

AN EVALUATION OF THE POTENTIAL FOR  
PEACE CORPS - USAID - HOST COUNTRY MINISTRY  
COOPERATION IN SOCIAL FORESTRY PROJECTS

G U A T E M A L A

January 1981

a report prepared by

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## INTRODUCTION

This report has been prepared for the Forestry Sector in the Office of Programming and Training Coordination of Peace Corps in conjunction with the PC/AID Forestry PASA (#936-5519). The report presents a brief overview of the institutions and activities concerned with forestry and natural resource projects in Guatemala. The information will assist the Peace Corps and AID Washington staff in designing and implementing future forestry PASA activities through a better understanding of field operations and needs. Also, it is hoped that this report will provide in-country donor agency staff and government officials with an objective perception of current environmental projects, institutional capabilities and relationships, and possible areas for expansion.

The issues presented correspond to an outline (Appendix A) that Peace Corps/Washington provided each assessment team. We suggest that the reader review this outline of issues prior to reading the report to facilitate understanding the format and content. The issues were chosen because they will influence future Peace Corps, AID, and host country agency collaborative forestry efforts.

During the 8-day assessment visit to Guatemala, interviews were conducted with key personnel from Peace Corps, AID, and host country ministry institutions involved in forestry and natural resource activities. Site visits were also made to representative project areas and institutional facilities within the country.

The content of the report represents the authors' viewpoint resulting from the interviews, site visits, and review of available documents. The authors wish to express their appreciation to all who contributed time and energy to making the visit complete. It is hoped that the results represent a balanced and objective analysis of a complex series of activities.

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## EXECUTIVE SUMMARY

### GUATEMALA PASA REPORT

#### I. HOST COUNTRY GOVERNMENT/AGENCIES

The government development goals within the natural resource sector include the inventory, evaluation, and rational use of natural resources. INAFOR, the Guatemalan National Forestry Institute, is primarily involved in reforestation and watershed management. It suffers from a negative public image because it is perceived primarily as a policing and enforcement arm of the national government. INAFOR has worked jointly with Peace Corps and CARE in establishing regional nurseries. INAFOR has not worked with AID. Although each PCV has a counterpart, the counterpart is only marginally integrated into INAFOR.

#### II. PEACE CORPS

Twenty-six (26) Peace Corps volunteers work in conservation, reforestation, extension, and soil conservation. Further expansion of the program is limited by an already full supervisory load on the APCD. The geographical focus of PCVs' activities is currently in the central highlands but may shift to less politically troubled areas of the country.

Peace Corps relations with INAFOR are very positive at the central planning level but deteriorate somewhat at the field level, with some PCVs preferring not to be associated with INAFOR because of its negative reputation in some communities.

Peace Corps relations with AID have been distant. One joint PC/AID integrated rural development project was planned but not

implemented due to political activity and administrative problems with a PVO. PC is not currently involved with any AID forestry projects at any level, and future integrated projects involving PC, AID, and INAFOR are unlikely because of lack of communication between AID and INAFOR.

PC has a good working relationship with CARE, both in forestry and fisheries projects. Other PVOs have also worked with PCVs.

### III. USAID

In Guatemala, AID has traditionally worked in agriculture while FAO concentrated on forestry. Currently, there are no AID forestry projects per se, but AID agricultural projects address land use problems and AID is discussing an integrated rural development project (IRD), which will include forestry. AID has had minimal involvement with PC, private voluntary organizations and non-governmental organizations. AID reports excellent relationships at the Ministry level but contacts appear to be less well developed at lower levels. In particular, planning future IRDs will require greater coordination between AID, PC, Guatemalan institutions and private voluntary organizations if successful projects are to be implemented.

### IV. ROCAP

ROCAP, AID's Regional Office for Central America and Panama, provides technical assistance in the form of professional staff and funds. Based in Guatemala City, ROCAP allocates a fourth of its current budget to forestry and natural resource programs and is expanding its staff to include a regional forester (to be based

in San Jose, Costa Rica) and an environmentalist (to be based in Guatemala). A specific ROCAP project includes funding of a fuelwood study by CATIE in Costa Rica, that will focus on all of Central America.

ROCAP has a distant and indirect relationship with Peace Corps.

#### V. TRAINING

Peace Corps/Guatemala would prefer to work with degreed foresters, although both Guatemalan agencies and AID/G consider skill training appropriate if the volunteer receives training locally. Counterpart involvement was highly recommended for in-service training.

## LIST OF ACRONYMS

AID	Agency for International Development
AID/G	AID Mission to Guatemala
APCD	Associate Peace Corps Director
CARE	Cooperative for American Relief Everywhere
CATIE	Tropical Agricultural Research and Training Center
CNPE	National Council for Economic Planning
CNR	Conservation of Natural Resources Project
COGAAT	German Development Agency
CORFINA	National Finance Institute
DIGESEPE	General Directorate of Livestock Services
DIJESA	General Directorate of Agricultural Services
ESNACIFOR	National Forestry Science School, Honduras
FAO	Food & Agricultural Organization of the United Nations
GOG	Government of Guatemala
HCA	Host Country Agency
HCM	Host Country Ministry
HOPE	Health Opportunities for People Everywhere
ICAITI	Central American Research Institute for Industry
IDA	International Development Agency
INAFOR	Guatemala National Forestry Institute
INGUAT	National Tourism Institute
IRD	Integrated Rural Development Project
NGO	Non-Governmental Organization
OPEC	Organization of Petroleum Exporting Countries
OPG	Operational Program Grant
PC	Peace Corps
PC/G	Peace Corps/Guatemala
PCV	Peace Corps Volunteer
PVO	Private Voluntary Organization
ROCAP	AID Regional Office for Central America and Panama
SDA	Special Development Assistance
UNICEF	United Nations Children Fund
USFS	United States Forest Service

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## HIGHLIGHTS

- o The PC/Guatemala largest project is the Conservation of Natural Resources Project with INAFOR and CARE. It is in excellent shape.
- o The 3 dozen tree nurseries under PCV supervision throughout deforested areas of the country are an important resource for reforestation and agro-forestry.
- o Peace Corps maintains good working relations with CARE, COGAAT, and other donor agencies on an institutional level, and even more so at the individual PCV level.
- o CARE involvement in the INAFOR/CARE/PC Conservation of Natural Resources project is indispensable and unique in Central America. CARE supports reforestation projects such as this in only 3 or 4 other countries in the world.
- o Some development agencies do not comprehend PC programming requirements and procedures, nor do they appreciate project lag times. Programming workshops would be useful, but another possibility might be a manual describing guidelines and procedures for requesting volunteers.
- o AID/Guatemala has excellent relationships with the host country ministries.
- o AID/G needs to strengthen its relationships with host country institutes and directorates. AID and ROCAP should make greater efforts to ensure that INAFOR and PC/Guatemala are present at project design and planning meetings since these institutions will ultimately be responsible for implementation. The Altiplano regions of Guatemala are saturated with donors. New efforts should coordinate existing activities or pioneer projects in other regions.
- o PC/Guatemala is making a deliberate effort to reduce its presence gradually in the politically-active Altiplano and is increasing site developments in the east or Oriente. PC/Guatemala has no PCVs assigned permanently to sites in the capital, Guatemala City. The APCD for Resource Conservation is rapidly approaching administrative overload.

## CONCLUSIONS (Potential Projects for Collaboration)

In a broad sense, 3 projects in different stages of development might involve the collaboration of Peace Corps, AID/G or ROCAP, and INAFOR. These projects, in chronological order, are (1) reforestation by INAFOR/CARE/PC, (2) fuelwood with INAFOR/CATIE/ROCAP, and (3) watershed management - integrated rural development involving INAFOR/CNPE/AID/G and PC/G.

(1) INAFOR/CARE/PC have been collaborating for at least 5 years in a highly successful reforestation project. This project involves counterpart training and is currently requiring 4 to 5 years of joint work with PCVs. More formal training could speed technology transfer. The project could be expanded, if INAFOR commits more funds to counterpart salaries and if PC/Guatemala recruits an assistant for the already overloaded APCD. CARE also expressed an interest in strengthening the project.

(2) The fuelwood project involves two regional institutions, ROCAP and CATIE, with a national implementation agency, INAFOR. ICAITI also will play a major role in this combined fuelwood-appropriate technology project. CATIE and ROCAP originally presented INAFOR with a fait accompli project design and met with understandable resistance. Redesign of the project has included more planning input from INAFOR, but PC/Guatemala input was minimal. PCVs are scheduled to begin participating in September, 1981, even though no formal requests for volunteers have been received by PC/Guatemala. In spite of these administrative obstacles, the fuelwood project offers a superlative opportunity for PC/G to participate in an applied research project with an established regional institution capable of disseminating the results throughout the region and beyond.

(3) The integrated rural development project, still in the design stage, offers an excellent opportunity for PASA consultants to participate in project design and formulation. CNPE and AID/Guatemala are both interested in bringing more forestry professionals to assist in this project. Because of the arid nature of the region, the forestry component would emphasize agro-forestry more strongly than reforestation. A formal request for cooperation from INAFOR and PC/Guatemala is yet to be made but informal discussions have taken place.

For ease of programming input, the INAFOR/CARE/PC project offers the best opportunity for innovative approaches because it is a project with more than 5 years of building precedents. The integrated regional development project, with an appropriate agro-forestry component, offers wide latitude for input since the project is still in the design stage. However, the aridity of the region selected and the limited funds available put the success of the project in question. The authors agree that fuelwood project is the best project in Guatemala because it directly addresses regional deforestation and will produce replicable results in brief time. Another plus is that CATIE already has the contacts and experience necessary to disseminate the results throughout the region.

## I. HOST COUNTRY MINISTRY COMMITMENT/EXPERIENCE

### A. Government Priorities

1. Guatemala has followed a development model that has focused on the international market for food and goods of agricultural origin (CNPE 1978: 10). In 1977, coffee accounted for nearly 45% of all exports. Cotton, sugar, meats, and bananas were also important exports. Timber and chicle were major forestry products for the export market.

Agriculture, supported by infrastructural improvements such as highways, has been the priority development area. Forestry is included in agriculture. The 1975 - 1979 National Development Plan described the goals of the renewable natural resource program within the agricultural development plan. Forestry priority areas within the agriculture development plan were forest management to foster natural regeneration and artificial reforestation to replenish the resource base and to protect watersheds.

2. Donor agency involvement in development programs has been massive. Following the earthquake in 1976, Guatemala received large amounts of aid from an enormous number of donors. Well over 100 private voluntary organizations (PVOs) and international development agencies (IDAs) continue to operate in Guatemala. They are involved in development projects of almost every conceivable type, using myriad approaches. In an attempt to control the efforts of these institutions, the government of Guatemala (GOG) formed the Comité Nacional de Reconstrucción in 1976, soon after the earthquake. Without real power over the PVOs and IDAs, the Comité has more of a coordinator role than a

supervisory one. Most of the reconstruction efforts have been focused in the highlands of the Altiplano where the population density is highest and therefore the effects of the earthquake were greatest.

3. The 1972 -1982 National Development Plan states the major long-term objective: To raise the material, cultural, and spiritual well-being of the majority of the Guatemalan population and thus to achieve a stable and just peace (CNPE 1978: 28). While the stated objective is basically social in nature, the priorities for investment are commercial. Energy, agriculture, and transportation receive major funding. Before the OPEC oil embargo, the GOG had begun a major investment in oil-fired thermo-electric plants. With abrupt increases in fuel prices, this program was scrapped and hydro-clectric projects begun. Exploration for oil is important but discoveries will not reduce the importance of proper watershed management to protect the hydro-electric sites.

4. Though the economy of Guatemala will continue to depend on an agricultural base, the current development plan calls for diversification of agriculture into secondary industries in order to reduce the vulnerability of the economy to changes in world market prices. In addition to industrial diversification, the government has created tax incentives to encourage the relocation of industry from Guatemala City to rural development centers. In support of this move, expansion of the transportation and electrification networks will be a major priority. Tourism will continue to be a source of foreign exchange, though recent figures show a slight decline in numbers of tourists.

Within the natural resources sector, emphasis will be on

inventory, evaluation, and rational use of natural resources to support national development goals. Plans call for the centralized coordination of programs and projects, with institutionalization of control and enforcement responsibilities.

5. The involvement of donor agencies will continue in all aspects of national development goals. For example, the World Bank will support housing projects, UNICEF is involved in work in the marginal settlements around Guatemala City, and CARE and COGAAT will continue their food for work program. Smaller PVOs will be coordinated by the National Committee for Reconstruction. A more active role is being taken by the National Council for Economic Planning (CNPE) of the Presidency. Larger aid projects are being channeled through this institution, including AID/Guatemala activities. CNPE is a planning agency, prohibited by law from actually implementing projects; plans are executed by other government agencies, including regional (departmental) governments.

Now that the urgency of the post-quake period has died down, the GOG is making a stronger effort to guide its own development destiny by controlling or at least coordinating donor activities. In general, program goals have not changed but rather a more coordinated effort to increase effectiveness is possible. Development priorities remain much the same, except for a premium on energy.

#### B. Forestry Department

1. The Guatemalan National Forestry Institute (INAFOR) is a major element within the Ministry of Agriculture. Formerly called

the Division of Forestry, INAFOR was recognized and given its new name in 1974. That same year, a new Forestry Law was passed but it has achieved less than the desired goals because of its punitive orientation. Tax incentives for reforestation are included, but public acceptance has been limited. The organizational structure consists of 4 major line units and 2 staff units. In addition, the country is divided into regions with regional and subregional chiefs in charge of specific geographical areas. (See Appendix E).

2. The annual operating budget of INAFOR is approximately US \$8.8 million, but actual GOG efforts in forestry go beyond that amount. A national reforestation campaign has been in the news recently; although it was organized as a political move, it has increased public awareness of deforestation and current reforestation efforts. That reforestation and watershed management are receiving top priority with INAFOR is reflected in plans to commit almost US \$25 million to these areas over the next 4 to 5 years. The Director General for INAFOR estimates that approximately 30% of the annual budget goes to these efforts.

3. Staff training is a continuing problem in INAFOR. Since the closing of the Central American Forestry School in 1968, INAFOR depends on foreign training for its employees. Because of a lack of funding for scholarships, the Institute has continual shortages of trained personnel. INAFOR has been forced to hire agronomists to fill upper level staff positions. Approximately 100 forestry technicians, 10 forest managers (trained in Honduras) and less than a handful of university-level forestry graduates are in the Institute. In-house training is limited and generally applies to only the lower levels of preparation for laborers and

technicians. Substantial staff turnover further reduces the effectiveness of project management.

INAFOR has limited technical equipment, including reference materials. Little or no research is being conducted, with program orientation directed instead to field activities. There are no laboratory facilities, or experimental forests except for the seed bank begun with FAO support. One pilot project in forest management is at the San Geronimo tree farm, but exotic and native species trial plots are scattered about the country.

4. Past priorities in INAFOR have aimed to control exploitation, inventory resources, develop the seed bank, and reforest. While control of exploitation continues to be important, more effort is now devoted to reforestation and watershed improvement. FAO support for the seed bank will end in February '81, when the forestry expert, Wilhelm Mittal, departs. Forest inventories have been receiving less priority recently.

The 1979 - 1982 plan listed 13 forestry projects within the renewable natural resource program (CNPE 1978: 17-18). These were remote sensing, forest inventory, ecosystems study, institutional consolidation, forest conservation, forest management, mangrove management, fuelwood demonstration projects, forest cooperatives, forest fire prevention, reforestation, national parks, and special projects.

Given the budgetary limitations on INAFOR's activities, and the national government's stress on reforestation, we expect efforts in the near future to include control of exploitation, establishment of tree nurseries, and reforestation. Some national park activities are coordinated with the national tourism institute (INGUAT). Efforts to control forest fires and pine

beetle will continue, but at reduced levels.

5. The public image of INAFOR is generally negative; often it is seen only as a policing and enforcement arm of the national government. INAFOR personnel point to improvements in their image, claiming that reforestation programs have helped the public's opinion of the agency. Persons outside the agency continue to report a negative impression of the Institute, particularly among the rural population. Peace Corps Volunteers (PCVs) working in reforestation find better acceptance when they identify themselves with CARE, not with INAFOR.

#### C. Department of Forestry Experience with AID and PC

1. AID has not been involved with forestry in Guatemala, other than in administering PL480 foodstuffs distribution through CARE projects, including the INAFOR/CARE/PC reforestation program. The first AID/Guatemala entry into development involving forestry was the stalled Ixchiguan project. The HCA in this project is DIGESEPE, the General Directorate of Livestock Services of the Ministry of Agriculture. No direct contacts between INAFOR and AID/G have produced projects.

A PC fellow, H. Lyon, wrote a case study of the Ixchiguan Project as an example of PC/AID collaboration in Guatemala. This report, completed in November 1980, should be consulted by anyone who wants a detailed look at the project.

PC/Guatemala has been involved with INAFOR in the relatively successful collaborative reforestation program with CARE cooperation. The original program began in 1973, with CARE entering in 1975. Reorganization at that time set the program on its current course.

PC/Guatemala provides volunteers who act as tree nursery supervisors, extension agents, and trainers for counterparts selected from the community and paid by INAFOR. CARE provides PL 480 foodstuffs which are used as food-for-work exchange. Nursery seedlings go to private, communal, and municipal lands for reforestation projects including fuelwood plantations, watershed management, and fruit trees. INAFOR generally locates or provides land for the nursery, pays the counterpart's salary, and provides planting bags, seeds, fenceposts, and some transportation.

2. The original geographic focus of these tree nursery - reforestation projects was the highlands, and much effort continues there. However, in light of continued political turmoil in that region, PC/G has begun to direct its efforts toward the more stable eastern sections of the country, in part as a response to Ministry concern over volunteer safety. The shift will be gradual as volunteers in some Altiplano areas are not replaced at the end of service, and new sites are developed in the east or Oriente.

3. The program's target population is the small farmer and local community. Some small farmers can not set aside land for reforestation, so medium-sized farm owners are also approached. In communal and municipal plantings, entire communities gain through decreased soil erosion, improved water quality, and increased fuelwood.

4. Training is the responsibility of PC/G and much is also learned on the job. INAFOR hires counterparts, and nursery workers are reimbursed by CARE through the food-for-work program.

Technical support generally comes from other PCVs, CARE officials, or the APCD. Transportation is sometimes provided by INAFOR and sometimes by CARE.

5. Counterparts are an integral part of this program, with one and sometimes several for each PCV. Lack of funds to hire more counterparts was cited by field personnel as the number one limiting factor. The Director General of INAFOR responded that no one factor is limiting, but that the budget is apportioned in accord with program requirements. Extending the program would require more than simply hiring more counterparts; overhead and materials requirements would increase as well.

6. Counterparts are used because they are a key element of communication between PCVs and the community, as well as being the eventual nursery supervisors. In general, the counterpart is a representative member of the community, over 25 years old, a married parent, and literate. Institutionally, the counterpart is only marginally integrated into INAFOR, on the lowest rung on its ladder of hierarchy.

D. Department of Forestry Experience with PVOs and Other Donors

1. INAFOR has worked with FAO to develop cooperatives and the seed bank, with the Canadians in a study of pine beetle infestation, and with CARE in the INAFOR/CARE/PC reforestation program. The projects with FAO have ended or are ending. The Canadian project ended in 1979 with completion of the research program.

2. Some industrial forestry projects are being developed, but the INAFOR role in them is advisory. The main actors are the

national finance corporation (CORFINA) and foreign donors; in one case, the government of Spain hopes to develop a pulp mill.

3. Specific plans for the near future do not appear to be firm. INAFOR has been invited to participate in the CATIE/ROCAP regional fuelwood projects. There is hope that INAFOR will participate in the CNPE/Landivar University/AID project involving watershed management in the department of Baja Verapaz.

The INAFOR/CARE/PC project will continue as in the past. INAFOR expects to increase production in existing tree nurseries, but there is some question as to community ability to absorb the additional trees in a useful way.

## II. PEACE CORPS INTEREST/EXPERIENCE

### A. Personnel Resources

1. Basilio Estrada is the APCD in conservation, in charge of most forestry and related projects. His background includes a degree in agronomy following four years of study at the old Guatemalan Forestry School. He has been with PC/G since 1975. Other staff members administer related programs: Jose Albizurez (Agriculture including fish culture), Rodolfo Estrada (Rural Development, including 4H), and Roberto Sandoval (Cooperatives, including the Bee Project). All are host country nationals having no fixed end of service.

2. The Conservation of Natural Resources Project, by far the largest, involves 26 PCVs, and is maintained at approximately this level. Volunteers are replaced when service is completed, if not at the same site then in another site within the project. Five PCVs are currently working on the Soil Conservation Project. This is a new effort, so replacement policy has not been determined. These PCVs have worked about 5 months and have a year and a half of service remaining. The National Parks Project has one PCV; 2 more are scheduled to arrive in September 1981. The Fish Culture Project has 8 PCVs in training, and the Beekeeping Project has about 6 volunteers. Most of the volunteers are listed in Appendix B.

### B. Material Resources

Peace Corps provides no material resources for the volunteers but the Conservation Project manager has a limited technical library in his office. A disorganized and minimally useful library exists in the Peace Corps office. Audio-visual equipment is minimal and out-dated.

### C. Peace Corps Experience in Forestry and Natural Resources

1. In the past, Peace Corps has concentrated on one large forestry project called Conservation of Natural Resources (CNR). Involving INAFOR and CARE, it included conservation, reforestation, and extension. The volunteer works at the community or regional level, applying technical skills such as nursery development, planting, terracing, and extension.

2. The CNR project is generally progressing as planned. Transfer of technical expertise to the community counterpart seems to take about 4 years, although the counterpart skills appear to deteriorate after the PCV leaves. As nursery work becomes routine, volunteers become more involved in tasks such as beekeeping, Lorena stoves, terracing, or watershed management. The 26 PCVs working on the project have from one to seven counterparts each or about 65 overall. Volunteers work on a daily basis with their counterparts. Technical support from Peace Corps is limited to experienced or ex-PCVs, while technical support from INAFOR is virtually non-existent.

Recently, Peace Corps has expanded in natural resources programming to include Soil Conservation, Fish Culture, Beekeeping, and National Parks Projects. The Soil Conservation Project, a regional initiative by DIGESA, with 5 PCVs, had a rough start and is not yet well established. DIGESA provides seeds and motorcycles but has had some problems supporting counterparts. The Fish Culture and National Parks projects have not yet started. The Beekeeping Project involves a PVO (Foster Parents), DIGESA, and about 6 skill-trained volunteers. The Fish Culture Project has 8 PCVs, some of whom are replacing former fisheries volunteers.

3. PC has traditionally focused these projects in the central and western Altiplano where population pressure is high and needs of the poor most severe. No PCVs are located in the capital. The geographical focus has been changing recently for two reasons. First, increased guerrilla activity in the northwest highlands has forced numerous PCVs to relocate in other areas, often at the suggestion of the Host Agency. Second, there is an overabundance (more than 100) of donor agencies active in the Altiplano, but the eastern highlands (Oriente) and the Peten (Yucatan) have been ignored. Peace Corps is therefore expanding its activities in these areas.

4. The APCD/Conservation is currently working at his limit of about 30 - 40 PCVs. The help of an assistant or the PTO or additional support from other APCDs would be necessary to expand existing or begin new natural resource projects.

5. INAFOR is currently at its limit of resources and is unable to support additional counterparts. In some regions, the Peace Corps' role is limited by political violence. The U.S. Ambassador has set a limit of 175 volunteers in-country, approximately the current level. Peace Corps/Washington needs to ensure that sufficient in-country administrative support is available before natural resources projects can be expanded.

#### D. Peace Corps/Guatemala and AID Collaboration

1. The only project developed jointly by PC and AID, the Ixchiguan Integrated Rural Development Project, involved HOPE as a PVO and DIGESEPE as the HCA. The project was planned and ready but was never started due to political activity in the project area and administrative problems involving HOPE. Other PC/AID collaboration has been indirect: AID administers PL480 (Food for

Work) funds for the CNR project, and PC has worked with ICAITI and CATIE in developing the ROCAP-funded fuelwood/energy project.

2. The Ixchiguan project was initiated by the local municipal leader. The fuelwood and energy project was developed at the Central American regional level by ROCAP, CATIE, and ICAITI.

3. In the Ixchiguan project, AID was to provide funds and HOPE administer them. Peace Corps was to provide PCVs for professional services and implementation, DIGESEPE was to provide counterparts. In the Fuelwood/Energy Project, ROCAP supplies funds, CATIE and ICAITI administer them and provide expertise and training. Peace Corps and various national agencies are expected to help implement the project. Details have not yet been adequately developed, due to poor inter-agency coordination.

4. These activities are directed toward the rural poor in badly deforested areas. Peace Corps supports the project, while feeling that it would be better if AID involved all participating agencies in project development.

#### E. Peace Corps/Guatemala Relationship with HCM and AID

1. Peace Corps has had an excellent relationship with the HCMs at the central planning level, especially with INAFOR. The relationship deteriorates somewhat at the local level, with some PCVs preferring not to be associated with INAFOR because of its bad reputation in some communities. Also, INAFOR counterparts are hired at the lowest level and treated by INAFOR "like common laborers" rather than part of the organization.

Peace Corps' relationship with AID has been distant in the past. Although they are moving closer together, some difficulties remain at the project planning level.

2. As the 1982 elections approach, political maneuvering may siphon funds from regular HCM projects and thus affect counterpart and material support for programs. The election results could also change government priorities or abolish programs or ministries. Specific changes due to the elections cannot be foreseen.

3. The major obstacle to an integrated relationship among the 3 agencies is lack of direct communication between AID and INAFOR. This violates the Peace Corps philosophy that projects should be developed with the full cooperation of the HCM, and prevents complete PC/AID cooperation. These difficulties in the planning/programming stages of project development work against the implementation of projects that are in tune with all three agencies' goals.

F. PC/Guatemala Relationship with PVOs, NGOs and Other Donors

1. CARE has been a key agency in the INAFOR/CARE/PC project (CNR Project), providing almost all of its material support, vehicles, food (for work), technical support, ideas, and administration. CARE also supports the Fish Culture Project. Peace Corps, in general, has a very good working relationship with CARE.

Other PVOs and NGOs have worked with Peace Corps, officially and unofficially. The Beekeeping Project cooperates with the Foster Parent Plan. There are numerous examples of PCV collaboration with PVOs because of contact and common goals at the work site. For example, Save the Children helped support nursery development in Southern Quiche, and a volunteer in Rabinal has collaborated in reforestation and soil conservation efforts with the Centro de Integracion Familiar, another NGO in Guatemala.

Both CATIE and ICAITI, the principal administrators of the Fuelwood/Energy Project, have had contact with the Peace Corps. A PCV/Sociologist helped ICAITI develop the project design, and several PCVs in appropriate technology are scheduled to assist in project implementation. CATIE has also requested information from PCVs in developing the project and expects to have PCV assistance in project implementation. The relationship has not functioned smoothly, however, as Peace Corps staff felt they were not properly included in project planning.

2. PC has effectively utilized the resources of CARE, with potential for continued and even increased support of joint efforts. CARE considers the CNR one of their more successful forestry projects and supports it fully. Smaller PVOs have fewer resources than PC, so the potential for increased support from them is negligible, barring large AID grants to them. CATIE and ICAITI have substantial ROCAP money behind their projects; if they reach the implementation stage, PC can expect a good deal of material and technical support.

### III. AID/GUATEMALA INTEREST/EXPERIENCE

#### A. Staff Resources

AID/Guatemala does not now employ or plan to hire anyone with a professional forestry background. The AID Regional Office of Central America and Panama (ROCAP) is in the process of adding to its staff a forester and an environmentalist with strong watershed backgrounds. AID/G will call upon these specialists as project development requires.

#### B. Technical Resources

The forestry sector is new for AID/G. Following the pattern established in the 1960's, AID concentrated on agriculture while FAO worked in forestry. Thus, AID/G is essentially just beginning to build its forestry capability. No specialized sector reference materials have been accumulated other than personal libraries kept by program staff.

Because forestry is new for AID/G, few connections have been developed with other research and implementation institutions in forestry. AID/G is interested in using the consulting services made available through USFS and other PASA sources.

#### C. AID/Guatemala Experience in Forestry/Natural Resources Projects

1. AID/Guatemala supports the INAFOR/CARE/PC reforestation effort indirectly through administrative supervision of food-for-work which CARE distributes through INAFOR. Other AID/G projects touch the natural resources sector only indirectly. Some, such as access roads, may even result in more rapid deforestation and resultant loss of soil. Small-scale irrigation, on the the other hand, can include significant soil conservation components, including agro-forestry practices.

2. As stated by the AID/G Capital Development Officer, conservation is of interest only as it concerns production on small farms. The AID Mission Director feels that AID should support increased production, productivity, and social services to small farmers.

3. The principal focus of AID/G activities has been in the Altiplano, the region of Guatemala where population densities match those of Haiti. Three approaches by AID/G address the problems in this region: 1) increasing production and productivity of small farmers; 2) increasing employment by seeking labor-intensive industrial diversification; and 3) supporting colonization efforts in other regions.

4. Agricultural extension work, municipal institution building, and labor-intensive road construction have been particular activities in which AID/G has been involved. Program activities implemented by HCAs or other agencies sometimes involve PVOs; AID is not an implementing agency.

5. AID/G works through counterpart, individuals and institutions; project objectives determine which HCA is the appropriate counterpart institution and AID/G has little choice in the designation of counterpart individuals. This is appropriate since much AID effort is directed toward institution building.

The AID/G Mission Director, a former PCD, fully supports the counterpart concept. He feels, however, that a PCV need not be assigned a counterpart immediately, but should develop a counterpart after adjusting to the work site.

6. The counterpart philosophy is strong in the INAFOR/CARE/PC reforestation program but tends to be less utilized in other AID/G projects in the agricultural sector.

7. Approximately 3/4 of the AID/G development budget is allocated to agricultural development, with forestry seen as an integral part of agriculture. In the Baja Verapaz area, AID/G is discussing project design of an Integrated Rural Development (IRD) project which will include forestry. Mission funds have been committed to the forestry component but AID/G is interested in using PASA consultants and funds for this aspect as well.

8. Geographical focus of AID/G activities has been the Altiplano as projects were developed in cooperation with and at the request of GOG and HCA. Plans for the Baja Verapaz project reflect the growing interest of the GOG in focusing integrated development efforts on critical linkage areas in the country. Baja Verapaz is the transition zone between the Franja Transversal del Norte, an underdeveloped tropical area, and the existing population centers. AID/G is interested in supporting the new GOG efforts to penetrate these areas.

D. AID/Guatemala Experience in Collaborative Projects with Peace Corps, PVOs and NGOs.

Except for the reforestation projects mentioned elsewhere, formal collaboration between AID/G and PC/G has been limited. A project eventually suspended before PC involvement began has been revived elsewhere.

AID/G has not been directly involved with any NGOs in the last 5 years, though potential projects with Amigos del Bosque have been discussed.

AID/G collaboration with PVOs has been limited in the recent past because funds have been unavailable for OPG or SDA activities at the level of previous years. Immediately following the 1976 earthquake, AID/G was heavily involved with PVOs because they

afforded an effective channel for funding reconstruction. In the last few months there has been interest in working with national PVOs but, because of AID regulations and requirements, it has been difficult to develop appropriate projects. Indeed, many national PVOs avoid identification with AID/G because it has a political identity. Funds from non-political international assistance groups are deemed preferable.

E. AID/Guatemala Relationship With Host Country Ministry and PC.

1. AID/Guatemala reports excellent relationships with the Ministries of Agriculture, Education, Finance, and Planning. At the level of institutes and directorates, however, contacts are less well developed. For instance, INAFOR and AID/G have never formally discussed the design of collaborative projects.

AID/G enjoys an unusual position with respect to PC/G and PC in general because the Mission Director is a former PCD. In addition, approximately a fourth of the AID/G staff are former PCVs. However, there is reluctance to involve PC in project design. Where sound project design may require multi-institutional discussions, AID/G seems to approach negotiations as a chain of events rather than a web of inter-institutional linkages. Perhaps the chain approach was adequate where projects have been sectorial, but IRD projects, because of their integrative nature, must involve groups of institutions. All of those institutions must buy into the project, and that requires early involvement in design and planning. Institutional support, particularly by the implementing agency, may be lacking if that agency is not involved from the start.

2. One issue remains that should be discussed by all parties. It is important to the PASA that the status of a forestry component be established within the framework of the IRD project. The National Planning Council (CNPE) and INAFOR may want more emphasis on the other aspects of integrated development for the Baja Verapaz region.

Each institution's role must be determined as the project design is developed, although each must be free to negotiate its own scope of work and responsibilities. No institution or group should decide for another.

#### IV. ROCAP (AID) INTEREST/EXPERIENCE

##### A. Staff Resources

1. About a fourth of the current ROCAP budget supports forestry and natural resources programs. These are administered by Henry Bassford/ROCAP Acting Director, and William McClusky/Rural Development Officer. Both have held their positions for less than a year, but have considerable overseas experience. Henry Bassford is an ex-PCV from India. ROCAP also has an Agricultural Specialist, Nancy Fong.

2. ROCAP is expanding its staff to include a Regional Forestry Advisor (probably based in San Jose, Costa Rica) and an Environmentalist (to be based in Guatemala).

##### B. Technical Resources

ROCAP is connected through grant monies to CATIE, which has considerable technical resources, but the resources in ROCAP's offices are minimal. These resources are available to anyone with the initiative to find them.

##### C. ROCAP Experience in Forestry/Natural Resources Projects

1. ROCAP is a regional (Central American and Panama) office of AID. ROCAP has begun environmental profiles of all its countries, but Guatemala's is incomplete. These profiles provide background information for developing other Forestry/Natural Resources projects.

2. ROCAP/CATIE/ICAITI are developing a \$7.5 million project entitled "Fuelwood and Alternative Energy Sources". ROCAP is funding the project, and implementation will involve Host Country Agencies and Peace Corps. Material will be provided by CATIE, ICAITI, and the Host Country Agencies.

The principal beneficiaries of this project are small

farmers and other low income people of rural and urban areas who depend on wood for fuel in their homes and farms, or work in small and medium-size industries.

The purpose of this project is to develop, demonstrate, and make available for transfer (a) improved cultivation practices that will increase fuelwood production and supply, and (b) fuelwood and non-conventional energy technologies suited for homes, small communities and small industry.

3. ROCAP promotes regional development and programs which attack problems common to Central America and Panama.

4. The ROCAP development strategy is institution building by acting as a catalyst for change. The HCA is expected to take over the project, so there is emphasis on training.

5. Current Forestry/Natural Resource projects are undertaken by CATIE and ICAITI, both regional agencies, and by host country agencies such as INAFOR, the Comité de Reconstrucción Nacional, and the Campaña Nacional de Reforestación.

6. Counterparts from national institutions, and counterpart training, are considered essential to any project.

7. ICAITI intends to use and train counterparts in their part of the project. CATIE already has an INAFOR counterpart for the development stage; however, the implementation stage is not yet well defined.

8. ROCAP considers forestry and the environment second only to energy as a priority area for the future as evidenced by their commitment to hire a regional forester and environmentalist.

9. ROCAP's current activities will be focused on areas with critical and potentially critical problems in fuelwood availability.

## V. TRAINING

### A. Peace Corps Volunteer Training

1. PC staff will work with whatever level of technical expertise the Washington office provides their projects, but they prefer and request foresters or well-trained technicians. PCVs report, however, that professional training is seldom put to use since tasks are very basic and site-specific. Additionally, their community counterparts could not comprehend higher-level technical knowledge. A background in natural resources or related fields is necessary to train non-forester PCVs successfully.

Both HCM and AID consider skill-training appropriate if the volunteer will learn most of his tasks as near the job site as possible.

2. All PCVs in the CNR project received training essential to their job in Guatemala, both pre-service and in-service. A few PCVs were skill-trained for this project, and at least 2 felt the training was adequate to perform their tasks. PC staff was generally impressed with the small group of PCVs skill-trained in Oklahoma for the fish culture project.

3. All PCVs in the CNR project are trained in-country by former PCVs or current volunteers trained at CATIE. Some from each group were skill-trained volunteers. Fish culture PCVs received States-side-training.

4. All agencies agreed that necessary training areas included nurseries, reforestation methods, extension methods, and appropriate technology. Pomology was mentioned as an appropriate skill in which expertise was lacking. PCVs also stressed a need for more training in extension methods (teaching, communications, etc.), Latin American bureaucracies, pesticides, and Guatemalan

dendrology.

Another observation or note --- PCVs trained at CATIE felt that aspects of Guatemalan cultural training were lacking, while those trained in-country felt that their technical training was inadequate.

5. Training in building and use of Lorena stoves is currently provided to all Guatemala PCVs. Other suggestions included pomology and terracing. Good communication among volunteers results in shared knowledge of "social forestry" techniques such as beekeeping and stoves.

#### B. Peace Corps Volunteer Counterpart Training

1. In the INAFOR/CARE/PC Conservation Project, community counterparts hired by INAFOR are an integral part of the daily work and CARE officials have INAFOR counterparts. CATIE officials have counterparts from INAFOR and work closely together developing the fuelwood project. ICAITI intends to provide counterparts for PCVs in the energy project, but the level of involvement is not yet known. Counterparts are not well established in the DIJESA/PC Soil Conservation Project because of funding problems.

2. The PC staff feels that counterpart training during service might be appropriate for specific technical tasks. It would not make sense to give the counterpart the same pre-service training as the PCV because counterpart training is lengthy and done on-the-job by the PCV. The volunteers add that pre-service training would not work for most counterparts because of the language problem; moreover, few counterparts have formal education and would need different training methods.

INAFOR feels that counterpart training would work for short courses of 3 or 4 days, but because counterparts are married

family people involved in community affairs, it is unlikely they can get away for extended periods. The AID attitude is not well-defined, but, in general, they feel that the counterpart should be trained on-the-job.

4. CATIE in Turrialba, Costa Rica, would be an appropriate regional training center; they have the technical expertise lacking in Guatemala, and great experience in the region. In-country training presently is done in Antigua; there are plenty of other training sites available, although technical expertise must be brought in. ESNACIFOR, a Honduran forestry school that sends staff to other countries for short technical courses, is another possibility.

## VI. FORESTRY PROJECT PROGRAMMING

The basic programming issue is a lack of agreement among agencies concerning programming requirements. Peace Corps feels that because AID and the Host Country implementing agency (INAFOR) do not communicate directly, projects are not planned and initiated with full HCA participation. A similar situation exists with CATIE; Peace Corps staff feels they and INAFOR are not sufficiently included in planning stages, and that INAFOR, not CATIE, should request PCVs to work on the fuelwood project.

Because AID funds agencies in the Host Country to develop projects, and generally does not concern itself with implementation, the agency deals indirectly with implementing agencies (Peace Corps, INAFOR). The implementation agencies may fail to develop interest in the project as a result, and may reject projects altogether.

The "middle" agencies (CATIE, Landivar University, etc.) are not aware of these programming problems.

All of the agencies would benefit from improved coordination among participants in the PASA. Perhaps a program meeting involving all of the participants would be helpful.

## VII. REFERENCES

1. Department of State. 1979. Background Notes: Guatemala. Washington, D.C.
2. Department of State. 1979. ROCAP Project Paper "Fuelwood and Alternative Energy Sources". AID-ROCAP, Washington, D.C.
3. Department of State, AID Office of Science and Technology. 1980. Forest Resource Management: Project Paper, Volume I, Appendices, Volume II. Washington, D.C.
4. Lyon, H. 1980. Peace Corps-AID Collaboration: A Preliminary Study of the Ixchiguan Project, Integrated Rural Development, Guatemala. Peace Corps, Washington, D.C.
5. Memorandum to Paul Bell, Director/LA PC/Washington, from Magdeleno & Carolyn Rose-Avila, Co-Directors, PC/Guatemala. Dated 7 March 1980, entitled, Country Development Review, FY 1981 CMP.
6. Secretaria General del Consejo Nacional de Planificacion Economica (CNPE). 1978. Plan Nacional de Desarrollo: 1979-1982. Objetivos y Estrategia de Desarrollo de Largo Plazo y Lineamientos Generales de Politicas del Plan Nacional de Desarrollo 1979-1982. Guatemala.

APPENDIX A

ASSESSMENT TEAM BRIEFING ISSUES  
TO BE DISCUSSED  
WITH  
PEACE CORPS, AID AND HOST COUNTRY MINISTRY STAFF

The following topics should be discussed with Peace Corps staff and volunteers, AID mission staff and Host Country Ministry staff. The discussion on the topics should follow the outlines as closely as possible in order to obtain comparable data from each country. All information obtained should be cross referenced as much as possible from other sources for an objective viewpoint.

**I. HOST COUNTRY MINISTRY COMMITMENT/EXPERIENCE**

**A. Host Country Government's priorities in development programs**

1. What have been Host Country Government's development priorities in the past 3 - 5 years: Forestry/Natural Resources, Education, Health, etc?
2. What types of programs (Education, Health, Water, etc.) has Host Country Government most actively pursued from donor agencies in the last 3 -5 years?
3. What are the current developmental priorities of the Host country Government? Give examples.
4. What are projected needs as perceived by Host Country Ministry?
5. What are the projected developmental priorities for the Host Country Government in the near future (1 - 3 years)? Give examples. To what extent are donor agencies involved in accomplishing those priorities?
6. If answer to 5 is different than 1 or 2, why?

**B. Forestry Department or other Government supported forestry efforts**

1. What is the institutional structure of the Department of Forestry? (Include an organizational chart.)
2. What type of support does the Forestry Department receive from the parent ministry and the Host Country Government in general?
3. What are the staff/material resources of the current Forestry Department?
  - o budget
  - o education of employees
  - o training of employees
  - o forestry schools in the country
  - o research capabilities/current research activities (involving whom, what is major thrust of research)?
  - o staff stability
  - o audio-visual, technical files/library, forestry equipment
4. What types of forestry programs and projects has the Department of Forestry focused on in the past 3 years? Currently involved in? (Anticipate next 3- 5 years.) Where are these located? List examples, e.g., village woodlots, watershed management.
5. How is the Forestry Department perceived by the general public? e.g., tax collector, enforcement officer, public servant?
6. Future plans.

- C. Host Country Department of Forestry past/current experience in forestry projects with PC or AID (Separate response for each agency)
1. What type of forestry programs/projects has this arrangement usually entailed? Examples.
  2. Is there a geographical focus/distribution of these projects?
  3. What segment of society (ethnic, social, sex) have these programs/projects benefited the most? Is this going to change to any degree?
  4. What type of support has the HCM provided PCVs in these projects?
    - o material
    - o labor
    - o office space/support
    - o technical support (use of labs, etc.)
    - o dollars
    - o transportation
    - o training
  5. What are Host Country Department of Forestry's attitude and actual resource capability toward providing counterparts for PCVs?
  6. Have PCV counterparts been used? Seldom, usually, almost always?
  7. What is the institutional level of the PCVs' counterparts?
  8. What type of qualifications does the Department of Forestry require of its PCV counterpart?
- D. Host Country Department of Forestry past/current experience with private voluntary organizations and other international donor agencies
1. What are the organizations and key personnel that have been involved (past 3 years)?
  2. What type of programs/projects have taken place/are taking place?
  3. What are future expectations for programs/projects (within 5 years)?

## II. PEACE CORPS INTEREST/EXPERIENCE

### A. Personnel Resources

1. Are there currently staff members involved in forestry and/or related projects?
2. If so, what are their backgrounds and terms of service?
3. What plans exist for replacing them?
4. If there currently are no such staff members, what, if any, plans exist for responsibility for a forestry project?

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5. What are the names and numbers of volunteers, by project, and their completion of service dates and replacement plans?

**B. Material Resources**

1. What type of project material support is available to volunteers from Peace Corps?
2. What type of audio-visual, technical files, library, support is easily accessible to PCVs from the Peace Corps office?

**C. Peace Corps experience in forestry/natural resources projects**

1. What types of forestry projects has Peace Corps been involved in in the last 3 years? Examples.
2. What are the current projects Peace Corps is involved in?
  - o are they progressing as planned? If not, what changes have been necessary?
  - o how many volunteers are involved in these projects?
  - o what degree of counterpart participation exists?
  - o what level of technical support do the PCVs/counterparts receive from PC/HCM?

3. Is there a geographical focus to PC forestry projects? If so, why?
4. To what degree does PC in-country see itself capable of programming/support for new project development or expansion of old projects?
5. What constraints do they see? What PC/Washington support will they need?

**D. Peace Corps experience in collaborative projects, of any kind, with AID**

1. Within the last 3 years, what type of programs/projects have been developed jointly by PC and AID?
2. Who initiated this activity and at what level (central, regional, local)?
3. What degree of involvement (money, labor, material) has existed from both parties?
4. What is Peace Corps' general perception of this type of activity?

**E. Peace Corps' relationship with Host Country Ministry and AID**

1. What has been Peace Corps' relationship with Host Country Ministry and AID in general?
2. Are there foreseeable changes in this relationship due to changes in budget, staff, or program priorities by any entity?

3. Are there specific issues in common/different?

F. Peace Corps' relationship with PVOs, NGOs, and other donor agencies.

1. What is Peace Corps' current relationship and past experience with PVOs, NGOs, and other donor agencies (including key personnel)?
2. Has Peace Corps been able to effectively utilize PVOs, NGOs, and other donor agency personnel/material resources?
3. What is future potential for material/technical support from these agencies?

### III. AID INTEREST/EXPERIENCE

#### A. Staff Resources

1. Does AID currently have staff dealing with forestry?
2. If so, what is their background and terms of service?
3. What, if any, plans for replacing or adding forestry related staff exist?

#### B. Technical Resources

1. What technical resources (e.g., libraries, connections with research organizations, private consultant resources) does AID have that could assist PASA related activities?
2. Who has or does not have access to these technical resources?

#### C. AID experience in forestry/natural resources projects

1. What types for forestry/natural resources related programs/projects has AID been involved in in the last 3 years?
  - o degree of involvement
    - money
    - labor
    - material
  - o principle beneficiaries in society
  - o most important outcome
2. What type of forestry/natural resources related programs/projects is AID currently involved in?
  - o degree of involvement
    - money
    - labor
    - material
  - o principle beneficiaries in society
  - o anticipated outcomes

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3. Is there a general philosophical orientation of these programs/projects?
  4. Is there a common development strategy to these programs/projects (e.g., institution building)? Give examples.
  5. Who is primarily undertaking program/project activities? Give examples.
  6. What is AID's philosophical orientation toward the use of counterparts?
  7. Is the orientation reflected in the actual projects?
  8. With what priority does AID view future/expanded efforts in the forestry area? How is that commitment evidenced?
  9. Is there a geographical focus to AID activities?
- D. AID experience in collaborative projects, of any kind, with PC, PVOs, and NGOs
1. What types of programs/projects have taken place?
  2. What organization initiated this collaborative effort and at what level (i.e., central, regional, mission)?
  3. What was the degree of involvement by each participating organization (i.e., money, labor, material)?
  4. What were/are the outcomes of these activities (e.g., primary beneficiaries in society)?
  5. What is AID general perception of this type of activity?
- E. AID's relationship with HCM and Peace Corps
1. What has been AID's relationship with PC and HCM in general (e.g., assess AID's attitude and understanding of 3 goals of Peace Corps)?
  2. Are there foreseeable changes in this relationship due to change in budget, staff, or program priorities by any entity?
  3. Are there specific issues in common/disagreement?
- F. AID's relationship with PVOs
1. What is AID's current relationship and past experience with PVOs, NGOs and other donor agencies?
  2. What type of contributions have existed in these efforts (e.g., key personnel, material, dollars, technical resources)?

#### IV. TRAINING

##### A. Peace Corps Volunteer Training

1. What is the attitude of PC, HCM, and AID staff toward skill trained volunteers in Forestry/Natural Resources programs/projects?

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2. Have PC, HCM, and AID worked with trained volunteers? If yes, what type of project, if no, why not?
3. If Peace Corps has used skill-trained volunteers in any sector, where has the skill-training taken place (i.e., SST or in-country)?
4. What suggestions do PC staff and volunteers, HCM and AID have for pre-service and in-service PCV training (especially skill training) for forestry programs/projects (e.g., skill areas)?
5. What type of in-service forestry training could be provided for PCVs currently working in other programs?

**B. Peace Corps volunteer counterpart training**

1. What degree of involvement do counterparts have in current or projected PC, AID, or other PVO or donor agency forestry projects?
2. What is the attitude of PC, HCM, and AID toward PCV counterpart involvement in PCV pre-service and in-service training?
3. What are each entity's principal concerns about this issue, such as financial, support, technical material presented, language, travel, time away from work, etc.?
4. Are there appropriate training facilities, either Peace Corps, AID, HCM, or private, in-country or within the geographical region?

**V. FORESTRY PROJECT PROGRAMMING**

1. What are the tentative forestry programming issues that PC, HCM, and AID perceive as needing to be addressed before an actual new or expanded project could be implemented?
2. Which entities need to address which of these issues?
3. What further information does each of these entities feel it needs from Peace Corps/Washington, in order to determine the feasibility of further participation in the PASA?

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APPENDIX B

PEACE CORPS - AID COLLABORATION:

A PRELIMINARY STUDY OF THE

IXCHIGUAN PROJECT,

INTEGRATED RURAL DEVELOPMENT,

GUATEMALA

DRAFT: AA/PPC, H. Lyon  
Peace Corps Fellow

November, 1980

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## ACKNOWLEDGEMENTS

The author would like to express his appreciation to USAID and Peace Corps/Guatemala, particularly to AID Mission Director Eliseo Carrasco and Program Officers Richard McLaughlin and Roberto Perdomo, and to Peace Corps/Guatemala Director Carolyn Rose-Avila and Associate Peace Corps Director Jose Albizurez Palma, and to the Mission's secretarial and administrative personnel for their generous support of the author's work in Guatemala.

Special mention must be made of Ing. Albizurez, who first brought Ixchiguan to the attention of Peace Corps and AID and has worked with patience and extraordinary dedication to keep the project alive and on the right track

Dr. Alfonso Loarla, Field Coordinator of the Ixchiguan Project for HOPE, was of much assistance in the field research upon which the report was based.

In Washington, Mr. Alexander Shakow and Ms. Merriam Woodhouse of AID/Bureau for Program and Policy Coordination and their secretarial and administrative personnel were of great assistance and support of the author's trip and other activities as a Peace Corps Fellow on assignment to AID from September to November 1980.

## I. INTRODUCTION

Walking the dusty streets and denuded fields of the municipio of Ixchiguan, Department of San Marcos, Guatemala is to witness in one relatively small area most of the severest problems which the poor of Latin America continue to suffer in this century. The most alarming aspect even to a traveler merely passing through this remote region of the country is the deforestation and subsequent erosion of topsoil. The rate of deforestation is calculated at 98 percent, but one is even hard pressed to find the remaining 2 percent. What, at an altitude nearing 12,000 feet, should present a panorama of alpine forest and meadowland is, in clinical terms, a classic study of critical erosion. The land surrounding Ixchiguan appears as if it is cultivated with stones that grow in size and number after each tropical rainstorm washes away what remains of the soil. In the dry season, six months of the year, the wind sweeps away in sheets of dust what years of the overgrazing of sheep and cattle have loosened and left without protective grass cover.

This, however, is only the surface. The degrees of malnutrition, mortality, and chronic illness grow at a rapid rate. You can't feed a cold that may be pneumonia with some paltry, home grown, potatoes and expect to starve a fever brought on by bronchial infection. The lack of local employment and the lure of work on Mexican farms attracts much of the adult male working population during more than half of any given year. For this reason, as the project documentation states, "Ixchiguan is a land of the very young and the very old; with little hope for the future, those who have means to leave Ixchiguan do so."

The Mexican author Juan Rulfo wrote in the 1950's of a town whose physical and social characteristics resemble the Ixchiguan of 1980:

wherever you look, (it) is a very sad place. You who are going there will realize it. I would say that it is the place where sadness dwells. There a smile is unknown, as if the faces of the people had been boarded over. And you, if you care to, can see the sadness at any hour you wish. The wind that blows there surrounds and stirs it, but never takes it away.

This report is a preliminary study of the collaborative process involved in an international, inter-agency, approach to a project designed to create community level solutions to the problems of an area such as Ixchiguan. The agencies and concepts involved in Project Ixchiguan are the United States Agency for International Development (AID), the Peace Corps (PC), Project HOPE identified as a Private Voluntary Organization (PVO), and the counterpart agencies of the Government of Guatemala (GOG) working in concert and funded by an Operational Program Grant (OPG) to establish an Integrated Rural Development (IRB) program in the highlands of Guatemala.

Both AID and Peace Corps have worked near and around each other in Guatemala for years, but never have fully collaborated on a project prior to Ixchiguan. Although the philosophies and methodologies of these two agencies are distinct, their ultimate development goals are similar. In addition, their respective personnel can bring compatible talents to the field. In a country where political factors can reduce the AID mission's activities and profiles, such a collaboration, especially one involving a

PVO, can be an effective means of programming. In the words of Associate Peace Corps Director José Albizurez Palma, "collaboration is the alternative for AID in Guatemala."

Private Organizations have long been recognized as successful in supplying economical and technical assistance to the Third World. As Thomas H. Fox, AID's Director of the Office of Private and Voluntary Cooperation, has written:

The PVOs have a proven success in mobilizing the American spirit of generosity in support of people in developing countries ... they also have a proven ability in working directly with the problems of poor people in developing nations, often in ways and structures that are not possible in more formal and political governmental approaches to development.

HOPE currently has 15 programs world wide and six in Latin America. It has worked in Guatemala for 8 years.

The funding for Project Ixchiguan being disbursed through HOPE is an OPG from AID. Specifically with PVOs in mind, AID established in 1974 this grant mechanism to supply funds for personnel costs, training, commodity procurement, rentals, transportation, and overhead in projects averaging three years in length. As in the case of Project Ixchiguan, the maximum funding is for \$500,000.

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Charles Feinstein, in his "Report on Fast-Disbursing AID funding mechanism", has identified some of the advantages and disadvantages of a collaboration between AID, Peace Corps, and a PVO. Among the advantages he mentions that PVO projects are consistent with Peace Corps and AID philosophies and that PVO personnel usually work at community levels allowing for more contact with Peace Corps Volunteers (PCVs) in the field. A major disadvantage, as has been evident in the case of Ixchiguan, is the difficulty of establishing and maintaining the necessary and desired communication between all the participants of a collaborative project: AID, Peace Corps, A PVO, a host country government, and the host country target population.

The conceptual approach to Project Ixchiguan is integrated development. From the Helmand Valley of Afghanistan and the Vihigo Division of Kenya, to the Bicol River of the Philippines and the Invierno Project of Nicaragua, there have been varied definitions and realizations of IRD with varied degrees of success and failure. The collective experience of so many projects has not led to a universally accepted theory or even a vocabulary with which to work. The participants of Ixchiguan have struggle with their own definition of IRD based on HOPE's Regional Director David Edwards' premise that "vertical, top-down, development has not worked; horizontal, integrated, development at the community level will prove to be the most effective approach."

Added to the mix of concepts, agencies, politics, and personalities is the very newness of this approach to development activities in Guatemala. This is the first collaborative agreement between AID and Peace Corps in the country. This is HOPE's first attempt at IRD, indeed it is a departure

from HOPE's traditional health sector emphasis. This is the first attempt to set up such a program in the long neglected and remote highlands of San Marcus. As PC Director Carolyn Rose-Avila characterizes it, "Project Ixchiguan is a trail blazer." Many eyes are on the project, both inside and outside of the agencies involved and the country.

The greatest hope for the success of this project is the people of Ixchiguan. It is their participation and involvement and their willingness to continue on their own at the end of three short years that will gauge the measure of goals achieved. If the community fully shares in the work ahead with the conscientious participation of Project Ixchiguan's sponsors and donors, it may be able to pull itself back from the edge of ecological and social disaster.

Only the old ones remain or the solitary woman or those with a husband wandering God knows where ... they come every once in a while like the storms they talk about; you hear a murmur in the whole town when they arrive and something like a growl when they go. They leave a sack of supplies for the old ones and plant another child in the womb of their woman, and then no one knows anything of them until the following year or sometimes never... It's costumbre. There they say it's the law, but it's the same. The sons pass their lives working for their fathers like they worked for theirs and like who knows how many after them will obey their law.

- Juan Rulfo

"Luvina", El Llano En Llamas

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## II. SUMMARY AND RECOMMENDATIONS

### SUMMARY

Project Ixchiguan is a \$500,000, three year, OPG Agreement between AID, Project HOPE, Peace Corps, and counterpart government of Guatemala agencies. It is an Integrated Rural Development Project in the municipality of Ixchiguan, Department of San Marcos, in the western highlands of Guatemala bordering Chiapas, Mexico. Years of government neglect and misuse of natural resources have resulted in one of the poorest and ecologically decimated areas of Central America.

First brought to AID's attention by Peace Corps, the community of Ixchiguan in July 1979 petitioned both agencies to assist them in developing a project designed to lead to self-sufficiency, better health, and more local economic opportunities. As AID could not directly fund a Peace Corps project, a PVO was sought to manage the project with the participation of Peace Corps and the GOG. Project HOPE, already established in the health field in Guatemala, agreed to direct the planning and implementation of Project Ixchiguan.

A year of negotiations and data collection and research resulted in a program design involving 22 sub projects centered around a demonstration farm and the training of rural health personnel to work in upgraded rural facilities in Ixchiguan and environs. Conflicts arose between the participating agencies due to lack of communications and alleged poor coordination of information. A committee of representatives of the involved institutions was established to manage the project in an integrated fashion.

On September 24, 1980, the OPG agreement between AID and HOPE was signed in Guatemala City. The project activities were initiated on a smaller scale than anticipated due to guerilla activity in the work zone. With the uncertainty in the area, field personnel have begun to cautiously implement minimal objectives in health training and agricultural extension.

At present, optimism is expressed for the continuation and successful completion of Project Ixchiguan, although alternative sites are being considered. Possible conflicts may still develop between the agencies unless the coordinating committee is more constructively utilized and fully authorized to manage project activities. Despite these conflicts and the current political situation, all parties are committed to achieving Project Ixchiguan's goals.

#### RECOMMENDATIONS

The following recommendations were gathered during the course of this study and distilled from the personal interviews cited in Annex B. Although derived from a specific project in Guatemala, they may be applied on a world wide basis in countries where AID and Peace Corps both work.

1. A national level committee should be established in the project planning stage with a permanent membership of representatives and alternates from AID, Peace Corps, the PVO, and the host country government counterpart agencies to administer, plan, and manage all mutually agreed upon project activities.

2. A regional level committee should be established with a permanent membership of representatives and alternates of all agencies directly participating in work in the field. One member, the PVO's Field Coordinator, will also serve on the national committee to assure communication and coordination between the two.
3. Members of both committees should be appointed by their respective agencies with full representational authority to properly and responsibly participate in planning and policy.
4. A full and realistic definition of Integrated Rural Development based upon a community's or region's particular needs must be mutually agreed upon by all participating agencies and the recipient community to insure an adequate programming and strategy to achieve the project's goals.
5. Integration should not only exist in the sectoral field activities, but also in the administrative and technical elements of the participating institutions in the project's development.
6. In light of the political situation in Guatemala, AID should increase its funding of OPG projects as an effective means of programming through PVOs with Peace Corps participation.
7. If possible, identify a responsible host country PVO for OPG funding to insure a stronger identification with national goals and the permanence that an outside organization cannot guarantee.

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8. Project field personnel should be host country nationals or, in the case of Peace Corps Volunteers, personnel that live as well as work in the community to provide continuity to the project and avoid the impression of an outside operation.
9. Qualified PCVs for an IRD project should be recruited with particular care for skills adequate and pertinent to the project's activities.
10. In planning a project, consideration should be given to the political cycles of the host country government to avoid as much as possible a mid-project change of local administration that may affect government support of and commitment to the project.
11. Collaboration between AID, Peace Corps, a PVO and a host country government should be strongly promoted and supported but the separate and distinct identities and philosophies of each institution should be preserved.

The remaining recommendations are taken from John Earhardt's "Report on Peace Corps - AID collaboration" and AID/Nepal's "Operational Guidelines for Collaboration of USAID and Peace Corps". They bear repeating here in light of this report's observations of Guatemala's Project Ixchiguan.

12. Liaison Officers should be appointed in both AID and Peace Corps field offices to ensure open and consistent communications between the agencies and to develop and monitor strong collaborative projects.

13. In project planning, AID, Peace Corps, and a PVO should better recognize the value of their respective expertise and experience and utilize this collective knowledge to a greater extent than in the past.
14. In a collaborative project, PCVs should begin their field participation no sooner than six months after the project's initiation.
15. It is essential that all parties involved in a collaborative effort be thoroughly acquainted with each other's programming and budget cycles.

### III. THE IXCHIGUAN PROJECT

#### A. Project Background

##### 1. THE IDEA

In July 1979 Peace Corps' José Albizurez, AID/Guatemala Director Eliseo Carrasco, and Dr. Alfonso Loarca, at that time of the Guatemalan Government's General Livestock Services Agency (DIGESEPE), met in Ixchiguan, San Marcos, with 75 local leaders from the municipality of Ixchiguan and the 16 smaller communities or Aldeas that pertain to its jurisdiction. The community presented to the representatives of the international and national development assistance institutions a series of requests for AID in the form of health posts, crop and livestock improvement, construction of roads, and reforestation.

The municipio of Ixchiguan covers an area of more than 100 km<sup>2</sup> in the northwestern part of Guatemala bordering Chiapas, Mexico. Its estimated population of 9,500 inhabitants is composed of Mam and Guiché Indians (90 percent) and the racial and cultural fusion of spaniard and Indian known in Guatemala as Ladino. The population's main occupation is agriculture supplemented by seasonal migration to work on Guatemala's south coast or on Mexican farms some six months of the year. The main crop raised on an average landholding of 1.2 hectares per family is the potato. Basic grains are raised with little profit due to lack of seeds adequate to the altitude, 2,700 to 3,400 meters above sea level. The principal livestock group is sheep, with 60 to 90 percent of the economically active population

supplementing its sparse local crop and sheep production with migrant labor earnings, the average income per family is between 200 and 300 Quetzales per year.

The population has a growth rate of 2 percent and is subject to an average morbidity of 10.9 per 1,000 due principally to malnutrition leading to gastrointestinal and respiratory illness. There is also a high incidence of infectious diseases such as tuberculosis and tropical diseases contracted during work periods on the coastal plains.

The topography of Ixchiguan is varied with 15 percent of its area classified as flatland and the rest as broken and hilly. The dominant soil type is the totonicapan variety. Rich in organic materials but poor in minerals, it is suitable for pasture and trees. As it is a thin soil averaging 10 centimeters in depth, it is particularly susceptible to erosion. Besides normal erosion, overgrazing and deforestation have led to a critical destruction of resources.

Presented with such a variety of problems, Albizurez, Carrasco, and Loarca, on the return journey to Guatemala City, discussed the idea of a "packet" of activities to attempt to meet the needs expressed by the community. Thus they originally conceived of a project in Ixchiguan as a Peace Corps activity with financial and technical assistance from AID and DIGESEPE.

The original idea also expressed the desire to work in a much broader geographical area: the entire highland, sheep producing, zone of San Marcos, Totonicapan, and Hue Hue Tenango. The work with livestock and grazing management would bring in other elements of agriculture and would by necessity involve social and health related community activities. Ixchiguan would serve as a pilot program in integrated development that could be replicated throughout the Highlands. Guatemala had little experience in IRD; as in many countries, Government agencies had gone about their work with little or no thought of collaborating with each other. Integrated development activities would need integrated agency support.

However, AID funds could not be directly given to Peace Corps. Caraasco suggested a grant through a private institution as an alternative to funding through the GOG which had not proven satisfactory in past projects within the government's national plans. It was recognized that the GOG had to be included in any plan for Ixchiguan as a permanent institution that would continue the community work at the end of an OPG, but as a funding conduit a PVO was seen as involving less bureaucracy and having more accessibility to village level activities.

Carrasco identified project HOPE as a potential PVO for Project Ixchiguan. HOPE was registered with AID/Washington and, having a written agreement with the Ministry of Health, had worked in Guatemala for years, primarily in the Health Care area. A meeting was held in August 1979 to present HOPE with the idea of an integrated development project in Ixchiguan and some technical

background information supplied by AID, Peace Corps, and DIGESEPE.

## 2. THE NEGOTIATIONS

After a site visit to Ixchiguan, HOPE's Regional Director David Edwards agreed to commit HOPE as the PVO for an IRD project, departing from its traditional development work in only the health sector. More meetings with the other participating agencies followed. As HOPE's documentation of Project Ixchiguan states, the lack of reliable data on the area led to discussion

with representatives from AID, the PC and the GOG and, as a result of these discussions, we reached an agreement whereby Project HOPE would undertake a multi-phased approach to address this issue.

Specifically, Project HOPE agreed to undertake a socio-economic survey of local conditions in Ixchiguan and surrounding areas, and then, based on an analysis of these data, design effective programs to address the needs of the rural poor of this part of the Guatemalan Altiplano.

Identified as "Phase I", the first study gathered socio-economic data between October 1979 and January 1980 and was underwritten by AID. Dr. Loarca was hired by HOPE as its Field Coordinator for Project Ixchiguan with an office in Quezactenango. He contracted the consultants who did the bulk of the research for Phase I.

At this time the committee for the Ixchiguan Project in Integrated Rural Development (PDR) was established in Guatemala City. The membership included representatives from AID, Peace Corps, Project HOPE, and, as the recognized host country counterpart agency, DIGESEPE (this recognition had been approved by the GOG's Minister of Agriculture). The committee was formed to integrate the resources of each institution and provide the instrument for policy, strategy, and guidance.

During the research stage of Phase I and the beginning of the PDR Committee, conflicts arose between the agencies. Personality clashes and an apparent lack of coordination in getting all pertinent information to all parties led to accusations of HOPE not consulting with Peace Corps or DIGESEPE and, according to Albizurez, appearing to "want to do all the work themselves." Edwards later conceded that "lack of communication" was not an entirely unjustified complaint. "It was the nature of the beast," He said of Phase I, "someone had to write the document - if we would have thrown it open to everyone involved we would never have gotten off the ground."

The conclusion of the information gathering of Phase I led to the beginning of Phase II in February 1980 involving the analysis of the data base "with an emphasis on project identification, program planning, and development", as Phase II's introduction states. DIGESEPE personnel and Peace Corps staff and volunteers were consulted and asked to the programmatic documentation.

Nevertheless, allegations continued that HOPE was doing most of the work on its own or at least taking the credit for it. The PDRI Committee meetings were occasions to vent these feelings and repeatedly stress the integrative nature of the project and the committee's work. "This is a project and a committee formed by four parties," said Carrasco, "we must collaborate."

The Phase II document was submitted in May 1980 but did not meet AID's criteria and was rejected. It needed a complete rewrite. Edwards explained that this was due to the "hazy nature" of AID's programming design and AID's "Hurry up and catch up" attitude. However, he accepted the request for a revision and the cuts and conversations suggested by an AID/Washington analyst, Alfredo Cuellar of the Latin America Bureau, who visited Guatemala in August 1980. The revision resulted in the final program document known as Phase III which presents the 22 sub-projects, overall program design, and budget of Project Ixchiguan.

On September 17, 1980, one week before the signing of the OPG Agreement, the PDRI Committee met Dr. Francisco Bora Dilla, Director of DIGESEPE, repeated the strong interest of the Minister of Agriculture in the project and urged the formal recognition of the committee as a policy making entity. Carrasco affirmed the importance of the committee and foresaw, despite "information problems", in the past, it's usefulness in fuller integration of project planning and strategies. Albizurez suggested the formation of a second, regional, committee, with Dr. Loarca as the intermediary with the PDRI Committee, to treat project matters at the field level. It was proposed that

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the PDRI Committee be formed by representatives of AID, Project HOPE, Peace Corps, DIGESEPE, and the Ministry of Health. The regional committee would consist of field representatives of AID, HOPE, DIGESEPE, and the Ministry of Health and Dr. Warca as HOPE's coordinator of Project Ixchiguan.

The "Integrated Regional Development (OPG)" Agreement between AID/Guatemala and HOPE was signed on September 24, 1980, in Guatemala City by Eliseo Carrasco, AID, and Dr. E. Croft Long, Project HOPE.

### 3. THE AGREEMENT

The program description in both the OPG Agreement and the Phase III document identifies integrated programs as the most appropriate means of treating the basic human needs of rural populations. This is a reaction against the failures of agricultural and rural development approaches of the last 20 years. The integrated approach is based on active community involvement in support of a range of activities of its own choosing.

HOPE outlines what it considers as the main components of IRD as "consciousness raising, the leveraging of external resources, community participation, and local control." It believes "the IRD approach lends itself to both large sector efforts as well as small scale efforts which can be carried out by PVOs."

In summary, Project Ixchiguan's activities will be of a demonstration type both in agriculture and health, in conjunction with the Comite's Pro-Mejoramiento (Civil Improvement Committees) of Ixchiguan and its Aldeas. In agriculture, the project will "develop activities in crop diversification, improved techniques of livestock production, veterinary medicine, zoonosis control, and environmental sanitation" and "under a soil conservation program, local communities will develop a program for the production of firewood, lumber, and Christmas trees." In health, the project will "upgrade the equipment of local laboratories and develop a program to improve the diagnostic skills of para-medical personnel working in the laboratories."

Implementation of the sub-projects designed to meet these goals is basically through training programs. A demonstration farm will be the source of the agricultural activities while an extensive training of nurses, local rural health technicians, and midwives and the subsequent establishing of small health posts in the area will constitute the major health sector activities. Additionally, a PCV couple will set up a 4-H club (4-S in Spanish) to integrate agricultural and health activities for young boys and girls.

The project documentation states "Peace Corps will be an active collaborator in Project HOPE's IRD program." The following, from the description of "sub-project 6 - agricultural model farms," summarizes Peace Corps' participation in addition to the establishment of the 4-H club:

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The PC will contribute professional services in the areas of health, agriculture, and forestry. These professionals will be working at a general coordination level and as high level consultants to the general coordinator of the project. This will be accomplished through periodic meetings and visits to the project area.

The PC will also contribute the services of volunteers, carefully trained and chosen, as follows:

One volunteer will be chosen for each of the following areas: forestry, agriculture, animal husbandry, and health. These volunteers will be chosen from those already residing in Guatemala, especially near the project area who can dedicate most of their time to the project. They will work directly in the model farms giving technical assistance to local technicians and promoters, who will be the ones directly involved with the community.

The number of volunteers will be increased gradually so as not to give the impression of this being an outside job. This is important in order to win the community's confidence so necessary to the success and continuation of the project.

The time frame of the project design begins in September 1980 and runs for three subsequent years. Each activity is outlined in detail. Each sub-project is described with its own line item budget of projected expenditures.

At the signing of the agreement between AID and HOPE, \$91,000 was disbursed to finance project Ixchiguan's beginning. However, the project as of October 1980 had barely left its theoretical stage: events beyond the control of donors and recipients alike had postponed most of its major activities.

B. The Situation as of October 1980

1. THE PROJECT BEGINS

On October 14, 1980, the PDRI committee met in Guatemala City. The agenda included discussion of the management and direction of the committee, the authority in the naming of project personnel, and alternative sites for the IRD project if political pressures made work in Ixchiguan unfeasible.

Also discussed was the recently signed OPG Agreement. The representatives of DIGESEPE requested copies of the agreement in Spanish and commented that it gave the impression that HOPE alone was running the project. AID Director Carrasco explained that the legal nature of the document, which is for the disbursement of public funds, gives this impression since the agreement is between two institutions, one of the U.S. government and the other a private organization. However, he added, "clearly this committee will direct the project's activities. This is out of the ordinary but not impossible."

It was therefore proposed that a work group be designated to draw up the operating rules for the committee and to report at the following meeting in November. This would formalize the duties and authority of the committee in the management of the project.

The authority for personnel selection was brought up. It was established that HOPE would do the hiring with the approval of committee members. For the time being until rules could be established, the Field Coordinator would select personnel for the most necessary and indispensable positions then submit them for committee approval.

Underlying all discussion of Project Ixchiguan was the understated but dominant influence of political factors in San Marcos. The necessity for an alternative site was expressed if it resulted that guerilla activities would make an IRD project in Ixchiguan a difficult and dangerous enterprise.

Suggestions were made to move the center of activities to DIGESEPE's research station in Serchil, a community in the general area of Ixchiguan, or to find more suitable and safe sites in the Occidente, the western highlands, or even to move to the eastern side of the country, the Oriente, where there were little or no guerilla movements and where the need for an IRD program was apparent.

By the end of the meeting it was clearly stated that all parties were committed to stay in Ixchiguan until circumstances no longer permitted. Too much work had already been done and the region had been neglected for too long. Any move, either to another highland community or to another region all together, would have to be justified by an extremely difficult situation in Ixchiguan.

For work had begun on the project. Rural health technicians had begun their training courses in San Marcos. A Peace Corps nurse in San Jose Ojetenam, a neighboring municipio, had been contacted and had agreed to collaborate in Ixchiguan. Short community extension courses had been set up with the local agents of Digesa, the GOG's general Agricultural Services Agency. The hiring of more personnel and the purchase of vehicles had been authorized.

Nevertheless, activities had not begun on the scale anticipated. The political situation in the region and the nation dictated the greatest caution in development work, especially in the rural areas of the western highlands.

## 2. GUATEMALA'S POLITICAL REALITIES

Central America, and Guatemala in particular, is at present in the midst of pronounced social and political turmoil. Political and personal violence, a government utilizing the most extreme methods to combat the equally extreme tactics of a clandestine opposition, and the ever worsening economic and social deterioration of the country, has created in Guatemala an atmosphere of fear and uncertainty. From the powerful land owners to the middle class and the marginal rural and urban poor, there is the shared apprehension that the country is nearing an even more violent state of anarchy. A more desirable peaceful approach to change seems remote and, perhaps, too late.

Guatemala's tradition of guerilla activity dates back to the 1960s when underground groups roamed the Sierra De Las Minas in the eastern departments of Zacapa and Izabal. The military government at the time effectively eliminated first the leadership then the majority of the members of the guerilla bands. Since the late 1970s the center of a revived guerilla movement has been in the Altiplano, principally the departments of Quiche, Hushuetenango, and San Marcos. Parts of these departments have been closed to foreigners, and, among other activities, development work, especially with international participants, has been suspended.

San Marcos provides the arena for the current patterns of guerilla warfare. Descending to the Boca De Costa, the area of Guatemala's south coast where indoctrination and selected acts of terrorism have been most effective, or returning to the remotest areas of the Sierra Madre Occidental and the Mexican border, the guerillas travel by night from settlement to settlement. The Guatemalan army follows in pursuit, often interrogating locals and searching for collaborations in the most brutal manner. The movements of guerillas and soldiers, of night and day, have created a palpable tension in the country side.

Ixchiguan and environs are situated in the corridor between the coast and the mountains. There is at present an army encampment at the edge of town. Patrols are constantly on the road or in the hills. When the guerillas are on one side of the valley, the army is on the other. And the native population is caught in the middle.

This makes for a difficult environment for any development work but especially for an integrated project such as Ixchiguan. The very nature of IRD with its emphasis on community and group organization and its "consciousness raising" is suspect under such explosive circumstances. The presence of foreigners, of PCVs with boats and jeans and backpacks, in remote areas becomes a matter of suspicion and, in the case of those foreigners, a concern for personal safety.

The constant movement, the unpredictability of the situation, the climate of fear and suspicion, the aspect of traveling, if not living, on one of the roughest roads of Guatemala in one of its most remote regions, does not make for anything approaching the ideal conditions for an international development project. For this region, Project Ixchiguan has commenced, rather than abandon or completely postpone, its activities with calculated caution in the determination to begin to meet its objectives despite the present uncertainties and in the hope of a more stable and propitious situation in the coming months.

## B. Strategies for the Future

### 1. HOLDING STEADY - POSSIBLE ALTERNATIVES

"Pulling out is not an alternative for us." HOPE's David Edwards expresses an optimism shared by all participants of Project Ixchiguan. Field Coordinator Dr. Loarca has proceeded in a careful, Poco A Poco (little by little), fashion, shelving for the time being any large group organizing and prudently avoiding even the appearance of being

on one side or the other of the guerilla - army conflict.

Edwards states that HOPE will work closely with the Government and Peace Corps on strategy. "We'll follow through with the GOG as they see the validity of meeting objectives in Ixchiguan. On the security question, we'll follow Peace Corps' position. If PC pulls out volunteers, HOPE will take out its personnel.

For the time being, Peace Corps has not entirely suspended PCV activity in San Marcos as it has in northern Quiche and parts of Hue Hue Tenango. The security of the volunteers is a serious matter for Peace Corps staff and, in such a volatile situation, no one is going to risk a volunteer's life for the sake of remaining in a community where work may no longer be possible.

Still, for a volunteer established and working in his or her town, the best protection is the town itself. "I feel safe here," claims PCV Mary E. Ahearn of San Jose Ojetenam, "the people let me know if I should avoid something. They watch out for me. I don't want to leave this town. There's too much work to do."

The PDRI Committee discussed in its October 1980 meeting the importance of devising an alternative site plan in the event of a worsening of the situation in Ixchiguan. As mentioned, preference was given to remaining in basically the same ecological zone, in the town of Serchil or in sites in Totonicapan or Quezaltenango. This would still make valid the research done in Phases I and II. A complete change of region, the last alternative, to the Oriente, would effectively throw out the data already gathered and make necessary new research and programming.

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No one wants to abandon Ixchiguan. The tactic of holding steady, of carefully gauging the political climate in relation to specific project activities, and of keeping a low profile, meets the approval of all parties. In either eventuality, staying in or leaving Ixchiguan, the project must proceed with caution, courage, and sense and complete, honest, communication between the institutions involved and the community.

## 2. POSSIBLE CONFLICTS

Outside of virtually uncontrollable political events, there are other possible problem areas in the future for Project Ixchiguan. Principal is the consistent complaint of "lack of communication". In the year and more of negotiations leading to the initial implementation of the project, AID, Peace Corps, and DIGESEPE have established good working relations with each other. Project HOPE as the legally responsible party, caught in the middle, attempting to pull all the diverse elements together, breaking new ground and learning as it goes, has received the bulk of criticism from the other agencies.

The role of the PDRI committee will be crucial in responding to such criticism and assuring the progress of the project. The formalization of the committee's rules and duties will cause some discussion, but surely these must be established if the committee's work is to continue. The divulging of individual agency budget figures may cause friction between a private organization unused to doing so and government institutions whose budgets are public knowledge. The authority and procedure in hiring personnel will be

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disputed unless clear guidelines are established and mutually agreed upon.

AID/Guatemala Director Carrasco maintains that "Project Ixchiguan is a good idea - there is no reason why it shouldn't work." This is the feeling of the other committee members. The sub-project planning seems consistent and its goals attainable. The project will surely suffer the setbacks, minor and major, that any such project does - personnel loss, inflation, natural disasters - in addition to an unpredictable political factor. Despite this and past conflicts, it is evident that all members of the Project Ixchiguan Group share an honest willingness to make it work and to get the training and technical assistance out to that community in San Marcos that for too long has lived on the margin of national life.

#### IV. CONCLUSIONS AND RECOMMENDATIONS

##### Conclusions

"Our expectations and ambitious, keeping in mind political realities," states Project HOPE's David Edwards, "are modest, they must remain at the community level. \$500,000 in an IRD project is just a spark - we are not expecting to make a tremendous dent in community poverty - but our investment is not monetary. It is in man power. The greatest service we can offer is information in the form of training, technical assistance, and demonstration projects and the dissemination of that information to the community. If the project stimulates the community enough to help them find out how to do things and helps them the first time around, then we will have done our job. The real impact will come about with the institutionalization of the project at the end of three years."

AID/Guatemala Director Eliseo Carrasco concurs: "The people of Ixchiguan want the project to work. The community would love to be independent, to avoid working in Mexico. This is a start to help people develop their own resources."

Guatemalans Jose Albizurez of Peace Corps and Dr. Francisco Boba Dilla of DIGESEPE see Project Ixchiguan as a national and professional challenge, an attempt to help develop a community's self-sufficiency, to bring basic health care to an abandoned region of the country, to assure that region access to new agricultural and veterinary techniques long in practice elsewhere, to improve in the most basic ways the lives of the inhabitants of Ixchiguan.

Can Project Ixchiguan do all this? There are two basic doubts at present about the success of the project. One question is that if guerilla activity will continue to keep project activities at a minimum and if Ixchiguan is in such bad, perhaps hopeless, shape, would it not be worthwhile to find another site where the money will be better spent? All participating agency representatives express optimism for a stabilization of the area in the near future. True, it is an expression of hope, rather than certainty, that Project Ixchiguan will be able to continue on course, but the willingness of Guatemalan nationals to say so must be taken into account: they, more than outsiders, would have a better understanding of their country's political rhythms. As to the hopelessness of Ixchiguan, the easiest and the historical response has been to turn away. There are, however, savable portions of the region, there is potential, and the professional and humanitarian challenge lies in the concerted attempt to try to do something so that the community can stand on its own.

The second doubt currently expressed is about the size and goal of the project. AID/Washington's Alfredo Cuellar, who did the drastic but effective revision of HOPE's original program design, still feels it may be too large. "I've seen countries," he comments, "with more time and money achieve less than what this project wants to do." For instance, among other activities, the original plan had considered the possibility of improving rural roads, which as Colombia's experience indicates, is the substance of an entire project to itself outside of Integrated Rural Development.

The definition of IRD and the strategy of achieving it is another question. What is the best approach? A single sector concentration at project's start branching out to other sectors with time and experience, or a multi-sector structure from the beginning? It seems each country and region within a country comes to its own definition dependent upon its own most critical needs. Ixchiguan will concentrate on agriculture and health. Time and circumstance will reveal if the project's 22 activities are too much for a three year grant.

At present, the time is right for collaboration between AID and Peace Corps. The traditional animosities between the agencies have diminished in the last years with the realization that working together can be much more productive than ignoring each other.

The ground is fertile for such collaboration in Guatemala. Currently in the planning stage is another AID funded OPG, this one designed by CARE, a PVO, with Peace Corps' participation to set up a nation wide fisheries program. With further similar collaborations, AID may find OPGs an effective means of programming in a country where its activities and funding are now kept at a minimum.

The major problem with Project Ixchiguan to date, outside of political factors, has been one of communication. Project HOPE concedes this. They have been placed in an uncomfortable situation dealing with four different agencies with four different budget mechanisms, methodologies, and philosophies. It is not the easiest of positions for the first time around in such a project. All parties are learning from the experience and there are grounds for optimism that matters may run more smoothly in the future.

For Project Ixchiguan can count on individuals in AID, Peace Corps, HOPE, and the Government of Guatemala of admirable dedication and persistence in bringing their vision of community development and technical assistance to the streets and fields of Ixchiguan. The people there, too, are waiting and willing to fulfil their part of the design to improve the lives and labors of their community and to make Ixchiguan a town worth living in.

### RECOMMENDATIONS

The following recommendations were gathered during the course of this study and distilled from the personal interviews cited in Annex B. Obviously, they pertain to a specific collaboration between AID, Peace Corps, a PVO, and a host country government on an IRD project, in this instance in Guatemala, but they may be applied in other countries where AID and Peace Corps both work.

Among all parties interviewed there was consistent agreement on the majority of these recommendations. This indicates a basic compatibility of development goals between the agencies involved in this project despite the difficulties experienced in its initial stages.

1. A national level committee should be established in the project planning stage with a permanent membership of representatives and alternates from AID, Peace Corps, the PVO, and the host country government counterpart agencies to administer, plan, and manage all mutually agreed upon project activities.

2. A regional level committee should be established with a permanent membership of representatives and alternates of all agencies directly participating in work in the field. One member, the PVO's Field Coordinator, will also serve on the national committee to assure communication and coordination between the two.
3. Members of both committees should be appointed by their respective agencies with full representational authority to properly and responsibly participate in planning and policy.
4. A full and realistic definition of Integrated Rural Development based upon a community's or region's particular needs must be mutually agreed upon by all participating agencies and the recipient community ... "to insure an adequate programming and strategy to achieve the project's goals."
5. Integration should not only exist in this sectoral field activities, but also in the administrative and technical elements of the participating institutions in the project's development.
6. In light of the political situation in Guatemala, AID should increase its funding of OPG projects as an effective means of programming through PVOs with Peace Corps participation.

7. If possible, identify a responsible host country PVO for OPG funding to insure a stronger identification with national goals and the permanence that an outside organization can not guarantee.
8. Project field personnel should be host country nationals or, in the case of Peace Corps Volunteers, personnel that live as well as work in the community to provide continuity to the project and avoid the impression of an outside operation.
9. Qualified PCVs for an IRD project should be recruited with particular care for skills adequate and pertinent to the project's activities.
10. In planning a project, consideration should be given to the political cycles of the host country government to avoid as much as possible a mid-project change of local administration that may affect government support of and commitment to the project.
11. Collaboration between AID, Peace Corps, a PVO, and a host country government should be strongly promoted and supported but the separate and distinct identities and philosophies of each institution should be preserved.

The following recommendations are taken from John Earhardt's "report on Peace Corps - AID collaboration" and AID/Nepal's "operational guidelines for collaboration of USAID and Peace Corps". They bear repeating here in light of this report's observations of Guatemala's Project Ixchiguan.

12. Liaison Officers should be appointed in both AID and Peace Corps field offices to insure open and consistent communications between the agencies to develop and monitor strong collaborative projects.
13. In project planning, AID, Peace Corps and a PVO should better recognize the value of their respective expertise and experience and utilize this collective knowledge to a greater extent than in the past.
14. In a collaborative project, PCVs should begin their field participation no sooner than six months after the project's initiation.
15. It is essential that all parties involved in a collaborative effort be thoroughly acquainted with each other's programming and budget cycles.

GLOSSARY

AND

ABBREVIATIONS

## GLOSSARY AND ABBREVIATIONS

<u>AID</u>	United States Agency for International Development
<u>APCD</u>	Associate Peace Corps Director
<u>Aldea</u>	Small village pertaining to the jurisdiction of a larger municipality
<u>Altipland</u>	Highlands
<u>Boca De Costa</u>	Literally, mouth of the coast; the geographic point where mountains give way to coastal plains.
<u>Comite Pro Mejoramiento</u>	- Civic Improvement Committee
<u>Costumbre</u>	Custom, tradition
<u>DIGESA</u>	Dirección General De Servicios Agrícolas; the General Agricultural Services Agency
<u>DIGESEPE</u>	Dirección General De Servicios Pecuarios; the General Livestock Services Agency
<u>4-H</u>	4-H Club
<u>GOG</u>	Government of Guatemala
<u>HOPE</u>	The People to People Foundation
<u>IRD</u>	Integrated Rural Development
<u>Ladino</u>	In Guatemala, the racial mix of Indian and Spaniard known as <u>Mestizo</u> in other countries

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Glossary and Abbreviations (Cont'd)

<u>Municipio</u>	Municipality
<u>Occidente</u>	The western region of Guatemala
<u>OPG</u>	Operational Program Grant
<u>Oriente</u>	The eastern region of Guatemala
	Peace Corps
<u>PDRI</u>	Programa De Desa Rollo Rural Integrado; Integrated Rural Development Program
<u>PVO</u>	Private Voluntary Organization

CURRENCY EQUIVALENT

U.S. \$1.00 = Guatemalan Quetzales (Q) 1.00

REFERENCE

1. Printed Material
2. Personal Interviews

References: 1. Printed Material

Agency for International Development.

Colombia: Small Farmer Market Access:

AID Project Impact Evaluation Report No. 1, December, 1979

Agency for International Development. Guatemala Annual Budget Submission

FY 82, USAID/Guatemala, June 1980

Agency for International Development. Guatemala Country Development

Strategy Statement FY 82, USAID/Guatemala, January 1980

Butterfield, Samuel H. "Operational Guidelines for Collaboration of USAID

and Peace Corps in Nepal", USAID/Nepal, September 1980

Clapp, Cynthia. "Significant Cases In Integrated Rural Development",

Development Studies Program, Agency for International Development,

December, 1978.

De Konnick, Marcelo. "Estudio De Factibilidad Para El Desarrollo Del

Altiplano Marquense", Quezaltenango, Guatemala, November 1979

Earhart, John. "A Report on Peace Corps - AID Collaboration", Bureau for

Program and Policy Coordination, Agency for International Development,

December 1979.

Feinstein, Charles. "Peace Corps AID Collaboration: A Report on Fast

Disbursing AID Funding Mechanism (Draft)", Bureau for Program and

Policy Coordination, Agency for International Development, June 1980.

Annex B (Cont'd)

Fox, Thomas H. "Linking America to the Third World Through Voluntary Networks", Reconnection, Vol. II, No. 6, July/August 1980.

People to People Health Foundation, Inc.

"Operational Program Grant Request for an Integrated Rural Development Program in the Health, Agriculture, Social and Education Sectors for the Municipality of Ixchiguan, Department of San Marcos, Guatemala, Central America: Phase III. AID Project No. 520-0272". Guatemala, Guatemala, August 1980

People to People Health Foundation, Inc.

"Rural Integrated Development, Phase I: Data Collection and Analysis in Health Agriculture, and Socio-anthropology in the municipality of Ixchiguan and Environs, Department of San Marcos, Guatemala, Guatemala AID Contract No. 520-478", Guatemala, Guatemala, January 1980

People to People Health Foundation, Inc.

"Rural Integrated Development, Phase II: Program Planning and Design in Health, Education, Agriculture, and Social Sectors in the Municipality of Ixchiguan and Environs, Department of San Marcos, Guatemala, Guatemala AID Contract No. 520-478", Guatemala, Guatemala, May 1980

"Program Agreement Between the Agency for International Development, United States A.I.D. mission to Guatemala, and Project HOPE, Project Title: Integrated Regional Development (OPG), Project No. 520-0272", Guatemala, Guatemala, September 24, 1980.

Rulfo, Juan. Antología Personal, Editorial Nueva Imagen, Mexico, D.F., 1978

References: 2. Personal InterviewsGuatemalaA. Peace Corps:

Mary Ellen Anearn, Peace Corps Volunteer/Peace Corps/Guatemala.  
San Jose De Ojetenam, San Marcos

Jose Albizurez, Associate Peace Corps Director for  
Agriculture, PC/G

Ronald Arms, Programming and Training Officer, PC/G

Rita Fairbanks, Associate Peace Corps Director for Health,  
PC/G

Carolyn A Rose-Avila, Director, PC/G

B. USAID Mission:

Eliseo Carrasco, Director

Richard D. McLaughlin, Acting Program Officer

Roberto Perdomo, Program Office Assistant

Carolos Rodas, Coordinator, Special Development Fund

C. HOPE:

David E. Edwards, Regional Director

Dr. Alfonso Loarca, Field Coordinator

Fidel Martinez, Agronomist

Cliff Sanders, Administrative Assistant

D. Government of Guatemala:

Dr. Francisco Bobadilla, Director, Direccion General of  
Servicios Pecuarios (DIGESEPE)

Dr. Rudy De Leon, Area Chief, San Marcos, Ministerio De  
Salud Publica Y Asistencia Social

Dr. Hector Garcia, Deputy Director, DIGESEPE

E. AID/WASHINGTON

Robert Berg, Associate Assistant Administrator, Bureau for  
Program and Policy Coordination/Evaluation

Richard Blue, Studies Division Chief, Bureau for Program  
and Policy Coordination/Evaluation

Edward Cox, Acting Assistant Administrator, Bureau for Latin  
America and the Caribbean

Alfredo Cuellar, Analyst, Bureau for Latin America and the  
Caribbean

Marvin Schwartz, Guatemala Desk Officer, Bureau for Latin  
America and the Caribbean/Central America

APPENDIX C

CUERPO DE PAZ

LISTA GEOGRAFICA DE VOLUNTARIOS

PROGRAMA: CONSERVACION DE RECURSOS NATURALES

Ing. Basilio Estrada  
Director Asociado  
Guatemala, 8 de enero, 1981

DEPTO. BAJA VERAPAZ

1. FITZPATRICK, Daniel  
Sitio: Granados, Baja Verapaz  
Mail : Granados, B.V.
2. HUDSON, Jeffrey  
Sitio: Salamá, B.V.  
Mail : Apto. Postal #9  
Salamá, B.V.
3. NILL, Christian  
Sitio: Rabinal, B.V.  
Mail : Rabinal, B.V.
4. SCHELHAS, John  
Sitio: Cubulco, B.V.  
Mail: Cubulco, B.V.

DEPTO. CHIMALTENANGO

5. BOSIO, Michael  
Sitio: Patzún  
Mail : Patzún
6. ELLIS, Mark  
Sitio: Comalapa  
Mail : a/c Emiliano Perin Salazar  
San Juan Comalapa, Cantón  
Sexto, Chimaltenango
7. ZAHIN, Bruce  
Sitio: Sta. Apolonia  
Mail : Sta. Apolonia

DEPTO. HUEHUETENANGO

8. DZAUGIS, Thomas  
Sitio: Sta. Bárbara, Huehue.  
Mail : Sta. Bárbara, Huehue.

9. HEINE, Paul  
Sitio: Cuilco  
Mail : Cuilco

DEPTO. QUEZALTENANGO

10. KENDIG, Douglas  
Sitio: Sibilia, Quezaltenango  
Mail : Sibilia, "
11. QUINN, Joseph  
Sitio: Cabricán  
Mail : Huitán, Quezaltenango
12. WARD, Jeff  
Sitio: Cantel, Quezaltenango  
Mail : Cantel, "

DEPTO. SACATEPEQUEZ

13. GROSS, Donald (Tony)  
Sitio: Antigua  
Mail : 2a. Calle Oriente #8  
Antigua, Sacatepéquez

DEPTO. SANTA ROSA

14. RAFALSKI, Bernard  
Sitio: Sta. Rosa de Lima, Sta. Rosa  
Mail : "
15. SIMPSON, Ross  
Sitio: San Rafael Las Flores  
Mail : San Rafael Las Flores,  
Santa Rosa

DEPTO. SAN MARCOS

16. SMITH, Barry  
Sitio: San Pedro Sacatepéquez  
Mail : Apto. #14, San Marcos,  
San Marcos

DEPTO. SOLOLA

17. COUPAL, Roger  
Sitio: Sta. Lucía Utatlán  
Cooperativa el Novillero  
Soloá  
Mail : "

DEPTO. TOTONICAPÁN

18. COX, John  
Sitio: San Andrés Xecul  
Mail : San Cristóbal, Totonicapán
19. NADOLNY, Paul  
Sitio: Sta. María Chiquimula  
Mail : "
20. McLEOD, Scott  
Sitio: San Vicente Buenabaj  
Mail : San Carlos Sija, Quezaltenango
21. MUNN, Michael  
Sitio: San Bartolo  
Mail : San Bartolo, Aguas Calientes, Toto.
22. PERL, Matthew  
Sitio: Totonicapán  
Mail: Oficinas de CARE  
Apto. Postal #14  
Totonicapán
23. PHILLPOTT, Jeffrey  
Sitio: San Francisco El ALto  
Mail : "

DEPTO. JUTIAPA

24. LESMERISES, Peter  
Sitio: Sta. Catarina Mita  
Mail : "

DEPTO. JALAPA

25. ECHOLS, Ralph  
Sitio: San Luis Jilotepeque  
Mail : "

DEPTO. GUATEMALA

26. YOUNG, Kenneth  
Sitio: Guatemala  
Mail : PC/Guatemala, o  
2a. Calle Oriente #2  
Posada Colonia,  
Antigua, Sacatepéquez

CUERPO DE PAZ

LISTA GEOGRAFICA DE VOLUNTARIOS

PROGRAMA: CONSERVACION DE SUELOS

AGENCIA : DIGESA

Director Asociado  
Ing. Basilio Estrada H.  
Guatemala, 8 de enero de 1981

DEPTO. ALTA VERAPAZ

1. AUERBACK, Mitchel  
Sitio: San Pedro Carchá, A.V.  
Mail: Apto. Postal #8  
San Pedro Carchá,  
Alta Verapaz
2. BERKE, Jonathan  
Sitio: Lanquín, A.V.  
Mail: Lanquín, Alta Verapaz
3. GOODENOUGH, Keith  
Sitio: San Juan Chamelco, A.V.  
Mail: San Juan Chamelco, A.V.
4. GLYNN, James  
Sitio: Tactic, A.V.  
Mail: Tactic, A.V.
5. WITTE, Joseph  
Sitio: San Cristóbal Verapaz  
Mail: San Cristóbal Verapaz

PROGRAMA CON INGUAT  
(parques nacionales)

1. TORRES, Joseph  
Sitio: Tactic, Alta Verapaz  
Mail: Tactic, Alta Verapaz

## FUELWOOD AND ALTERNATIVE ENERGY SOURCES

## PROJECT DESCRIPTION

I. Introduction

This Agreement supports a regional effort within Central America and Panama (1) to test fast growing trees and shrubs and alternate patterns for their production for use as fuel, and (2) to test and provide new and improved energy efficient technologies for use in rural homes and communities and by small and medium industry. Two regional institutions will implement the project: The Tropical Agricultural Research and Training Center (CATIE), with headquarters at Turrialba, Costa Rica, and the Central American Research Institute for Industry (ICAITI), with headquarters in Guatemala City, Guatemala.

II. Goal, Target and Purpose

The goal of this Project is to improve the welfare and productivity of low income groups and increase the supply of low cost energy for rural and urban poor. The target is the estimated 12 million Central Americans and Panamanians who depend upon wood as a fuel in their homes, on their farms or in the small and medium size industries where they work.

The purpose of this Project is to develop, demonstrate and make available for transfer (a) improved cultivation practices to increase fuelwood production and supply, and (b) efficient low-cost domestic, small community and small and medium industrial fuelwood and non-conventional energy technologies.

III. Cooperating Institutions

CATIE will be responsible for project efforts with regard to improved cultivation practices; ICAITI shall be responsible for project efforts with regard to energy efficient technologies. Both institutions will conduct research and field demonstrations on their own facilities and, in cooperation with appropriate national public and private institutions in the six cooperating countries comprising Central America and Panama.

#### IV. Project Summary

Subject to the availability of funds to A.I.D. for this purpose and to the mutual agreement of the parties to proceed A.I.D. grant funds of \$ 7,500,000 are planned for the life of project. Of this total \$ 4,260,350 is planned for the CATIE element terminating December 31, 1985. \$ 3,239,650 of A.I.D. grant funds are planned for the ICAITI element of the project terminating December 31, 1984.

##### A. Project Elements: CATIE

The A.I.D. Grant provides funds to CATIE to work closely with national research agencies to:

- 1) identify critical and potentially critical fuelwood availability areas in the region;
- 2) identify for testing as fuelwood, species of fast growing trees and provenances that are already known and have been or are being tested in Central America and Panama;
- 3) identify improved management practices (e.g. planting distances, pruning/thinning systems and cultural practices) for selected fast growing trees identified in (2) above;
- 4) conduct demonstrations of various methods to produce increased supplies of fuelwood on small farms, village or community woodlots and fuelwood plantations, and
- 5) strengthen its own and national professional and institutional capacity to conduct research, carry out demonstrations, and provide training and technical assistance in improved fuelwood production systems.

##### 1. Critical and Potentially Critical Fuelwood Availability Areas

CATIE will work with ICAITI, counterpart national agencies and, as available, Peace Corps and other institutions in the six countries to prepare and conduct a survey to identify those areas in which fuelwood availability is presently a critical situation or is expected to become one within the next ten years. The survey will be carried out in the more intensely.

populated and cultivated areas of the region. A set of criteria satisfactory to ROCAP will be developed for this purpose by CATIE with ICAITI, before conducting the surveys.

A report indentifying the critical and potentially critical areas for fuelwood production availability will be completed before July 1981 and distributed to counterpart national institutions and USAID Missions.

## 2. Known and Tested Species of Trees for Fuelwood Production

CATIE will locate existing plantations and ~~pre-1980 plantations~~ <sup>trial plots</sup> of fast growing trees within Central America and Panama and collect basic data on plantation and management history, species and seed source, as well as characterization of soil and ecological conditions for each planting. Data for an estimated minimum of 30 plots planted before 1980 will be obtained providing information on tree growth, as well as physical and chemical characteristics of wood as related to fuelwood and other potential uses. In addition, the potential impact of these species on the environment will be examined. Growth data and harvest characteristics will continue to be obtained for these plots during the life of the project in order to refine the basis for estimating annual production for each species under study.

CATIE will undertake a preliminary social and acceptability survey in areas contiguous to the pre-1980 plantings to determine receptivity by potential consumers to those species identified under this activity. New species will be compared with those presently being used to determine such potential problems as driving and burning characteristics, undesirable odors, noxious oils or resins and smoke.

A preliminary report with recommendations for approximately 15 of the most promising species in terms of social acceptability, production under selected ecological conditions and multiple use potential, will be published by July 1981. Data collected from all of the plots, under study, will be published at the end of the second project year. Data collection and further observations will be continued for the life of the project.

## 3. Improved Management Practices for Fuelwood Production

Experiments involving known species recommended in activity two (above) will be carried out under this activity. Experiments will be planted on small farms, experiment stations and in other secure locations and will be designed to further refine

silvicultural practices that maximize production of fuelwood.

CATIE, in conducting these experiments will focus on such management practices as site preparation, fertilization, intensive weed control, planting distances, altering land use configurations, pruning and thinning practices and pest control. Experiments using between one and three of the most promising fuelwood species identified in activity two and testing one or two management practices alone and/or in combination will be carried out in at least one critical or potentially critical area in each country of the project. Each experiment will be evaluated both silviculturally and economically for a minimum of four years. Because the need to collect data from some experiments or research plots may be necessary beyond the life of this project, CATIE and the national agencies will agree to continue this research until all necessary information is gathered.

#### 4. Fuelwood Demonstration Units

This output is primarily designed to contribute data for use by small farmers and communities and for fuelwood planning by national agencies. It will also serve as a set of tests and demonstrations around which training courses and other awareness seminars will be developed by CATIE, national research and extension technicians and private organizations. Demonstration units will use the most promising, known, fast growing and consumer acceptable species of fuelwood trees that were selected in activity two. Plantings will be made in at least one critical or potentially critical area per country. Depending on environmental and sociological conditions each type of planting will be tested in each country. The demonstrations will focus on five types of plantings:

- Natural Fuelwood Production Units will be established in existing primary or secondary growth natural forests from which fuelwood is now being harvested. In fenced areas, protected from fires and uncontrolled grazing, replanting of presently unproductive areas, cleaning, pruning, thinning, and selected harvesting are among the silvicultural practices to be demonstrated. Ten units are expected to be in production by the end of the third year of the project.
- Farm level Fuelwood Production Units will contain fast growing species planted in less than two hectare plots on small or medium sized farms. A total of at least 20 are

expected to be planted; nursery planting will start in at least three countries in the 1981 growing season. Data on socio-economic impact and the production of fuelwood will be completed for at least ten units.

- Village Woodlots will be developed to meet needs of small villages in critical and potentially critical fuelwood availability areas. A total of at least 15 woodlot plantations of five to ten hectares will be developed with nursery plantings to begin in at least three countries in 1981 to be extended to field plantings in at least five countries by 1984. Under CATIE supervision, these plantations will be undertaken by cooperative village action groups assisted where possible by Peace Corps, national forestry or extension service personnel. As in the other types of demonstrations, data will be collected to evaluate costs for land preparation, fencing, labor requirements and out-of-pocket costs as well as annual growth measurements, fuelwood yields, etc.

- Fuelwood Plantations of ten to twenty hectares, intended for commercial supply of fuelwood to small rural industries, e.g. ovens, kilns, and for rural communities, will be developed on cooperating private farms and municipal or national land. At least five will be developed during the project. CATIE and national counterparts will collect such data as economic, employment and production costs and benefits. Three plantations will be developed in 1982 in three countries, one in each country. The remaining two will be field planted by the end of 1983.

- Agro-forestry Demonstration Units will be planted especially on small farms in cooperation with CATIE technicians working on mixed farming systems. These two CATIE research teams (fuelwood and small farm industries systems teams) will design several systems which combine trees for fuel with other crops. This research will use fast ~~growing~~ growing species for <sup>shade</sup> fence rows, erosion prevention and windbreak strip plantings. One or more systems combining potential fuelwood species with tropical animal production will be designed and tested. During the project a total of at least 30 trials or demonstration units will be planted in the six project countries.

One or more tech packs may result, depending upon the success of the demonstrations.

5. Strengthen CATIE and National Professional and Institutional Capacity in the Field of Fuelwood

This activity is directed toward improving national institutional capacity to design and conduct research and production activities related to fuelwood. It is also directed toward improving CATIE's capacity to provide support to the national institutions involved with fuelwood production.

Capabilities will be strengthened primarily through training but also through the provision of technical assistance for research and demonstrations. CATIE will improve the technical capacity of its present staff and increase it by one full time forester. Governmental and private organizations will also be encouraged to increase the number of people working in this area and augment budget allocations to cover essential counterpart needs. It is expected that as a result of this project, national forestry agencies in 1985 will be devoting at least five percent of their budgets to fuelwood activities.

Training will be provided by the CATIE forestry staff to national counterpart technicians at various levels. Short courses at CATIE and in the countries will be given for at least 75 students in five two-week intensive fuelwood production programs starting in 1981. An additional minimum 100 students will receive training on one or more phases of fuelwood production through short courses in a minimum of five national training activities between 1981 and 1985. Up to five traveling seminars for principal researchers will be held for approximately 15 people in each session.

Training in forestry will be supported for nine Central Americans at CATIE at the MSc level using project funds. A.I.D. will attempt to use other funds to send nine additional Central Americans to the U.S. for forestry training. To the extent possible, this work will be carried out at CATIE or in project countries under supervision of CATIE senior professionals.

Masters candidates will agree to work for national counterpart institutions for a minimum of two years for each year of training upon completion of training.

A minimum of 200 Central Americans and Panamanian students are expected to benefit from the above training programs.

In addition to formal training, on-the-job training will be provided to national counterpart foresters in design and conduct of area characterizations, research, demonstration and production trials on small farms, village woodlots and commercial plantings. Short consultations to small private fuelwood enterprises will be given by CATIE specialists accompanied by national counterparts upon request by national agencies or USAIDs in critical or potentially critical areas. Depending upon resource availability and time, assistance on various aspects of national fuelwood activities in other than critical/potentially critical areas may be provided by CATIE upon request by national agencies or USAIDs. This assistance may include consultations or short courses in forest upgrading techniques. CATIE also will provide on request as above, short term advice on fuelwood program planning, research on planting, silvicultural practices, pest management and harvesting techniques for fuelwood under new or different situations.

To improve CATIE's capacity in this regard, technical assistance and training will be provided in the following areas:

- at least six outstanding short term specialists from the U.S., Asia, Africa or South America will be provided in silviculture, agroforestry, use of exotic tree species, laboratory methods, and fuelwood evaluation. They will review CATIE's program, present workshops for CATIE staff and evaluate research programs.
- over 500 additional publications will be added to the CATIE library on all phases of project interest. The library will prepare a comprehensive, annotated bibliography of articles for fuelwood research, extension, production and harvesting published worldwide. Copies of these articles will be provided to national institutions to further increase availability of up-to-date information regionwide.
- CATIE's germplasm bank will collect and make available propagating material for over 15 species or provenances of fast-growing trees in storage available to meet regional demand for research purposes. As a result of this project, CATIE will have identified sources of seed and potential seed production as soon as initial CATIE/national research results are available.
- CATIE will have developed its data base on all phases of fuelwood production to a point where it can provide information

on a wide spectrum of fuelwood problems ranging from ecological and agronomic to plant growth, small farm/community acceptance and economic considerations.

- CATIE will also have increased its knowledge of the area's fuelwood potential as a result of this project. It also will have developed working relationships with national counterparts permitting them to further develop cooperative research, extension, education and similar programs related to national renewable resources.

During the first year of the project, CATIE will conduct a baseline survey of national capacities in this area. A similar assessment will be carried out in the sixth project year to assess progress.

#### Reports

CATIE will prepare annual progress reports covering each output by country and at CATIE for ROCAP and for circulation to USAIDs and to national cooperating institutions. A final report will be required covering all elements of the project summarizing final recommendations and conclusions.

## B. Project Elements: ICAITI

The A.I.D. Grant provides funds to ICAITI to work with national agencies to evaluate existing fuelwood-using technologies, develop needed modifications to improve their efficiencies, develop alternative approaches to the use of fuelwood and field-test and demonstrate the most promising techniques. ICAITI's project activities will encompass the following five areas.

- (1) Improved Fuelwood Efficiencies
- (2) Alternate Renewable Energy Sources
- (3) Policy Study
- (4) Training of Regional Personnel
- (5) Financial/Management Assistance to ICAITI

### 1. Improved Fuelwood Efficiencies

The determining factor in ICAITI's selection of activities to improve efficiency in use of fuelwood is the number of consumers, both domestic and industrial. The primary consuming group is the rural and low-income urban household-where fuelwood (and in some instances, charcoal) is used for cooking. Industrial activities that use significant amounts of fuelwood are principally rural. They include bakeries, brick and tile kilns, pottery and ceramic kilns, quick lime kilns, charcoal production, coffee grain drying, salt production and panela (crude sugar) production. Other primarily rural industrial activities such as natural rubber, edible oil, textile dyeing, blacksmith shops and confectioners are of lesser importance.

#### 1a. Domestic Use

ICAITI will examine as many stove designs as practical in order to determine the most acceptable for Central America. Improved cooking efficiency, as well as acceptability and consequent use by the local populace are the goals. Cooking efficiency will be only one of several selection criteria since cook fires frequently satisfy space heating needs in which case the total efficiency of the fire is significantly higher than the 5-10 percent for cooking alone.

ICAITI will conduct an information search for low cost cooking stove designs developed in the region as well as in other parts of the world. Published literature will be examined; regional and international appropriate technology

groups will be contacted. ICAITI will then evaluate and select the most appropriate low-cost fuelwood burning cooking stoves for dissemination throughout Central America. At least twenty stove designs will be obtained. Of these, ICAITI will include the two stoves developed in the region, the Lorena and the "Fogón".

ICAITI will then construct ten designs and will conduct fuel efficiency tests for each. The ten will include the Lorena and the "Fogón" stoves. The selection process will consider cost, use of locally available materials for construction, local manufacturing capability (as appropriate), maintenance requirements, ease of construction, anticipated consumer convenience and probable acceptance. Various types of wood will be used as the fuel for these tests - to be selected in consultation with CATIE. The laboratory testing and selection procedure is expected to be completed by the ninth month of the Project.

Approximately five stove designs will then be chosen for field testing in each of the six Central American countries. Most country personnel and Peace Corps personnel if available, will be trained by ICAITI in construction, operation and maintenance of the models selected. They will be responsible for direct supervision of activities in each country. ICAITI will be responsible for overall supervision of the field tests, the evaluation of the results and the preparation of the final report. In conjunction with the national counterpart agencies, ICAITI will select the field test sites.

The field test procedure will be similar for each country. In each country, five locales will be selected, in each of which the five stove designs will be tested with at least three units of each design. Thus each locale will support fifteen separate acceptance tests, and each country seventy-five. The locales will be determined on a case-by-case basis.

Each field test will last at least one year, at the end of which a final report will be prepared for each country. The reports will include design, operation and maintenance experience, costs, efficiency (compared to traditional cooking techniques); user acceptance and utilization; and possible development of rural stove construction industry in that region. ICAITI, in early 1982, will summarize the country reports, publish a final report on the tests and disseminate it to national agencies, private volunteer .

organizations, and USAID Missions. This report will include construction plans for the acceptable stove designs and an analysis of the potential for the development of appropriate rural stove industries.

In 1982, ICAITI also will conduct a regional seminar on the results of the stove test program. Then, national counterparts with ICAITI assistance and drawing upon the results of the field tests, will plan and conduct, in at least one critical area in each country, a two year large scale promotion of the most successful models. At the end of this phase, in 1984, ICAITI will prepare a final stove report.

#### 1b. Industrial Use

ICAITI will concentrate on: kilns for the production of bricks, lime and ceramics, bakery ovens, and evaporators for salt and crude sugar (panela) production. This work will start after the laboratory testing of domestic stoves is well underway. ICAITI, assisted in each country by counterpart technical personnel, will conduct a technical investigation of existing operating parameters and efficiencies of current designs. Through controlled testing, efficiency based on parameters for temperature, heating time and control, type of wood and operating practices will be determined. ICAITI will observe the complete firing processes to determine the type, condition and weight of the fuelwood used and the volume of product obtained. Detailed information concerning sales income, operating costs, investment, etc. will also be requested. ICAITI will obtain technical information concerning the design of appropriate kilns, ovens and/or related processing equipment in other parts of the world. This information will be reviewed to determine possible adaptations for use in the region. Short-term technical consultants will assist ICAITI in the adaptation and modification designs of existing processes. Design modifications resulting from the tests will be made by ICAITI, demonstrated and field tested in the various countries. At least seven designs are expected to be developed or adapted over the life of the Project:

One brick kiln	El Tejar, Guatemala
One lime kiln	Metapan, El Salvador
One small cottage industry ceramics kiln	Chinautla, Guatemala
One larger industrial ceramics kiln	Santa Ana, Costa Rica

One baking oven	Nicaragua/Honduras
One salt evaporator	Honduras
One crude sugar producer	Guatemala

Specific sites for the demonstration units will be determined during project implementation by ICAITI with the collaboration of the national organizations. An effort will be made to distribute activities throughout the Isthmus.

As in the case with domestic stoves, host country counterpart personnel will supervise construction and operation of each demonstration unit in the field, after receiving training by ICAITI. ICAITI will be responsible for overall supervision and will provide funds for local labor contracting and purchase of materials. The demonstration units will be tested and evaluated over an 18-month period.

Upon completion of evaluation and testing of the demonstration units, ICAITI will prepare a final report, including designs, costs, operating manuals, adaptability and efficiency compared to existing methods for distribution to national institutions, USAID Missions and other interested groups and individuals. ICAITI and national counterparts will disseminate the successful demonstration techniques to national extension agencies, private voluntary organizations, and industrial users throughout the region in the 1984 regional seminar.

## 2. Alternative Renewable Energy Sources

This activity involves the systematic investigation by ICAITI of a number of potentially attractive alternatives to the direct combustion of fuelwood. ICAITI will conduct technical investigations, field tests and demonstrations of the following technologies:

- Small and medium-sized biogas generators
- Improved efficiency charcoal production techniques
- Pyrolytic conversion techniques
- Direct burning of biomass
- Solar wood dryers
- Solar evaporators
- Solar water heaters

The goal of this activity is to introduce alternate energy sources and technologies which can reduce fuelwood use and make use of other available renewable natural resources to produce energy for the target group. ICAITI will conduct training sessions and seminars, publish reports and disseminate the results of their work throughout the region, including USAID Missions. This will systematically increase the awareness of potential users of these technologies and make appropriate technical assistance available. The prime beneficiaries are expected to be small and medium industries.

ICAITI will form three study teams, viz.: one each in biomass combustion technology, biogas (fermentation) technology and solar technology.

#### 2a. Biomass Combustion

The biomass combustion team is the group responsible for the fuelwood efficiency work described in Section 1 (above). In addition to these fuelwood efficiency responsibilities, this team will conduct activities designed to increase the use of biomass energy sources not now widely used in the region, to increase the efficiency of charcoal production, and to demonstrate the feasibility of pyrolytic conversion.

##### Domestic Stoves

ICAITI will conduct a review of stoves burning non-wood fuels (such as sawdust, rice hulls and coffee pulp and hulls). A number of designs will be selected to construct or acquire prototype models, which will be tested by ICAITI. The counterpart personnel to be involved in the field tests of the domestic fuelwood stoves will also be trained in the construction and operation of these non-wood stoves. As appropriate in the tests of the fuelwood stoves, these personnel will also introduce and test at least five different non-wood stoves. The results of these tests will be included in the ICAITI reports. A total of 60 biomass domestic stove units are expected to be demonstrated.

##### Industrial Uses

ICAITI's main focus in this technology will be on industrial uses of non-wood resources. ICAITI personnel will determine the efficiency of using non-wood biomass as a supplement or replacement to fuelwood. ICAITI will construct or acquire new combustion units to be field tested. Special

attention will be given to bakery ovens and brick kilns. At least two demonstrations will be undertaken in fuelwood critical areas, as applicable. Ten industrial units will be demonstrated.

The results of these studies will be included in a final report on the energy efficiency, cost-effectiveness, practicability, construction, social acceptance and utilization of the combustion techniques.

## 2b. Biogas Generation

The ICAITI biogas team, working on both small and medium-sized biogas digesters, will conduct a thorough review of biogas research, application and evaluation. As necessary it will visit local and foreign installations.

Based on the information obtained from the above activities, the biogas team will select two designs - one domestic and one industrial unit. The units will be used to study the effects of different raw materials. Consideration will be given both to the use of biogas as the sole fuel and to combinations with other fuels.

The prototypes will be studied to determine the operating parameters; such as the amount of gas produced, sludge produced and feedstock required; fermentation time required; value of the sludge as a fertilizer or other by-product (e.g. animal feed); and cost of construction, operation and maintenance. Both animal manure and vegetable wastes will be examined as potential feedstocks.

This controlled testing phase is expected to take 18 months. A report will be prepared which will include a complete accounting of the investigations conducted.

Based on the results of the above phase, ICAITI will develop final designs for the construction of a domestic and industrial biogas unit. ICAITI will also develop and conduct a workshop for counterpart personnel in the construction, operation and maintenance of these units. ICAITI will then construct, install and monitor for two years ten domestic and three industrial units. A final report will be prepared which will include the complete results of these field tests and demonstrations.

While the above field tests are underway, ICAITI will conduct laboratory investigations in technical

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aspects of biogas production. This may include study of different digester designs and operating parameters; including new strains of bacteria or preliminary investigation of the conversion of urban waste to methane. ICAITI will also provide technical assistance and training to interested organizations and will work with national counterparts in identifying and assisting possible local manufacturers in construction and operation of biogas plants.

The last year of the Project, ICAITI will present the state-of-the-art of methane research, application and its potential for Central America in a regional seminar.

#### 2c. Pyrolytic Conversion and Charcoal Production

ICAITI will conduct a thorough review of the literature and, with the assistance of short-term technical experts, select and construct one prototype improved charcoal kiln and one prototype pyrolytic conversion unit in critical areas. ICAITI, with national counterparts, will test and demonstrate the units for at least one year and will prepare a final report evaluating the operating experience, construction and maintenance costs, acceptance results, and local manufacturing possibilities. The results will be disseminated to national cooperating agencies, USAID Missions, private voluntary groups and interested individuals through this report and the planned seminar in the last year of the project.

#### 2d. Solar Technology

The solar technology team will look at three primary applications of direct solar energy: solar wood and biogas dryers, solar evaporators or stills for salt and panela production, and solar water heaters.

This team will examine the utility of simple solar dryers to dry wood for both domestic and small industry use. Both laboratory testing and field demonstrations will be conducted for two industrial and at least six domestic units.

Panela: The solar team will work with a selected panela producer and design and construct a solar dryer to dry the bagass for use as a supplement for fuelwood.

Salt: This team will work with selected salt producers to design and construct solar evaporators. One approach may be to use black plastic sheeting to line the

bottom of the salt pond, absorbing sunlight and raising the temperature, and increasing evaporation of the water. The approach may be used by itself or in conjunction with the wood burning technique. Another approach may be the use of a solar still, not to collect distilled water (though it is possible) but to produce the salt residue which remains. Tests will be made of these types of approaches to determine the cost-effectiveness of such innovations in this industry.

Water heating: Three solar water heating units will be tested in critical areas. Two may be constructed and tested at rural clinics or schools where the units would produce hot water for personal hygiene, food preparation, and cleanup and washing (not sterilizing) of instruments and linens. A third may supplement a biogas generator to maintain the slurry at the proper temperature. The applications of the solar water heaters will be determined during project implementation. ICAITI will test these three units, determine their cost and evaluate their performance for a period of at least one year. Maximum use of locally available materials will be made. The results will be disseminated to national counterpart institutions, USAID Missions and other interested parties. As needed, ICAITI personnel will participate in training courses and conferences on the application of solar energy.

### 3. Policy Study

During project implementation, and prior to dissemination of results within the cooperating countries, ICAITI will conduct or have conducted a review of existing legislation, administrative regulations, law enforcement and local customs which might retard wide use of project results. The study will be coordinated with CATIE and the COMENER secretariat at SIECA. For example, the study will review existing requirements or restrictions regarding:

- use of public and private lands for production of wood for sale,
- fees and licensing for tree cutting,
- credit policies on investments for tree production
- credit availability for purchase or production of non-traditional energy devices,
- home use of gas generation devices,
- licensing requirements for such devices.

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The results of this study will be made available to regional and national policy makers with recommendations regarding where Project objectives could be encouraged with modifications to existing legislation, administrative regulations or practice.

#### 4. Training

As described in the previous sections, the Project includes a number of separate training activities for implementors of field tests and demonstrations and for the wider regional audience for project results.

##### Field Implementors

Counterpart personnel from various national agencies and volunteer organizations will receive specific instruction from ICAITI on the construction, operation and maintenance of the various energy devices to be field tested and demonstrated. Through workshops organized and conducted by ICAITI, they will learn technical details and the kind of information ICAITI will need to evaluate the results of the several field activities. There will be separate workshops in the domestic stove technology and biogas technology. Less formal training will be provided to the smaller number of people involved in industrial application efforts. A minimum of 75 people are expected to receive short course training from ICAITI.

##### Regional Audience

In addition to developing suitable technologies, ICAITI will increase regional awareness and dissemination of the efficacy of project technologies. The audience includes government planners, national outreach agencies, volunteer organizations and private sector individuals. ICAITI will concentrate on attempts to heighten governmental awareness of the problems of rural energy use and the value of selected approaches to solve those problems. ICAITI will organize and conduct three regional seminars, one each in 1982, 83 and 84. The first seminar will summarize the results of the field testing of the domestic stoves and the results to-date of the work in industrial applications. The second will concentrate on solar energy uses, and the third, during the last Project year, on all applicable alternative energy technologies that impact on the poor. In all seminars, the most up-to-date information on the activity in the critical areas will be

presented. CATIE personnel will participate as appropriate.

The proceedings of each seminar will be prepared and published by ICAITI and distributed through appropriate channels in the region.

The ICAITI biogas, combustion, and solar team personnel will attend selected U.S. short-term courses and seminars and visit local installations and U.S. facilities during the life of the project to become or keep acquainted with the latest developments in the different technologies under the project. This, along with assistance provided by short-term consultants as required, will assure use and application of the latest techniques available in the areas covered under the program.

#### 5. Financial Management Assistance to ICAITI

The services of a financial/management consulting firm will review ICAITI's accounting and management information systems and make recommendations to assure sound fiscal policies. Contracting of the services of this consulting firm is a condition precedent to disbursement and to issuance of any commitment document.

#### V. Personnel, Equipment, Travel and Training

##### 1. CATIE Element

##### A. A.I.D.

A.I.D. funding will provide approximately 28 person years of long-term professional level (i.e. MS and PhD) technical assistance, one and one half person years of short-term professional level technical assistance, 28 person years of research assistants, surveyors, 312 person years of supporting personnel services. In addition A.I.D. funding will provide a total of six two and four wheel drive vehicles, office equipment, nursery and farm equipment and tools, Central American in-country travel and per diem, training to include nine post-graduate students at CATIE and seminars and workshops, equipment operation and maintenance costs, computer time, agricultural machinery rental, library materials, reagents, and costs for evaluations, overhead, contingency and inflation.

##### B. CATIE

CATIE inputs will include approximately 18 person years of direct professional staff services, 11 person years

otherwise agreed in writing, both institutions will be responsible for procurement of all goods and services for their project elements except for evaluations. Both institutions will arrange for the provision of necessary logistic support for all of their project related personnel located at their headquarters and in all participating countries. Both institutions will establish the necessary organizational structure for the proper management of the project. For both institutions, this will include the identification to ROCAP of a full time project manager and any other staff involved in the administration of the project.

Unless otherwise advised in writing by ROCAP, the ROCAP Project Managers for this project will be the Regional Rural Development Officer for the CATIE element and the Chief Engineer for the ICAITI element. Disbursements will be made through the ROCAP Controller's Office. CATIE, ICAITI and ROCAP staff shall meet periodically to review the progress of the project. CATIE and ICAITI will provide such special reports to ROCAP as may be required.

PROJECT AGREEMENT BUDGET

PRESUPUESTO DEL CONVENIO DE PROYECTO

	ICAITI	CATIE	TOTAL
<u>PERSONNEL</u> PERSONAL	<u>1,119,302</u>	<u>1,928,690</u>	<u>3,047,992</u>
Long Term Professional Profesional a Largo Plazo	747,000	1,234,790	1,981,790
Long Term Non-Professional No Profesional a Largo Plazo	139,952	603,900	743,852
Consultants Consultores	232,350	90,000	322,350
<u>TRAVEL AND PER DIEM</u> VIAJES Y VIATICOS	<u>273,487</u>	<u>283,800</u>	<u>557,287</u>
<u>TRAINING</u> CAPACITACION	<u>144,375</u>	<u>258,100</u>	<u>402,475</u>
Short Term Corto Plazo	144,375	96,100	240,475
Long Term Largo Plazo	---	162,000	162,000
<u>EQUIPMENT &amp; MATERIALS</u> EQUIPO Y MATERIALES	<u>289,500</u>	<u>89,500</u>	<u>379,000</u>
<u>OTHER</u> OTROS	70,000	253,337	323,337
<u>EVALUATIONS</u> EVALUACIONES	90,000	80,000	170,000
<u>INDIRECT COSTS</u> COSTOS INDIRECTOS	<u>709,562</u>	<u>406,844</u>	<u>1,116,406</u>
<u>CONTINGENCY</u> IMPREVISTOS	87,510	108,009	195,519
<u>INFLATION</u> INFLACION	<u>455,914</u>	<u>852,070</u>	<u>1,307,984</u>
	<u>3,239,650</u>	<u>4,260,350</u>	<u>7,500,000</u>

FUELWOOD PROJECT - CATIE

DETAILED PROJECTED BUDGET - ROCAP CONTRIBUTION

FOR THE PERIOD JANUARY 1, 1980 - DECEMBER 31, 1985

(US \$)

BUDGET LINE ITEMS	TOTAL		YEAR 1		YEAR 2		YEAR 3		YEAR 4		YEAR 5		YEAR 6	
	P.M.	Amount	P.M.	Amount	P.M.	Amount	P.M.	Amount	P.M.	Amount	P.M.	Amount	P.M.	Amount
Forester PhD	72	238,953	12	43,379	12	38,330	12	35,931	12	39,518	12	37,104	12	44,691
Forester M.S.	120	351,229	24	77,958	24	67,852	24	62,852	24	69,954	12	32,534	12	40,079
Info. Transfer & Use Spec.	24	70,661	---	---	---	---	---	---	6	17,488	12	32,534	6	20,039
Energy Specialist	30	84,779	6	19,439	12	33,867	12	31,423	---	---	---	---	---	---
Sociologist/Anthropologist	24	73,400	12	38,979	6	16,933	---	---	3	8,744	3	8,744	---	---
Nat. Resources Economist	54	155,946	---	---	6	16,933	12	31,423	12	34,977	12	32,534	12	40,079
Land Use Specialist	12	36,422	-6	19,489	6	16,933	---	---	---	---	---	---	---	---
<b>Int'l Professionals (110)</b>	<b>336</b>	<b>1,010,790</b>	<b>60</b>	<b>199,294</b>	<b>66</b>	<b>190,848</b>	<b>60</b>	<b>161,629</b>	<b>57</b>	<b>170,681</b>	<b>51</b>	<b>143,450</b>	<b>42</b>	<b>144,888</b>
<b>National Research Assistants</b>														
<b>Nat'l Professionals (120)</b>	<b>168</b>	<b>224,000</b>	<b>24</b>	<b>32,000</b>	<b>36</b>	<b>48,000</b>	<b>36</b>	<b>48,000</b>	<b>24</b>	<b>32,000</b>	<b>24</b>	<b>32,000</b>	<b>24</b>	<b>32,000</b>
<b>Secretaries</b>														
<b>Non-Prof. Admin. Staff (130)</b>	<b>144</b>	<b>99,000</b>	<b>24</b>	<b>16,500</b>										
<b>Asst. Surveyors</b>	<b>162</b>	<b>40,500</b>	<b>108</b>	<b>27,000</b>	<b>54</b>	<b>13,500</b>	<b>---</b>	<b>---</b>	<b>---</b>	<b>---</b>	<b>---</b>	<b>---</b>	<b>---</b>	<b>---</b>
<b>Field Assistants</b>	<b>258</b>	<b>109,650</b>	<b>12</b>	<b>5,100</b>	<b>48</b>	<b>20,400</b>	<b>48</b>	<b>20,400</b>	<b>48</b>	<b>20,400</b>	<b>48</b>	<b>20,400</b>	<b>54</b>	<b>22,950</b>
<b>Non-Prof. Other Staff (140)</b>	<b>420</b>	<b>150,150</b>	<b>120</b>	<b>32,100</b>	<b>162</b>	<b>33,900</b>	<b>48</b>	<b>20,400</b>	<b>48</b>	<b>20,400</b>	<b>48</b>	<b>20,400</b>	<b>54</b>	<b>22,950</b>
<b>Laborers (150)</b>	<b>3,300</b>	<b>330,000</b>	<b>300</b>	<b>30,000</b>	<b>600</b>	<b>60,000</b>	<b>700</b>	<b>70,000</b>	<b>700</b>	<b>70,000</b>	<b>600</b>	<b>60,000</b>	<b>400</b>	<b>40,000</b>
<b>Short Term Consultants (160)</b>	<b>18</b>	<b>90,000</b>	<b>3</b>	<b>15,000</b>										
<b>Temporary Assistants (170)</b>	<b>36</b>	<b>24,750</b>	<b>6</b>	<b>4,125</b>										
<b>PERSONNEL COSTS</b>	<b>4,422</b>	<b>1,928,690</b>	<b>537</b>	<b>329,019</b>	<b>837</b>	<b>368,373</b>	<b>877</b>	<b>335,654</b>	<b>662</b>	<b>328,706</b>	<b>756</b>	<b>291,475</b>	<b>553</b>	<b>275,453</b>

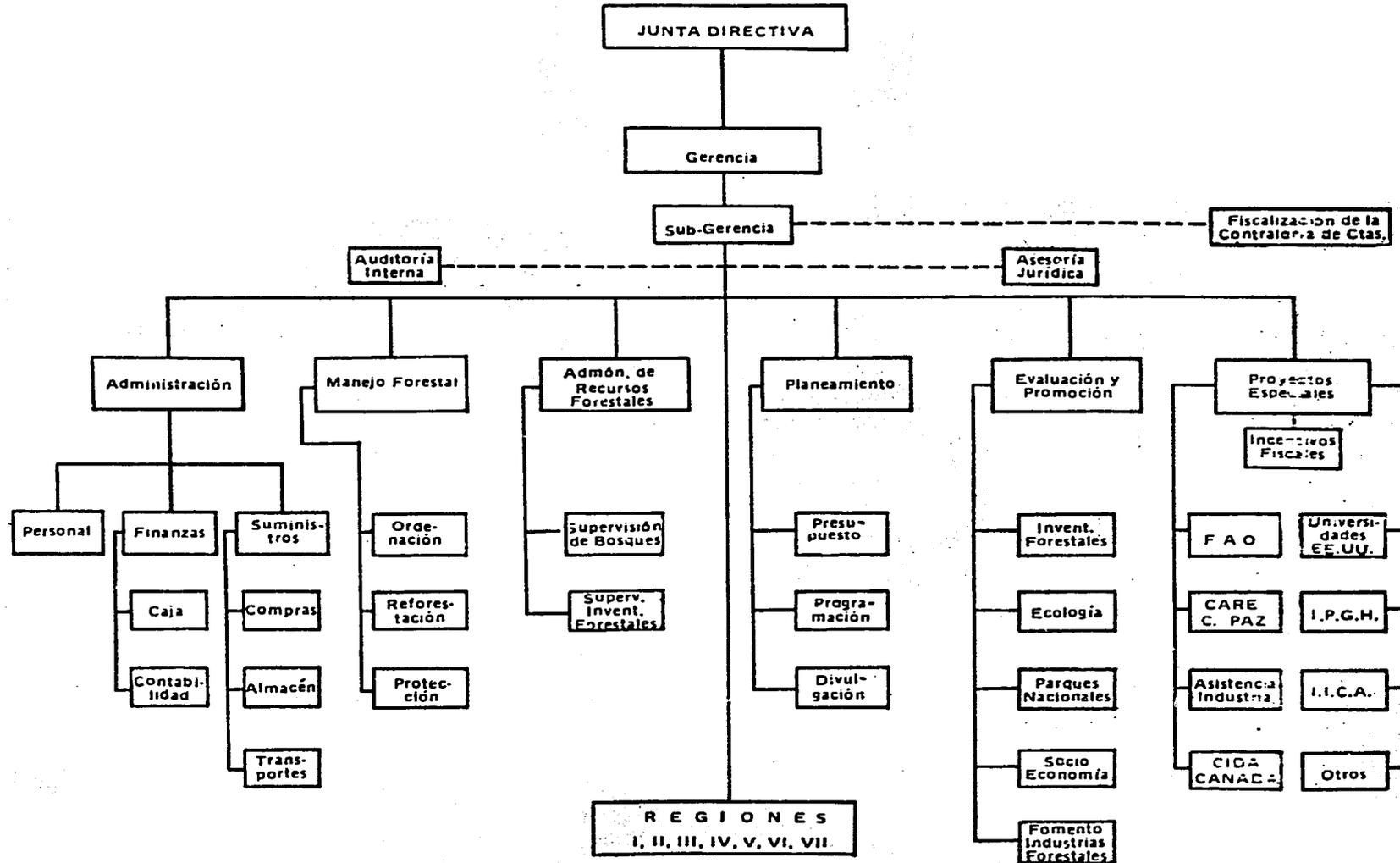
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FUELWOOD PROJECT - CATIE - DETAILED PROJECTED BUDGET - ROCAP CONTRIBUTION FOR THE PERIOD JANUARY 1, 1980 - DECEMBER 31, 1985 (US\$)

BUDGET LINE ITEMS	TOTAL		YEAR 1		YEAR 2		YEAR 3		YEAR 4		YEAR 5		YEAR 6	
	P.M.	Amount	P.M.	Amount	P.M.	Amount	P.M.	Amount	P.M.	Amount	P.M.	Amount	P.M.	Amount
Post Graduate Students (210)		162,000		---		20,250		47,250		54,000		33,750		6,750
Seminar/Workshops at CATIE (241)		35,000		---		---		7,000		14,000		14,000		---
Seminar/Workshops - Host Country		15,500		---		3,100		3,100		3,100		3,100		3,100
Seminar/Workshops Traveling Seminars (243)		45,600		---		9,120		9,120		9,120		9,120		9,120
		<u>258,100</u>		<u>---</u>		<u>32,470</u>		<u>66,470</u>		<u>80,220</u>		<u>59,970</u>		<u>18,970</u>
Travel & Per Diem		238,530		49,140		47,110		36,050		38,750		38,150		29,330
Travel & Per Diem Peace Corps		45,270		7,545		7,545		7,545		7,545		7,545		7,545
Travel Costs 300		<u>283,800</u>		<u>56,685</u>		<u>54,655</u>		<u>43,595</u>		<u>46,295</u>		<u>45,695</u>		<u>36,875</u>
Office Furniture & Equipment (410)		12,500		12,500		---		---		---		---		---
Photograph Interpretation Equipment (420)		7,500		7,500		---		---		---		---		---
Vehicles (440)		60,000		60,000		---		---		---		---		---
Nursery Equip., Machetes, Tools (470)		5,500		500		1,000		1,000		1,000		1,000		1,000
Audio Visual Equip. (450)		4,000		2,000		2,000		---		---		---		---
Equipment Costs (400)		<u>89,500</u>		<u>62,500</u>		<u>3,000</u>		<u>1,000</u>		<u>1,000</u>		<u>1,000</u>		<u>1,000</u>
Office Supplies & Materials -														
Maps (510)		12,000		4,000		2,000		2,000		2,000		1,000		1,000
Printing & Publications (520/30/40)		33,000		5,000		5,000		5,000		5,000		5,000		8,000
Telecommunications (550)		12,000		2,000		2,000		2,000		2,000		2,000		2,000
		<u>57,000</u>		<u>11,000</u>		<u>9,000</u>		<u>9,000</u>		<u>9,000</u>		<u>8,000</u>		<u>11,000</u>
Vehicle Maint. & Oper. (640)		116,457		10,587		21,174		21,174		21,174		21,174		21,174
Maint. Operation and Repairs of Agric. Machinery - Tractor Rental (650)		6,000		3,000		3,000		---		---		---		---
		<u>122,457</u>		<u>13,587</u>		<u>24,174</u>		<u>21,174</u>		<u>21,174</u>		<u>21,174</u>		<u>21,174</u>

# ORGANIGRAMA DE INAFOR

SECTOR PUBLICO AGRICOLA



APPENDIX E

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