate training. This is partially due to the fact that at the end of each year, as part of the annual planning process, all staff are asked to submit suggestions for their training needs.

F2g. Finding 7: USAID Monitoring

Overall, USAID monitoring of the project has been good. The project liaison visits the project office almost daily and discusses activities with the LUPE director and sub-director, other LUPE staff, and the ARD technical assistance team. He also frequently visits agencies and contact farmers and other participating farmers. However, the Project Implementation Committee (PIC) has ceased to meet, and project monitoring and coordination is therefore carried out on a more informal and ad hoc basis than originally designed in the Project Paper and Request for Proposal (RFP). While this strategy has been effective and should continue, more formal coordination should supplement this approach.

F2h. Other Issues

F2h(1). Stability of Senior Personnel during Election Year

The issue of personnel stability during an election year, particularly of senior management, is delicate and critical. USAID may be able to provide a stabilizing influence.

F2h(2). Coordination with Other Entities

Although anticipated in the project paper and RFP, little coordination has taken place with other entities such as NGOs, other USAID projects, other GOH agencies, and other projects and organizations.

F2h(3). Project Budget

Comparison of the original project budget (project paper, page 24) with the draft Updated Financial Plan (3/2/93) shows that only about 18 percent of the USAID grant, as foreseen in the original budget, had been expended at mid-point. The original grant budget is reduced by about 50 percent in the draft Updated Financial Plan. The credit component (\$1.3 million) was completely deleted, and most other components except NGO services were reduced. LUPE salaries, for example, were reduced from \$11 million to \$4 million, and expatriate technical assistance from \$3 million to \$2.4 million.

Commitments and disbursements of grant funds are made to LUPE through the GOH ministry of finance on the basis of yearly budget requests and accounting of prior expenditures. Monies not expended during the previous year are deobligated by USAID but retained in reserve for the project. A Lps. 3,000,000 revolving fund is maintained by LUPE for current expenditures. This fund was previously maintained at Lps. 1,000,000.

F2h(4). Logical Framework

The target structure in the logical framework should be modified when the new indicators in the proposed PIL are made official. Proposed budget changes should be reviewed before they are finalized.

F2h(5). Dirección de Investigaciones de Ciencias y Tecnologías Agrícolas

Minister of Natural Resources Mario Nufio told the evaluation team that he considers LUPE a pilot project for assistance to small hillside farmers.

The Ministry of Natural Resources envisions the privatization of government services for large and medium size farmers. Small subsistence farmers who cannot afford private extension services will receive technical assistance and training from the government. Although it is unlikely that the Dirección de Investigaciones de Ciencias y Tecnologías Agrícolas (DICTA) will start operation until well into 1994, the government may want to incorporate LUPE into the overall DICTA structure before end of project. More likely, LUPE will be incorporated as USAID involvement ends.

F3. Conclusions

F3a. Conclusion 1: Efficiency of Organizational Structure

The organizational structure, although it does not necessarily follow all of the "rules of organizational charts," appears to be working effectively and should not be changed. Communication between and among different levels of the organization can and should be strengthened to improve efficiency. Information dissemination should be improved, particularly information generated in the central office, which should be fed back to the field.

F3b. Conclusion 2: Regional and Area Offices

The existence of regional and area offices contributes to the effectiveness and efficiency of project activities. The present configuration of two regional offices and nine area offices appears to function well under present conditions. Poor communication diminishes the effectiveness of the administrative process at regional and area level.

F3c. Conclusion 3: Decentralization of Administrative Support Staff

The trend toward decentralization of administrative support staff should continue and be fully supported. Other administrative and logistical functions should also be decentralized.

F3d. Conclusion 4: Effectiveness of Decision-making

As noted, for the most part, managers have sufficient decision-making authority to be effective. However, giving regional supervisors more autonomy over the management of

discretionary funds for small expenses would enhance their efficiency. Presently, the regional supervisor has to go through the main project office to purchase all materials and supplies.

F3e. Conclusion 5: Administrative and Logistical Support for Field Extension Agents

Although administrative and logistical support has improved considerably, more should be done. Vehicle maintenance, repair, and availability require particular attention, as do timeliness and quality of materials and supplies and administrative support.

F3f. Conclusion 6: Personnel Management

Personnel management is effective in the LUPE project. Morale has improved and personnel appear pleased with the personnel management system. Additional training is needed in certain technical areas, such as purchasing procedures at both field and headquarter levels.

F3g. Conclusion 7: USAID Monitoring

USAID should continue its informal monitoring and coordination activities but should also reinstate formal coordination meetings to improve the monitoring process at different levels.

F3h. Conclusion 8: Stability of Personnel in Election Year

Unless provisions are made, there is a strong possibility that at least senior management will be replaced in the middle of next year with the new government, regardless of which party wins the election. A change in administration at this point will be extremely disruptive and could derail the project completely.

F3h. Conclusion 9: Coordination with Other Entities

LUPE should coordinate activities and exchange information with other Honduran government agencies and projects, other USAID-financed projects, NGOs, and private education and research institutions such as Zamorano and Fundación Hondureña de Investigación Agrícola (FHIA).

F4. Recommendations

F4a. Vehicle management should be improved. This includes several actions:

- Assign at least one vehicle (preferably a pick-up truck) to each *supervisión de area* (two for larger areas) as a loaner vehicle when an agency vehicle is being repaired, or for transporting materials (e.g., seedlings or cookstove chimneys).

- USAID should give careful consideration to the pending request from LUPE to purchase motorcycles.
- The regional supervisor should be authorized to approve vehicle repairs locally.
- LUPE should give priority to the vehicle maintenance program being developed. Vehicle care, with attention to preventive maintenance, should be an evaluation criteria in the personnel evaluation form. This recommendation should be implemented no more than 60 days after submission of this evaluation report.
- Rehabilitation of derelict vehicles should receive immediate attention. Vehicles should be inventoried according to their potential for salvage. USAID should provide funds for necessary spare parts and repair costs. Unredeemable derelicts could be kept for parts.

F4b. An annual training session should take place for field staff (especially heads of agencies) in administrative procedures, with emphasis on how to specify their purchase requests so as to ensure receiving the necessary quality. This should be followed up by semi-annual coordination/training sessions.

F4c. The USAID project office should seek Development Finance Office concurrence to increase the internal revolving fund (recently approved for Lps. 100,000) to the original Lps. 300,000 recommended by D. Rudishule.

F4d. LUPE should set up a revolving fund of Lps. 5,000 in each regional office for small expenditures. This should be reviewed after six months to determine if it should be increased to Lps. 10,000.

F4e. USAID should hold discussions with the Ministry of Natural Resources and Ministry of Finance regarding the possibility of giving LUPE more direct control over payments of salary and per diem.

F4f. LUPE should expand and formalize the decentralization of materials and supplies to the area level. Minimum and maximum amounts of basic materials and supplies should be established by the regional supervisors jointly with the area supervisors and the LUPE administrative office. LUPE should also continue to decentralize administrative support to each area office, as has already been initiated.

F4g. USAID should aggressively seek to ensure the stability and continuity of the senior staff of LUPE, particularly the director and sub-director, during the change in national government early next year.

F4h. The Project Implementation Committee (PIC) should begin to meet again, on a biannual basis. The USAID evaluation officer and the Minister of Natural Resources (or his designate) should be invited. At each of these meetings, there should be a very specific

agenda. There should be a definition of decisions required at different levels of the project (what decisions need to be made by whom).

F4j. LUPE should begin to implement the coordination activities envisioned in the project paper and RFP, with NGOs, GOH agencies and projects, and other USAID projects. With regard to the proposed inclusion of a group of NGOs managed by CARE as the umbrella NGO, LUPE should work with CARE to establish a detailed transition plan to coordinate with participating NGOs.

G. Data Management

G1. Introduction and Specific Findings

The Planning, Monitoring, and Evaluation Unit (PMEU) within the LUPE project was established to collect, process, and analyze information needed by the project. Specifically, the PMEU was to oversee the establishment of a geographic information system (GIS), supervise the characterization of project areas and baseline studies, coordinate quarterly and annual planning/evaluation meetings, and make recommendations to project management for policy changes.

G1a. LUPE Organizational Structure

The PMEU was originally set up in the LUPE organizational structure as a support unit reporting directly to the executive director. This hierarchical level was appropriate for the PMEU to coordinate with other MNR programs and make recommendations to project management for policy changes. Since then the PMEU hierarchical level has been dropped to a tactical line level reporting to the operational (technical) sub-director. This limits the PMEU's autonomy to report sensitive information that may directly affect project implementation policies. PMEU's basic duties consist mostly of preparing annual operating plans, conducting quarterly and annual activity evaluations, preparing quarterly and annual reports, storing raw data in computer databases, and filing project documents.

G1b. Findings 1 and 2: LUPE Project Activity Reporting Formats

Approximately 25 formats are used at the field agencies. The PMEU requests that the agencies fill out two primary formats quarterly: the *Formulario de Ejecución/Programación Trimestral* and *Reporte Trimestral de Actividades Realizadas por Productor*. To complete the *Formulario de Ejecución/Programación Trimestral*, the agencies have to manually process and transcribe the data from numerous agency formats. The data used to estimate *Visitas Prediales de Asistencia Técnica* is not systematically collected and is derived from extension agent notebooks. Also, indicators that report areas are estimated.

Agencies are also responsible for filling out the *Reporte Trimestral de Actividades Realizadas por Productor*. The data is transcribed from the *Ficha del Productor* and the *Ficha de la Productora* onto this format. This is considered an inefficient use of extension agent time.

One way to optimize and rationalize this procedure is to have two temporary PMEU data entry personnel go to each project area office once every quarter to input the data directly from the *fichas* into a laptop computer. It will require a revision in the already revised *fichas* to include four quarter columns per year. It will also require that new input data entry screens be designed, and existing databases modified, to include all the fields within these *fichas*.

G1c. Finding 3: PMEU Data Processing and Analytical Capabilities

PMEU is currently not processing or analyzing project-generated field data in a timely and useful manner. It has only one computer support person, who is learning to program in Foxpro. Lack of capability in database programming has seriously limited PMEU capabilities to analyze field data.

G1d. Finding 4: PMEU Verification of Field Data

PMEU verifies field data during the quarterly evaluations. A random sample of beneficiaries for each agency should be selected and their *fichas* taken along on field inspections. This should be a standard procedure in both the Central and the Southern regions. PMEU regional supervisors should make arrangements to accompany area supervisors on field inspections.

G1f. Finding 5: Information Flows and Decision-making

The only information required by project management from PMEU has been the annual operating plans and quarterly and annual evaluation reports.

During the quarterly evaluations conducted by PMEU at each area office, a final presentation is given where lessons learned are discussed with all participating extension agencies.

Also, a copy of the *Informe de Gira* is sent to both regional supervisors to help keep extension agents informed of recommendations that come out of the quarterly evaluations.

G1g. Findings 6 and 7: PMEU Project Information Management

PMEU is currently responsible for project information management. It should continue to be; however, additional support is needed in updating software and training personnel in its use.

G1h. Finding 8 and 9: PMEU Institutional Coordination, Reception, and Dissemination of Outside Data

PMEU's hierarchical level does not permit it to carry out institutional coordination with other MNR programs or NGOs. Consequently, the LUPE technical sub-director has not issued directives to have the PMEU carry out institutional coordination.

The only institutional coordination carried out by PMEU is in reporting the results of the quarterly evaluations to the *Secretaría de Recursos Naturales* planning unit and to USAID.

G1i. Finding 10: LUPE's Geographical Information System

Implementing a GIS for the LUPE project has serious limitations:

- Outdated georeferenced data found in la *Dirección Ejecutiva del Catastro Rural* in the form of catastral land tenure, actual land use, potential land use, and soils maps
- Inadequate computer hardware
- Understaffing of trained and experienced GIS personnel in the PMEU

There is little experience in the successful use of GIS technology in Honduras. Given the constraints and the fact that LUPE has found alternative ways to conduct its *diagnósticos*, implementation of a computerized GIS is not justified.

G1j. Finding 11 and 12: Baseline Study and Impact Monitoring

The PMEU proposed a baseline study format in May of 1992. The proposed format was circulated within LUPE for suggestions. Several written suggestions were sent to the PMEU as to how to improve the format and methodology, but a decision was never made to conduct the baseline study.

ARD contracted with a survey specialist to advise the project on conducting the baseline study and impact evaluations. In his November 1992 report, the specialist recommended hiring a local company to conduct the baseline study and monitor impact.

The methodology proposed by the survey specialist is appropriate. A 10 percent sample will be taken only to establish the initial baseline during the first year. Thereafter, a smaller sample of 200 will be monitored for the second and third year. In the fourth year a sample of 400 will be used, with 200 serving as a control group.

G1k. Finding 13: LUPE Specialist Monitoring Impacts of Project Technologies

The project has come to an understanding with TAMU Tropsoils for carrying out two types of studies: technology impact monitoring and erosion and runoff measurement. Two LUPE specialists have been selected to assist in the studies and on-the-job training.

G2. Conclusions

The PMEU is currently understaffed and not qualified to carry out the baseline study, impact evaluations, or GIS implementation.

LUPE can be responsible for monitoring impacts of soil fertility and erosion if the specialists have the appropriate equipment and training in the analysis and interpretation of raw data.

G3. Recommendations

- A computer program needs to be developed with a data entry screen that will allow PMEU staff to input the data directly from the *Formulario de Ejecución/ Programación Trimestral*. This program will process the data and produce a report with the 12 indicators that is sent to USAID.
- To improve PMEU verification of field data, a random sample of beneficiaries for each agency should be selected and their *fichas* taken along on field inspections. This should be a standard procedure in both the Central and the Southern regions. PMEU regional supervisors should make arrangements to accompany area supervisors on field inspections.
- PMEU should continue being responsible for project information management. Additional support is needed in updating software (specifically the latest version of Foxpro) and training PMEU personnel in its use.
- The methodology proposed for the baseline study and impact monitoring by the survey specialist is appropriate. Ways to reduce the costs associated with the survey specialist's proposal should be considered, such as hiring of a local agricultural economist instead of an expatriate.

SECTION III LESSONS LEARNED

A. Conceptual Flexibility

A successful project must adapt to new realities and as a result of project experiences as seen in the use of contact farmers and the planned incorporation of NGOs.

B. Technical Assistance

A small, but competent technical assistance team can exert a large influence in reorienting an autonomous extension project.

C. Organizational Structure

A successful extension project can function within the ministry of natural resources, providing the project can achieve autonomy for technical, methodological, personnel, and financial aspects and can be kept free of party political interference. The question remains, however, whether such a project can be sustainable when it is no longer financed by an influential donor.

D. Technologies

Technology can successfully be transferred by a project that does not have a research component in situations where suitable technologies are available from previous experiences so long as validation is an important component and effort is made to incorporate new technologies as they become available.

E. Sustainability

Sustainability issues for technologies, methodologies, and institutions should be programmed into technology transfer projects from the beginning.

ANNEX A
STATEMENT OF WORK

A. General

The Contractor shall examine LUPE's activities in natural resource management and extension, as well as its management systems, and will measure how project strategies and systems are affecting achievement of expected outputs, including nutrition criteria, and the degree to which these outputs are contributing to achievement of the project's purpose. It will also examine the project's LOP budget and make recommendations for its updating based on current expenditure patterns and the revised LOP outputs.

The Contractor shall analyze and review project design documents, progress reports, implementation plans, internal LUPE and USAID monitoring reports of the project, diagnostic data on the target population, and technical reports and pamphlets produced by the project. Interviews will be sustained with MNR/LUPE and USAID personnel, and long-term advisors from the firm Associates in Rural Development (ARD). Will also be carried out by all members of the team.

B. Specific

In each of the following specific area analyzed, the Contractor will evaluate the present situation, including significant achievements, problem areas and constraints, and the effectiveness of the technical assistance team in providing timely and appropriate guidance. All the study questions for each area will be answered, and specific recommendations will be made which will include objectives and actions to be taken, as well as inputs required, and a proposed timetable.

B1. Natural Resource Management and Sustainable Agricultural Technologies

Is sufficient priority being given to conservation activities per se in order to bring about a marked positive short and medium-term impact in the project area?

What additional activities, if any, should the project be promoting and implementing to further produce positive environmental impacts?

Are any of the LUPE-promoted technical interventions, particularly among vegetable growers, causing a negative impact on the surrounding ecosystem?

Is the project successfully integrating conservation of natural resources with sustainable agriculture?

What is the relation and consideration given by the field technicians between specific

technologies promoted and local conditions?

What new and appropriate technologies are being designed and applied, and according to what criteria?

Is on-farm integration of the different technologies being promoted and implemented sufficiently to achieve the project objectives?

How could technology integration be enhanced?

Is the optimum percentage of level of effort being utilized in each respective subcomponent or technology, or should the strategic level of effort be modified?

Is the updated forestry strategy the most viable way to achieve the project's forestry targets?

Is the animal management sub-component concentrating in the most appropriate and specific technical areas in accordance with project strategies and goals?

Are pests being controlled sufficiently enough to reach the project's production targets?

How acceptable to the target population are the specific crops being recommended under diversification activities?

B2. Extension Methodologies and Strategies

To what extent are all project field technicians applying the LUPE extension methodologies and coordinating and transferring experiences among the different extension agencies and supervision areas?

How has training of technicians been coordinated and implemented, and is the new material and knowledge being adequately applied to achieve project objectives?

Is the internal training strategy and the quality of the internal training materials sufficient to adequately prepare field staff?

How effective are the Project's current efforts to help ensure the sustainability of the promoted technologies among the participating families?

How often should each family be visited to effectively achieve project objectives?

How could the time-use efficiency of field extensionists be improved (for example, through the use of a schedule of 10 days working and 4 days free)?

Are the incentives that are offered to the beneficiaries contributing significantly to the

adoption of technologies?

How accurate, complete and useful is the diagnostic process in evaluating a community's livelihoods and needs?

Do extension agency work plans and follow-up activities accurately reflect the information from the diagnostic?

Have the communities in which LUPE is currently working been selected according to the project purpose?

Are the area supervisors and the technical specialist effectively managing their time (i.e. field visits, etc.), and are all the technical and logistical needs of the extension agents being met?

How successful is the selection and training process for the contact farmers?

Are the contact farmers being utilized in the most efficient way? Will implementation of the planned para-professional program using NGOs, adequately ensure the sustainable adoption as well as the increased promotion of project technologies through the multiplier effect?

B3. Gender Considerations

Are the activities and technologies currently being promoted and implemented among the men and women beneficiaries in accordance with gender roles, interests and perceived needs, and what additional ones (if any) should be considered for both men and women?

Do women in the project-reached communities have the same access (compared to men) to LUPE services (e.g. promotional activities, technical assistance and training, follow up visits, etc.)?

How effective is the outreach and training in sustainable hillside farming technologies to the women beneficiaries who are not heads-of-households?

How could the logistical support toward the LUPE WID extensionists be improved?

Should the project place more emphasis on women contact farmers, as mentioned in the pp?

What is the potential of LUPE's women participants, as compared to men participants, to continue implementing project activities in a sustainable way, and to be agents of the multiplier effect?

Are the women beneficiaries receiving sufficient promotion and training in post-harvest technologies in accordance with their responsibilities in this area?

B4. Post-harvest Interventions

Are the post-harvest technologies being adequately integrated with those of increased production and productivity?

Why is the percentage of beneficiary farm families involved in the processing of fruits and vegetables so low?

Are the post-harvest technologies being promoted by LUPE appropriate for the respective economic levels and/or geographic zones of the beneficiaries?

What are some possible alternative for the micro-enterprise sub-component, given the decision to not offer credit to the project's participating families?

What is the viability of the marketing strategies promoted by the project, such as community marketing centers, and what additional actions should be taken in this area?

B5. Organizational Management

Is the current project organizational structure the most efficient way to reach the objectives?

Should regional offices exist, and if so, how many?

Should the administrative support staff be more decentralized?

Is the project management structure such as to allow optimal decision making?

How could the administrative and logistical support for the field extension agents be expedited more efficiently?

How could personnel management be improved?

How could USAID monitoring of the project possibly be more efficient and beneficial?

B6. Data Management

Do the activity reporting formats accurately reflect and report all the project field activities?

What actions need to be taken to ensure that the reporting formats are completely filled out by field technicians?

Is the planning, monitoring and evaluation unit (UPME) processing and analyzing the project-generated field data in a timely and useful manner?

Is the planning, monitoring and evaluation unit (UPME) processing and analyzing the project-generated field data in a timely and useful manner?

Is the field data and beneficiary listings being properly verified by UPME staff?

To what degree is the analyzed field data used to provide continuous feedback to the extension agents, and as a decision-making tool by various levels of LUPE management?

Should UPME be responsible for information management in the project?

How could this role be best developed?

How well is UPME coordinating the reception and dissemination within LUPE of data from outside sources?

Is UPME serving as coordinator of project activities with other MNR programs, as mentioned in the PP, and should this role fall on UPME?

Should the project place greater emphasis on the utilization of GIS?

Is the external impact-monitoring program as it is proposed, the most subsequent monitoring needs?

Is a 10 percent sample size for the monitoring of LUPE beneficiary farm should the specialists currently employed by the project be responsible for monitoring the impacts of the technologies themselves (i.e. improved soil fertility and structure, reduced soil erosion rate, etc.)?

ANNEX B
EVALUATION METHODOLOGY AND TIMETABLE

The evaluation team consisted of seven specialists: a hillside agriculture specialist/ team leader, an extensionist, a forester, and specialists in gender, postharvest, organization, and management and data management (see Annex G). Level of effort and scheduling of consultant input is shown on the next page. The team presented a proposed outline and work plan to USAID shortly after arrival, and clarified study questions posed in the scope of work. After orientation by the USAID project officer, evaluation officer, project manager, and by the LUPE directorate, team members began the evaluation that involved the following activities:

- Field observations at LUPE area and agency level and on farms of contact farmers and beneficiaries
- Document reviews
- Interviews
- Attending conferences and workshops

From analysis of the above steps, each team member reported findings, drew conclusions, and made recommendations in a separate report to the team leader who consolidated them into the evaluation report. Persons interviewed and documents reviewed and are listed in Annexes H and I, respectively.

LUPE Consultant Input Schedule

	3/1	3/8	3/15	3/22	3/29	4/5	4/12	4/19	4/26
	MTWTFSS	MTWTF							
Team Leader (45)									
Ext. Specialist (32)									
Forestry (20)									
Gender Specialist (15)									
PooCooche/Marketing (8)									
Org./Mgmt. Specialist (16)									
Data Mgmt. Specialist (25)									
Workplan/Outline									
Draft Report									

B-2

NA

ANNEX C
SUMMARY OF GOAL ATTAINMENT

MODIFICATIONS IN PRINCIPAL OUTPUT GOALS
FOR THE LUPE PROJECT

ACTIVITY		Original LOP Goal	Achieved LOP (as of 12/31/92)		New LOP Goal	% Achiev. of New Goal
			Cummul.	% of Orig. Goal		
Families participating in project activities	M	37,500	8,357	22%	24,840	34%
	F	12,500	778	6%	2,160	36%
		50,000	9,135		27,000	34%
Hillside on-farm land under soil/water/forest management (Ha)	M	37,500	8,099	22%	25,760	31%
	F	12,500	353	3%	2,240	16%
		50,000	8,452		28,000	30%
Hillside land under silvipastoral technologies (Ha)	M	1,000	462	46%	1,250	37%
	F	-	-	-	-	-
Multiuse trees produced and planted (X 1,000)	M	4,500	912	20%	-	-
	F	1,500	32	2%	-	-
		6,000	944			
Agroforestry practices established (km. planted)	M	-	601	-	2,622	23%
	F	-	21	-	228	9%
			622		2,850	22%
Families practicing crop diversification	M	3,750	760	20%	4,600	17%
	F	1,250	135	11%	400	34%
		5,000	895		5,000	18%
Fruit tree produced and planted (X 1,000)	M	-	96	-	230	42%
	F	-	10	-	20	50%
			106		250	42%
Family and school gardens established	M	-	-	-	-	-
	F	5,000	2,784	56%	9,000	31%
Families with improved small animal husbandry systems	M	-	-	-	-	-
	F	5,000	3,336	67%	7,000	48%
Storage capacity for basic grains (met. tons)	M	1,875	1,222	65%	2,300	53%
	F	625	0	0%	200	0%
		2,500	1,222		2,500	49%
Families processing fruits and vegetables	M	-	-	-	-	-
	F	3,000	124	4%	300	41%
Micro-watersheds under improved management practices	M	-	20	-	125	16%
	F	-	-	-	-	-
Primary school children trained in environmental issues	M	-	0	-	5,000	0%
	F	-	0	-	5,000	0%
			0		10,000	0%

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ANNEX D CONCLUSIONS

A. Natural Resources Management and Sustainable Agricultural Technologies

Overall, as far as the forestry-ecology aspects of those technologies are being applied at the farm level, the LUPE project is a success.

LUPE is promoting appropriate, compatible, and tested technologies for conservation and production.

To date, LUPE is not emphasizing the evaluation of "cutting edge" technologies for possible use in the project, nor does it formally evaluate the benefits and costs of the technologies currently in use.

Animal management technologies are being integrated with conservation technologies and will contribute to nutrition objectives as well.

LUPE technicians and extensionists appear to be competent and knowledgeable and have a good relationship in the communities they serve.

IPM training for project beneficiaries, particularly in areas of concentrated vegetable production, should be given priority.

Irrigation to extend the cropping season or for production in the dry season has great potential but potential sites are limited.

Management of micro-watersheds does not appear to have a high priority as yet.

Overgrazing in the Southern region is a problem particularly with larger owners outside the scope of the project.

Exploitation of the natural pine forest for firewood is causing negative environmental impacts in some areas of the central region.

There is a need to begin emphasizing the ecological and environmental education goals of the project.

LUPE should begin developing plans and procedures for withdrawing from "mature" areas that no longer benefit from their services.

B. Extension Methodologies and Strategies

The extension methodology and training components are the product of an institutional process that spans 10 years and perhaps LUPE's most important contribution to agricultural development in central America.

The project's internal technology transfer is a well conceived process of sharing knowledge about technology and experiences.

LUPE could benefit from training and sensitizing extensionists and specialists on the relationships among technologies, and to urge them to give more thought to the production system as a whole.

The project has not appointed a training coordinator nor has it devised a mechanism to improve the flow of technologies between the technical assistance team and specialists or from them to the field.

The agency diagnostics have been an excellent tool for determining agency and project needs but have fallen short in determining community needs.

Community organization and groups conscious of sustainable production needs are needed to promote and sustain the process and adapt the technology beyond LUPE.

The incorporation of paratechnicians and contact farmers addresses the lack of extension capacity to reach targeted farmers.

Specialists and supervisors are not using their time efficiently.

Flexible working schedules are needed especially at agencies in less accessible areas.

Recent changes in routes, community based diagnostics, resources and personnel turnover are influencing community selection criteria and a more professional selection approach is taking place.

Contact farmers are in many cases inherited from the MNR project. Farmers, technicians, and management carry with them not only positive experiences but also sometimes negative ideas on key aspect such as incentives, women contact farmers, the family garden, and contact farmer participation in community organizations and on technology analysis and validation.

The project, despite changes shown on proposed PIL and the Project Agreement, and a timid updating of the incentive policy, is still affected by the 1980s "subsidies malady" and does not want to or does not foresee how incentives could affect sustainability of hillside agriculture at the family level.

The NGO agreement will definitely influence the multiplier effect but will not ensure the technology adoption nor sustainability of the process if communities and groups supported by paratechnicians and contact farmers are not incorporated into the agreement.

Contact farmers interviewed are knowledgeable in the promotion of technologies.

C. Gender Considerations

LUPE's *incorporación femenina* subcomponent is a serious effort to deal with gender considerations.

LUPE needs to quickly and effectively integrate what has become a gender-segregated approach to technology transfer.

The integrating focus of LUPE's services and technologies should be the hillside farm family and not separately the men and the women who live in areas served by LUPE.

LUPE's *incorporación femenina* subcomponent needs to offer technologies and services that go beyond current home improvement and family garden activities.

D. Postharvest Interventions

Postharvest interventions are concentrated on storage of basic grains and appear to be well accepted by contact farmers who are now using the new metal silos.

Because of the high cost (Lps. 200 for the 2qq size and Lps. 400 for 15qq size) and shortage of *lamina*, isolated farmers are adopting the use of improved rustic structures (*trojas*) or large plastic bags that hold about 4qq of threshed grain.

E. Organizational Management

The organizational structure itself, although it does not necessarily follow all of the "rules of organizational charts," appears to be working effectively and should not be changed.

Communication between and among different levels of the organization can and should be strengthened.

The existence of regional and area offices contributes to the effectiveness and efficiency of project activities.

The trend toward decentralization of administrative support staff should continue and be fully supported.

The efficiency of the regional supervisors would be enhanced if they were given more autonomy over the management of discretionary funds for small expenses.

Administrative and logistical support should be further improved.

An effective maintenance and repair program is of even greater importance.

Personnel management is effective in the LUPE project.

USAID should continue with its informal monitoring and coordination activities, but should also reinstate formal coordination meetings to improve the quality of the monitoring process at different levels.

LUPE should coordinate activities and exchange information with other GOH agencies and projects, other USAID-financed projects, NGOs, and private educational and research institutions such as Zamorano and FHIA.

F. Data Management

The PMEU is currently understaffed and not qualified to carry out the baseline study, impact evaluations, or the implementation of a GIS.

LUPE can be responsible for monitoring impacts of soil fertility and erosion if the specialists have the appropriate equipment and additional training in the analysis and interpretation of raw data.

ANNEX E RECOMMENDATIONS

A. Natural Resources Management and Sustainable Agricultural Technologies

Conduct benefit/cost studies on the various technologies and combinations of technologies.

Encourage more interest and involvement on the part of LUPE technical personnel in discovering and evaluating "cutting edge" technologies for hillside agriculture.

Fine-tuning will become increasingly important as the project reaches out to smaller farmers who have no prior connections with the project.

LUPE should establish phaseout thresholds to withdraw from communities where it has achieved a certain stage of technology adoption, and where continuing efforts are unlikely to produce further gains.

B. Extension Methodologies and Strategies

B1. Internal Flow of Technology

The project should redefine its training strategies to support the internal flow of technologies and incorporate within the training modules a systems concept that integrates disciplines and improves interactions within project components.

A training coordinator may be needed to integrate the flow of technology to the field and improve the interaction of the component specialists and the technical assistance team.

At the agency level, develop training materials that allow everyone to do everything at the farm level, thus avoiding the men/women dichotomy, promote more efficient use of time, transport, and human resources, and increase the importance of the *huerta* as a sustainable production unit at the family level.

B2. Work Schedules and Visits

Install a schedule of ten working days and four days free to improve the time use efficiency of the field extensionist.

The visits as part of the extension component should be enhanced by the NGOs and by mass media technology transfer means.

B3. Incentives

LUPE needs to rethink its incentives policy to consider not only vegetative material and agricultural inputs.

- Define incentives not as a condition to participate but as a reward to what has been done.
- Define incentives as a strategy to develop community/group productive activities that enhance and protect the resource base.
- Provide incentives through NGOs to speed up payment to contact farmers and for other productive activities.
- Integrate incentives, NGO agreements, and specialized communities into an organization capable of sustaining the process of technology adoption.

B4. *Diagnósticos*

Community *diagnósticos* should include a more detailed analysis of production technology of the target crops and practices plus an analysis of community potentials and limitations as they relate to soil conservation practices and market potential for crops and vegetables.

Use *diagnósticos* as the main tool during the agency induction process—and have the new technician do a production technology characterizations and analyses. Technicians should have an understanding of the farm as a system.

Identify and incorporate communities that will support farmer organizations with the potential to develop linkages with NGOs in the area.

B5. Contact Farmers and the NGO Agreement

Increase and accelerate logistical support to the contact farmer component.

Clearly define the women contact farmer role at the family level with the garden as a linkage of the production technology and nutritional aspects of the family.

Make sure there are no women-men roles influencing the activity.

Increase the sustainability of the technologies through the NGO involvement by helping organize community groups that have reached the point where a collective effort to solve problems is possible.

C. Gender Considerations

Dismantle the gender wall within LUPE:

- Integrate *incorporación femenina* activities and technologies into LUPE's extension component by redefining the roles and responsibilities of the extensionists at the agency level. Emphasize field agency team work and complementarity of skills and backgrounds rather than gender.
- Make family garden technology transfer and small livestock production the responsibility of the head of the agency. Women extensionists' role, while continuing to include current activities, should emphasize community liaison, organization, and training.
- Intensify the training of women extensionists in hillside farming and natural resource conservation technologies, and include women extensionist in activities with men farmers. Include men extensionists in women activities. Goal should be to hire/train women or men extensionists who can work with women and men clients indistinctly.
- Broaden the scope of women contact farmers to include technologies offered in all LUPE components.

Use home improvement technologies as a means to contact, establish rapport with, and recruit farm families as LUPE's clients.

Seek income producing, community improvement, and environmental activities that can be undertaken by women's groups.

Seek out NGOs or other government projects to continue working with the communities where LUPE has delivered all it is designed to deliver.

D. Postharvest Interventions

Increase emphasis on postharvest. More emphasis and resources need to be placed in postharvest technologies for storing basic grains.

Concentrate on postharvest technologies of farm products that can be sold by women such as edible fruits, vegetables, medicinal plants, and spices.

Offer fruits and vegetable processing technologies only if requested by LUPE beneficiaries.

E. Organizational Management

Vehicle management must be improved.

There should be an annual training session for field staff (especially heads of agencies) in administrative procedures, with emphasis on how to specify their purchase requests so as to ensure receiving the necessary quality.

The USAID project office should seek Development Finance Office concurrence to increase the internal revolving fund to the original Lps. 300,000.

LUPE should set up a revolving fund of Lps. 5,000 in each regional office for small expenditures and increase to Lps. 10,000 after review.

USAID should hold discussions with the Ministry of Natural Resources and Ministry of Finance regarding giving LUPE more control over payments of salary and per diem.

LUPE should expand and formalize the decentralization of materials and supplies to the area level, and should continue to decentralize administrative support to each area office.

It is strongly urged that USAID aggressively seek to ensure the stability and continuity of the senior staff of LUPE.

The Project Implementation Committee should begin to meet again, biannually.

LUPE should begin to implement the coordination activities envisioned in the Project Paper and RFP, with NGOs, GOH agencies and projects, and other USAID projects.

F. Data Management

A computer program should be developed with a data entry screen that allows PMEU staff to input data directly from the *Formulario de Ejecución/Programación Trimestral*.

To improve PMEU verification of field data, a random sample of beneficiaries for each agency should be selected and their *fichas* taken along on field inspections. This should be a standard procedure in both the Central and the Southern regions. PMEU regional supervisors should make arrangements to accompany area supervisors on field inspections.

PMEU should continue being responsible for project information management. Additional support is needed in the areas of updating software (specifically the latest version of Foxpro) and training PMEU personnel in its use.

The methodology proposed by the survey specialist is appropriate. Ways to reduce the costs associated with the survey specialist's proposal should be examined, such as hiring a local agricultural economist instead of an expatriate.

ANNEX F SUGGESTIONS

Although not requested in the scope of work, these suggestions may be of use to USAID and LUPE. Some complement the recommendations made. Others suggest ways to deal with issues commented on in the findings and conclusions of the main report.

A. Natural Resource Management and Sustainable Agricultural Technologies

Give higher priority to identifying potential mini-riego sites. If necessary, hire a short-term specialist in development of water sources to train LUPE specialists.

Because micro-watershed management is a specialized area perhaps it should be addressed with a specialist task-force approach using expert skills from both the Tegucigalpa and regional offices.

The overgrazing issue needs a combined education-public relations approach on a broader scale. Associations of *ganaderos* should be approached in a positive manner to possibly offer them range management assistance. It would be prudent to include on-going funding within the project to help address the environmental situation.

Better transportation availability means preventative maintenance programs and possibly more vehicles, e.g., motorcycles and in some locations maybe even mules.

USAID/Honduras funds a program for improved farm-to-market roads. Perhaps coordination with LUPE indicating priorities could be effected.

To reduce negative environmental impacts from firewood exploitation in the natural pine forests consider woodlot plantations for firewood use.

Ecological-environmental education goals of the project—10,000 school children impacted—need to be recorded and emphasized.

LUPE should begin developing plans and procedures for withdrawing from "mature" areas that no longer benefit from their services. They should plan and schedule the phaseout according to degree of development and progress. LUPE should do a *diagnóstico* to determine the major needs of the area beyond the scope of the project. LUPE and the NGOs should could help by organizing the people for self help or helping them make contact with other NGOs or organizations that can assist. The proposed NGO involvement with LUPE will be an important asset in the phaseout process.

B. Gender Considerations

LUPE needs to critically review its perception of gender roles among its own staff and among its beneficiary population. This review should include the effectiveness of its current gender-segregated approach to technology transfer, and the validity of gender stereotypes held by LUPE staff and its beneficiary population.

Interests and perceived needs. LUPE should regard its home improvement activities not as an end by themselves but as a means of establishing contact with women beneficiaries, and as the initiation of a process that will lead the LUPE extensionist and her clients to identify their problems, priorities, and solutions. LUPE's extensionists should be encouraged to enter a two-way dialogue with their clients to identify their interests and needs beyond home improvement and family garden activities. If the problems and/or projects identified fall beyond LUPE's scope, LUPE extensionists should be encouraged and credited for helping their women clients contact appropriate NGOs or other government institutions.

There is no good reason, except established custom within LUPE, for not including women into LUPE activities outside the *incorporación femenina* component. While rural women may not play a visible role in the management of the farm, they have an important input in all decisions affecting the family. Understanding the technologies promoted by LUPE may increase their support for implementing them within the farm. Greater exposure to LUPE's overall technology package will at a minimum raise community environmental and technological awareness.

Women's access to LUPE services can be enhanced considerably if LUPE implements its policy to turn family gardens into technology demonstration plots and training sites.

Effectiveness of outreach and training on hillside farming technologies. Implement family gardens as community demonstration plots not only as a means to improve family nutrition but also as a showcase for technologies promoted by LUPE.

Assign technical responsibility for the family garden to the agency and not just the women extensionist.

Logistical support for LUPE's women extensionists. LUPE should continue efforts to change sexist attitudes among male staff.

Institute a driving course for women extensionists or pay for their commercial driving lessons.

Make family gardens the responsibility of the agency, and not just the women extensionist.

Redefine the role of women extensionists to that of community liaisons and/or organizers, which are more in accord with their training and backgrounds, rather than

providers of all LUPE technical assistance services to rural women. Include in the role of male extensionist work with family gardens and school plots.

Women contact farmers. Maintain current emphasis on women contact farmers, but broaden the scope of their training and activities beyond home improvement and family garden activities to include natural resource conservation and production technology.

Change the gender-segregated approach to contact farmers to one that focuses on the farm family and the community's environment.

LUPE's women participants as agents of change. Review and expand LUPE's services to women to include and emphasize income enhancing projects, such as the sale of garden crops, especially vegetables, fruits, medicinal plants, and spices.

- Make available a small revolving fund to finance women's projects.
- Provide technical and organizational assistance to women's projects.
- Open all technology assistance and training activities to both LUPE's women extensionists and their women clients.
- Explore the feasibility of engaging women's and children's groups in community environmental protection and enhancement projects, such as subwatershed protection and reforestation, cleaning the village and disposing of trash, fuelwood and edible tree production, biodiversity preservation in school plays or community botanical gardens, etc.

LUPE needs to go beyond its current limited home improvement and family garden activities if its to fully "exploit" the potential of women beneficiaries as change agents.

More flexibility and financial resources are needed to respond to bottom-up initiatives outside of the current services package. If this is not an option, then LUPE should be required to seek and engage NGOs or other government organizations that can provide these services in the communities in which LUPE is working.

C. Postharvest Technologies

More emphasis and resources need to be placed in postharvest technologies for storing basic grains.

Concentrate on postharvest technologies of farm products that can be sold by women such as edible fruits, vegetables, medicinal plant, and spices.

Offer fruits and vegetable processing technologies only if requested by LUPE beneficiaries.

LUPE targets for working with female-headed households should be adjusted to reflect the actual proportions of men- and women-headed households in the areas it works. Actually, LUPE could with little effort review all of its community *diagnósticos* to establish the actual number of women-headed households and adjust its target accordingly.

D. Postharvest Interventions

Fruit and vegetable marketing should become a more important component of the LUPE project in appropriate areas. Once a farm family's consumption needs are met, it is necessary to have some knowledge of marketing to sell surplus and realize a reasonable profit. If this knowledge does not exist, small farmers have no incentive to produce more than enough to satisfy their own needs. More knowledge (market information) will help farmers avoid the serious market fluctuations that now exist in Honduras.

For perishable fruits and vegetables the postharvest and marketing technology must be integrated with production technology since they are interdependent. Improperly grown produce not only results in low yield but also lacks market quality such as appearance, texture, and flavor.

Explore the use of plastic containers to transport highly perishable produce such as cauliflower. These can be marked with the LUPE logo and help publicize the project.

- Advertise prices with a blackboard.
- Encourage farmers to process wild blackberries into juice or jam for sale.
- Identify the individual producer by name on a container or sign in the market.
- Encourage more use of LUPE plastic bags to advertize the project.
- Use plastic bags with perforations for ventilation of leafy vegetables.
- Store extra produce in shade under tables until needed for sale.
- Consider selling home-baked goods at the farmers market.

A proposal has been submitted to LUPE/USAID for a small produce market and collection center to serve LUPE farmers in the Central Region. This proposal should be reconsidered or funding should be sought from other sources since the Tegucigalpa farmers market is in operation only on Friday afternoon and Saturday morning. The proposed market could serve more than 300 families and encourage cooperative efforts.

In discussions with LUPE counterparts during two days in the field, the following possible microenterprises were discussed that would not require a farmer credit component in the project:

Encourage specialist PVOs to assist in the establishment of farm shops for building and assembling structures or equipment that would be useful within LUPE such as:

- (1) Metal silos for on-farm grain storage of which several hundred have now been built and sold to farmers at a cost of about Lps. 200 each. Two workers can make about 72 small silos per month.

- (2) **Beehives, frames, and foundation to help families start apiaries. In fruit growing areas bees will ensure improved pollination and increased production even though beekeeping has been complicated by African bees, which are more aggressive and difficult to manage. Farmers point out that the African bees actually produce much more honey.**

In some areas peanuts are an important crop. When properly cured, peanuts could be roasted, shelled, salted, and packaged in consumer-sized plastic packets identified as LUPE enterprise.

Increased utilization of wild blackberries could be possible by extracting the juice and using it for concentrate, jam or jelly, candies, etc. This may be done at a community level by several families using simple equipment.

Cashew nuts are being processed and prepackaged for export within the LUPE project area near Choluteca. Several NGOs and PVOs are involved in promoting and financing these community enterprises. One new one, started last week, employs 43 women daily and provides an important source of family income directly to the women who most need it. LUPE should work closely with these microenterprises and encourage them.

E. Organizational Management

USAID should hold discussions with the Ministry of Natural Resources and Ministry of Finance regarding the possibility of giving LUPE more direct control over payments of salary and per diem.

LUPE should continue to review salary levels and upgrade when appropriate, correlating with salary levels at other GOH agencies and projects.

USAID should establish procedures to monitor and follow-up on recommendations made in this report, in the same manner as they would follow-up on financial audit recommendations.

LUPE should continue to develop and review (on a quarterly basis) the procedural manuals it has been developing, including purchasing, accounting, vehicle use, etc.

LUPE should provide additional training to extensionists in agroforestry (including fruit tree production), microwatershed management, and small animal husbandry.

LUPE should expand and formalize the decentralization of materials and supplies to the area level. Minimum and maximum amounts of basic materials and supplies should be established by the regional supervisors jointly with the area supervisors and the LUPE administrative office. LUPE should also continue to decentralize administrative support to each area office.

Each of the two regions should hold monthly coordination meetings with the area offices to look at logistical and technical problems (e.g., vehicles) and look at ways to access support from Tegucigalpa. They should then report to Tegucigalpa on a quarterly basis, with suggestions for corrective action. This can also provide the basis for monitoring and evaluation by USAID.

It is strongly urged that USAID aggressively seek to ensure the stability and continuity of LUPE senior staff, particularly the director and sub-director during the change in national government early next year.

The Project Implementation Committee should begin to meet again on a monthly basis. The USAID evaluation officer and the Minister of Natural Resources (or his designate) should be invited on a semi-annual basis. At these meetings, there should be a very specific agenda. There should be a definition of decisions required at different levels of the project (what decisions need to be made by whom).

LUPE should begin to implement the coordination activities envisioned in the Project Paper and RFP with NGOs, GOH agencies and projects, and other USAID projects. In regard to the proposed inclusion of a group of NGOs managed by CARE as the umbrella NGO, LUPE should work with CARE to establish a detailed transition plan to coordinate with the participating NGOs. Responsibility for data collection, monitoring, and evaluation should also be clearly defined. In addition, the new component should be fully explained to all LUPE staff, and the division of responsibilities clearly defined. To effectively incorporate this new activity into the LUPE project, close coordination will be required. A coordinator should be named (who could also be either the director or sub-director), responsible for all liaison with CARE. During the first week, daily meetings should be held. Subsequently, meetings should be held weekly until the NGOs are fully incorporated into the LUPE project activities (probably within six months), after which monthly meetings should be held.

Improve follow-up on the technologies introduced in the home improvement component, including care of *huertos*, and maintenance of improved cookstoves.

A couple of motorcycles for the PMEU regional supervisors would facilitate transportation to project areas.

Installation of communication radios at each project area office would facilitate the coordination of field visits and the quality control of data.

F. Data Management

The PMEU should continue with its current functions and responsibilities.

A local firm should be contracted to carry out the baseline study and conduct impact evaluations for the remaining life of the project.

A minimum requirements specification should be done, by the PIC, on the variables to be included in the baseline study. Keep it simple to conduct future impact evaluations of the project.

Project management should take more interest in coordinating with other institutions working in the project area.

The PMEU should be elevated with regard to its original hierarchy within the LUPE organizational structure, i.e., as a support unit reporting directly to LUPE's executive director. This will permit the PMEU to have better autonomy in coordinating with the NGOs and other institutions working in the project area.

ANNEX G
EVALUATION TEAM MEMBERS

Team leader/NRM specialist	Gerald Owens
Forestry ecology specialist	Robert Nelson
Agricultural extension specialist	Francisco Rodriguez
Gender specialist	Ivo Kraljevic
Postharvest and marketing specialist	Charles Atlee
Organization and management specialist	Leslie Brant Teixeira
Data management specialist	Steve Roshalt

**ANNEX H
PERSONS CONTACTED**

Ing. Mario Nufio	Minister	Natural Resources
John Jordan	USAID	Project Officer
Marcela Moya	USAID	Finance
Carmen Zambrana	USAID	Evaluation, Gender
Peter Hearne	USAID	Project Manager
Jorge Quinoñes	LUPE	Director
Miguel Sanchez	LUPE	Subdirector
Mario Nuñez	LUPE	Productores Enlaces
Eduardo Canales	LUPE	Production Technology Coordinator
Jorge Palma	LUPE	Administrator
Yolanda Suyapa B.	LUPE	Administration
Candido Ruiz	LUPE	Extension Coordinator
Roque Almendares	LUPE	Postharvest Coordinator
Marixa Rodriguez	LUPE	Marketing
Elizabeth Umanzor	LUPE	Women in Business
Silvia Vasquez	LUPE/UPME	Subchief, UPME
Jenny de Martinez	LUPE/UPME	Planning Specialist
Elizabeth Bendek	LUPE/UPME	Planning Specialist
Francisco Banegas	LUPE/UPME	Computer Specialist
Carlos Flores	LUPE/Central	Supervisor
Olman Rivera	LUPE/Sur	Supervisor
Carlos Ruiz	LUPE/Central	Extension
Carlos Mejía	LUPE/Central	Planning Specialist
Jorge Romero	LUPE/Sur	Planning Specialist
Eugenio Zelaya	LUPE/Ojojona	Supervisor
Luis Aguirre	LUPE/Curarén	Extension
Martín Leal	LUPE/Campamento	Supervisor
Lesly Pacheco	LUPE/Campamento	Female Extension Agent
Eduardo Mayes	LUPE Campamento	Extension
Mario Ramirez	LUPE/Campamento	Extension
Ricardo Galeano	LUPE/V.de Angeles	Supervisor
Anabela Sevilla	LUPE/V.de Angeles	Promoter
Allan Garcia	LUPE/V.de Angeles	Extension
Gonzalo Hernandez	LUPE/SJ del Rancho	Extension

Nolvia Pagoada	LUPE/SJ del Rancho	Female Extension Agent
Eugenio Zelaya	LUPE/Ojojona	Supervisor
Arturo Rojas	LUPE/Ojojona	Extension, Agriculture
Milton Hernandez	LUPE/Ojojona	Agency Chief
Esperanza Aruijo	LUPE/Ojojona	Female Extension Officer
Carlos M. Thompson	LUPE/Ojojona	Agency Chief
Luz Mirian Rivera	LUPE/Cholulteca	Supervisor
Silvio Morales	LUPE/Namasigue	Person in charge
Sulema Gomez	LUPE/Namasigue	Female Extension Agent
Denis Osorio	LUPE/Namasigue	Extension
Victoria Lainez	LUPE/Cholulteca	Extension
Herbert Lopez	LUPE/Cholulteca	Agency Chief
Engracia Herrera	LUPE/Cholulteca	Female Extension Agent
Alfredo Carrasco	LUPE/Cholulteca	Supervisor
Evenardo Dias	LUPE/Cholulteca	Extension
Enrique Chavez	LUPE/Tatumbula	Extension
Jorge Romero	LUPE/Cholulteca	Extension
Cesar Durán	LUPE/M. de Oro	Extension
Oscar Medina	LUPE/M. de Oro	Extension
Lisandro Palma	LUPE/M. de Oro	Extension
Elsie Valerín	LUPE/M. de Oro	Extension
Juan Diego Sanchezs	LUPE/Pespire	Extension
Jorge Cuadra	LUPE/Cantarrana	Extension
Lorena Rosales	LUPE/Agalteca	Extension
Misael Recinos	LUPE/Monte Redondo	Extension
Jorge Gomez	LUPE/Agalteca	Extension
Beira Maldonado	LUPE/Pespire	Extension
Oscar Lupiac	LUPE/Las Lajas	Extension
Margaret Tsitouris	CARE/Honduras	Director
Mike Godfrey	CARE/Honduras	Subdirector, programs
Edgardo Welh	COHDEFOR	Jutiapa
Manuel Hernandez P.	Consultant	
Roland Bunch	COSECHA	Consultant
Peter Hughes-Hallett	ARD/LUPE	Chief of Party
David Leonard	ARD/LUPE	Technology Specialist
Lufs Tergas	ARD	Livestock Consultant
Elias Sanchez	ACORDE	Director
Rolando Mendoza	Peace Corps Training Center	

PRODUCERS

Porfirio Brevé	Field
Valentín Maldonado/Aurora Ordoñez	Field

Victoria Amador	Field
Rafael Brevé	Field
Rigoberto Bonillo	Field
Raul Moncada	Field
Celím Bonillo	Field
Benjamín Midence	Valle de Angeles
Julio Madril	Valle de Angeles
Victor Lopez	Valle de Angeles
Antonio Silva	
Luis Alonzo Silva	
Wilfredo Silva	
Isidro Castejon	
Dagoberto Amador	
Miguel Angel Gomez	
José Tomas Ochoa	
Saturnino Garcia	Ojojona
Bernardino Rodas	Ojojona
Humberto Macoto	Ojojona
Umberto Cruz	Choluteca
Porfirio Sanchez	Choluteca
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Ercilio Doblado	Valle Bonito
Hector Redondo	Valle Bonito
José Gomez	Cabecera
Wilfredo Palma	Cabecera
Alexander Amador	San José Pasture
Reinaldo Amador	San José Pasture
Don Cupertino	Namasigue
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Martín Guido	Namasigue
Natividad Cepeda	Namasigue
Doña Maria Espinosa	Los Algodones

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ANNEX J
ACTIONS TO BE TAKEN, INPUTS REQUIRED, AND TIMETABLE

A. Conservation and Production

A1. Benefit/Cost Studies

Actions: Hire local agricultural economist to establish methodology and procedures and initiate studies.
Inputs: Approximately one years' salary
Timetable: Intermittent, from mid-1993 to mid-1996.

A2. Additional Technologies

Actions: Administrative decision
Inputs: No additional
Timetable: Present to end of project

A3. Fine-tuning Technologies

Actions: Ongoing; administrative decision
Inputs: No additional
Timetable: Present to EOP

A4. Phaseout of LUPE Involvement

Actions: Administrative decision, determining phaseout criteria, planning, coordination with other organizations
Inputs: No additional
Timetable: Present to EOP

B. Extension

B1. Internal Flow of Technology

Actions: Revise training strategies as indicated. Appoint training director.
Inputs: Salary - 3.5 years for training coordinator
Timetable: Present to EOP

B2. Work Schedules and Visits

Actions: Administrative decision
Inputs: None
Timetable: Immediate

B3. Incentives

Actions: Consider modification in Incentives Policy
Inputs: No additional
Timetable: Before NGO agreement

B4. Diagnostics

Actions: Emphasize use of community surveys for analysis of existing technology and technology needs.
Inputs: No additional
Timetable: Immediate to EOP

B5. Actions: As Indicated in Recommendation

Inputs: Additional didactic material
Timetable: Present to EOP

C. Gender

C1. Dismantle the Gender Wall

Actions: Redefine roles and responsibilities of extensionists
Inputs: No additional
Timetable: ASAP

C2. Home Improvement Technologies

Actions: As indicated in recommendation
Inputs: No additional
Timetable: Present to EOP

C3. Activities for Women's Groups

Actions: As indicated
Inputs: No additional
Timetable: Present to EOP

C4. Phaseout of LUPE Activities

Actions: As indicated
Inputs: No additional
Timetable: As per phaseout schedule

D. Postharvest Marketing

D1. Storage of Basic Grains

Actions: As indicated in recommendation
Inputs: Additional extension workers time
Timetable: Present to EOP

D2. Saleable Produce

Actions: Concentrate activities on farm products
Inputs: No additional
Timetable: Present to EOP

D3. Food Processing Technology

Actions: As indicated in recommendation
Inputs: None
Timetable: Present to EOP

E. Organizational Management

E1. Vehicle Management

Actions: Rehabilitation, reassignment, maintenance, purchase of motorcycles,
and local repair
Inputs: Motorcycles already budgeted
Timetable: Present to EOP

E2. Training in Administrative Procedures

Actions: Design and implement training
Inputs: No additional
Timetable: Annually

E3. Increase Revolving Funds

Actions: Administrative decision
Inputs: No additional
Timetable: ASAP

E4. LUPE Autonomy for Salary and Per Diem

Actions: Negotiations
Inputs: No additional
Timetable: ASAP

E5. Decentralization of Materials and Supplies

Actions: Administrative decision
Inputs: No additional
Timetable: ASAP

E6. Continuity of LUPE Senior Staff

Actions: Negotiations
Inputs: No additional
Timetable: Before elections

E7. PIC

Actions: Administrative decision
Inputs: No additional
Timetable: ASAP

E8. Coordination with NGOs and Other Entities

Actions: Coordination and negotiation
Inputs: As budgeted
Timetable: Present to EOP

F. Data Management

F1. Activity Reporting Formats

Actions: Computer programming
Inputs: No additional
Timetable: ASAP

F2. Verification of Field Data

Actions: Field investigations
Inputs: No additional
Timetable: Continuing; intermittent until EOP

F3. Data Base Capabilities

Actions: Purchase of software and training
Inputs: About \$500 for software
Timetable: ASAP

F4. Baseline Study and Impact Monitoring

Actions: Design and implement study and establish procedures for monitoring
Inputs: Subcontract for field survey, additional technical assistance, increased analysis capability in LUPE (in-house training)
Timetable: June 1993 to EOP