GUATEMALA

WESTERN ALTIPLANO NATURAL RESOURCES MANAGEMENT PROJECT

Project Appraisal Document

Latin America and Caribbean Region
LCSEN

Date: January 9, 2001	**Team Leader:** Philip Hazelton
Country Manager/Director: D-M Dowsett-Coirolo	**Sector Manager/Director:** John Redwood
Project ID: P064883	**Sector(s):** VM - Natural Resources Management, VY - Other Environment
Lending Instrument: Specific Investment Loan (SIL)	**Theme(s):** Environment
	Poverty Targeted Intervention: Y
Global Supplemental ID: P068292	**Team Leader:** Douglas J. Graham
	Sector Manager/Director: JOHN REDWOOD III Person
Supplement Fully Blended? Yes	**Sector(s):** VM - Natural Resources Management

Project Financing Data
[X] Loan [ ] Credit [X] Grant [ ] Guarantee [ ] Other:

For Loans/Credits/Others:
Amount (US$m): 30.37

Proposed Terms:
Grace period (years): 5 **Years to maturity:** 17
Commitment fee: .75%
Front end fee on Bank loan: 1.00%

Financing Plan: Source	Local	Foreign	Total
BORROWER	6.24	0.00	6.24
IBRD	22.43	7.94	30.37
LOCAL COMMUNITIES	6.53	0.00	6.53
GLOBAL ENVIRONMENT FACILITY	6.55	1.45	8.00
Total:	41.75	9.39	51.14

Borrower/Recipient: GOVERNMENT OF GUATEMALA
Responsible agency: MINISTRY OF AGRICULTURE

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Estimated disbursements (Bank FY/US$M):

FY	2002	2003	2004	2005	2006	2007		
Annual	2.50	5.34	6.41	6.44	6.43	3.25		
Cumulative	2.50	7.84	14.25	20.69	27.12	30.37		

Project implementation period: 5 years
Expected effectiveness date: 01/11/2000 **Expected closing date:** 01/11/2006

A. Project Development Objective

1. Project development objective: (see Annex 1)

The project development objective is to improve the management and conservation of natural resources and biodiversity and the livelihoods/ incomes of the people who depend upon these resources, in the Western Altiplano of Guatemala. The Western Altiplano is characterized culturally by its majority indigenous (Mayan) population, and geographically as encompassing the departments of Sololá, El Quiché, Totonicapán, Quetzaltenango, San Marcos, and Huehuetenango. To achieve these dual goals, the project will empower local groups and communities to be proactive in the development decisions and natural resources management processes which affect them; provide instruments to improve incomes and incentives to improve the environmental sustainability of production practices, and to value and protect globally important biodiversity in the project area. Farmers, community groups and local authorities (traditional Mayan and local government) will receive financial resources and technical information and services to strengthen their capacity to address these dual goals.

The project would: (i) fund programs and subprojects that improve productivity and diversify farming and other (off-farm) livelihood systems, in order to increase rural incomes and reduce pressures on the natural resources base; (ii) extend and improve management activities for the protection of biodiversity of global importance and the habitats which sustains this diversity; (iii) establish and pilot a framework for the development of environmental services markets to sustain conservation incentives; and (iv) support traditional authorities, local and regional organizations and government to achieve their development objectives and outcomes.

2. Global objective: (see Annex 1)

Foster sustainable economic growth, social cohesion and environmental protection through improved participation and productive opportunities for the poor within the framework of the National Peace Accords. (CAS Objective).

Improved management of natural resources and conservation of globally important biodiversity within the framework of the Mesoamerican Biological Corridor (GEF Objective).

3. Key performance indicators: (see Annex 1)

Key performance indicators related to the project development objective include:

- 20 % increase of household incomes for 30,000 participants
- 30% of direct participants are women
- Biodiversity and natural resource conservation upgraded in 175,000 ha within priority areas for globally important biodiversity in the Sierra de Cuchumutanes and the Volcanic Belt
- National policy framework for markets for environmental services in place with institutional arrangements successfully piloted

B. Strategic Context

1. Sector-related Country Assistance Strategy (CAS) goal supported by the project: (see Annex 1)

Document number: 18036 GU **Date of latest CAS discussion:** 06/19/98

The proposed project strongly supports both the Peace Accords and the CAS priorities of:

Building social cohesion and strengthening participatory decision-making processes by strengthening

local forums for participatory planning, decision-making and conflict management; supporting decentralization through working with community, municipal and department-level organizations and deconcentrated central government agencies; and disseminating participatory development methodologies and facilitating equitable participation of local stakeholders in planning, implementation and policy formulation processes;

Reducing poverty by promoting economic activity based upon sustainable use of renewable natural resources as well as strengthening non-agricultural and non-natural resource based economic activities in rural areas;

Modernizing the public sector to make it more effective at essential tasks by developing and institutionalizing instruments for the decentralized and privatized provision of public services and by training of deconcentrated public sector staff working in the natural resource and agricultural sectors to better function in a decentralized and participatory implementation and policy environment; and

Protecting the environment by developing improved or less natural resource intensive production methods and non-resource based economic activities, and by developing locally managed protected areas and biodiversity conservation and monitoring systems.

1a. Global Operational strategy/Program objective addressed by the project:

The proposed project is consistent with the GEF Operational Strategy supporting long-term protection of globally important ecosystems. This project supports Operational Programs No. 3 (Forests Ecosystems), No. 4 (Mountain Ecosystems), and No. 2 (Freshwater Ecosystems). It is also consistent with the more specific GEF objectives under the above Operational Programs. The emphasis on ecosystemic or ecoregional conservation strategies is an explicit design element. This is so, given the project's location within the Mesoamerican Biological Corridor (MBC) and the National Council for Protected Areas' (CONAP) interest in designing protected area strategies which look at connectivity and representativity of ecosystems across the entire Guatemalan Altiplano. The emphasis on sustainable use is reflected in the close coupling of GEF and IBRD financing in support of improved productivity and sustainable use of natural resources. The project's emphasis on the inclusion/participation of indigenous people and communities (the principal goal of the large first component) is consistent with the GEF objectives of working with local, and particularly indigenous, communities. It is noteworthy that under the Operational Program No. 4, the GEF specifically endorses programs in the Mesoamerican Region.

2. Main sector issues and Government strategy:

Main Sector Issues:

Declining Natural Resource Base. More than half of Guatemala's people live in rural areas and depend directly on natural resources for food, shelter, income, and spiritual sutenance. Agriculture and forestry account for 60% of land use, with agriculture providing more than 50% of employment, 24% of GDP, and 60% of export value. However, factor productivity in agriculture is very low, and productive investments in the sector amount to only 10% of gross national investment, reflecting the high degree of neglect and the unsustainable extractive practices in the sector.

While providing important opportunities for sustainable development, the nation's renewable natural resources are subject to increasing pressure: over 60% of the national territory is estimated as subject to accelerated soil erosion from human activity; 56% of soils are thought to be unsustainably exploited under current production systems; and hillside agriculture without appropriate conservation practices is the norm. Countrywide, annual deforestation occurs at approximately 90,000 hectares per year.

Exact measures are not available, but estimates of deforestation rates for the Western Altiplano suggest that: (i) about 1% of the existing forests are lost annually; (ii) sheep grazing, which prohibits natural regeneration, may represent one of the greatest threats to the long-term maintenance of the region's forest resources; and (iii) rates of deforestation have probably been accelerating since the end of civil unrest and the return of many refugees. Despite the severe pressures on the forests, some 23% of the region's land area in the region has retained forest cover, due to continued functioning of traditional Mayan forest tenure and multiple-use management systems. However, in the absence of alternative livelihood systems and greater support to traditional management systems, the region's high and growing population densities and levels of poverty are expected to result in worsening trends in soil and forest degradation.

The Guatemalan Protected Areas System (SIGAP) is extensive in area, but is poorly managed and strongly threatened by extractive practices and the advance of the agricultural frontier, particularly in the Western Altiplano. In the Altiplano, 15 wildlands, most very small, have been declared protected areas, but little investment has been made to secure their conservation, and boundaries of many have not yet been demarcated (see also Annex 19 for a further discussion of the SIGAP).

Rural Poverty. Of Guatemala's population, 75% are poor and two-thirds of these live in extreme poverty, unable to meet their basic needs. According to recent UN figures, 52% of the total population is engaged in the agricultural sector (including agriculture, forestry, and fisheries), the highest levels in Central America. Guatemala has the third highest rate of income inequality among the world's 44 low to middle income countries (after Brazil and Pakistan).

Among indigenous people, 93% are poor. Within the project region, some 90% to 95% of the population belong to one of 13 indigenous Mayan groups. The population of this region (with the exception of the department of Quetzaltenango) has the highest indices of social exclusion in the country. The GNP per capita is one fifth of the national average. Small holdings predominate in the Western Altiplano: available data indicates that around 95% of holdings are less than 7 hectares in size, with almost half of these being less than 0.7 hectares in size. Few indigenous small holders or communities hold legal title to their lands.

Loss of Social Cohesion. The Altiplano has suffered the ravages of civil war for over the past three decades. Some 200,000 lives were lost, many more people were displaced, and many households are now headed by women. The most affected have been indigenous communities in the Western Altiplano, where community members were pitted against each other in the struggle between the army and insurgency, tearing apart the social fabric, further damaging inter-ethnic trust, and destroying community organizations and local power structures. The signing of the Peace Accords between 1994 and 1996 ended most of the (overt) conflict and established a framework for development. While more peaceful community relations and organizations are slowly re-emerging, there is still very little trust in government institutions.

Government Strategy

Fostering Social Inclusion and Peace. The Peace Accords outline the Government's inclusive development strategy for the Western Altiplano and other affected regions, calling for a reduction of inequities, increased participation of indigenous and other groups in economic growth, more sustainable management of natural resources, and the establishment of processes for regular Government dialogue with civil society on policy and legal instruments. Since the Accords were signed, violence and conflict have decreased, and personal security, access to markets, and the potential for rural communities to rebuild social organizations has improved in the Western Altiplano region.

Natural Resource Management and Rural Development. Since 1995, the natural resources policy and management framework has evolved considerably in Guatemala, shifting towards an integrated approach based on the harmonization of policies between sectors and institutions. The responsibility for managing and protecting Guatemala's natural resource base has been shared among four central institutions: MAGA

(Ministry of Agriculture, Livestock, and Food), CONAMA (National Environmental Commission), CONAP (the National Council for Protected Areas) and INAB (the National Forestry Institute). To advance the policy agenda, in 1998 the four key institutions formalized coordination at the policy level through an interagency Natural Resources and Environment Committee. At the end of 2000, a new Ministry of Environment and Natural Resources (MARN) was created. The decree formally establishing MARN is expected to be published in early 2001. MARN, which will replace CONAMA and will have CONAP and INAB under its structure, is expected to integrate itself into (if not lead) the interagency Natural Resources and Environment Committee.

The Government has proposed its strategic development agenda within the *Pacto de Gobernabilidad* (Pact of Governability) which, in addition to supporting the Peace Accords, gives priority to rural development, environment, and sustainable natural resources management. The framework for achieving these priorities has been presented in the Government's agrarian, forestry and national protected areas policies. These seek to improve the quality of life of populations dependent upon agriculture and natural resources for their livelihood by: (i) enhancing protection and sustainable use of natural and cultural patrimony; (ii) explicitly valuing the economic contributions of the country's landscapes, forests and biodiversity and incorporating these values into regulatory, planning and incentive frameworks; (iii) promoting competitiveness and growth in the agricultural sector; (iv) achieving food security; (v) extending and strengthening organization for decentralized management; (vi) modernizing the public institutional structure; and (v) promoting public and private investment in productive activities that create new non-agricultural rural employment opportunities.

Decentralization. In recent years, the Government moved to decentralize, privatize, and deconcentrate many public functions, including those related to agricultural extension and research, planning and management of natural resources and rural development programs. Operationally, however, this framework does not appear to have improved the delivery of agricultural services to the rural poor. A recent World Bank diagnostic of the country's decentralization process concluded that coordination between the central level and sub-national government agencies is a limiting factor. Both MAGA and INAB have adopted new institutional structures, in which they assume normative, regulatory and facilitation roles, while arranging with the private sector, local governments, and NGOs to perform delegated services (e.g., extension). Little has been done to build the capacity of public or private sector groups to assume these roles, however, and the extension of rural development support services on the part of either institution has thus been quite limited.

Municipal governments are also key to the decentralized execution of natural resources policy. The Constitution, Municipal and Health Codes charge municipalities with, among other things, to promote development, prevent pollution, protect the environment (flora, fauna, soil, and water), develop and implement land use and economic development plans, and monitor and control environmental risks. Meanwhile, central government transfers to municipalities go almost exclusively toward financing public infrastructure and to servicing municipal debt. Municipalities lack the incentives, capacity, and necessary participatory mechanisms to approach local development in an integrated manner and to include management of local natural resources.

Agricultural Policy. MAGA's *Agrarian and Agricultural Policy 1998-2030*, is largely being continued by the current administration (as in its *Politica Agropecuaria 2000-2004* published in April, 2000). It maintains the view that many of the country's soils are more suited to forestry than agriculture, and promotes the development of non-agricultural rural development strategies. Key elements of MAGA's policy include:

- promotion of secure property rights over land through policy instruments such as the World Bank-supported Land Fund (which facilitates access to land for poor peasants), CONTIERRA (for

management of land conflicts), and PROTIERRA, along with modernization of the Property Register and implementation of a National Cadastral Survey (supported by the Bank Land Administration Project), and the National Geographic Information System;

- sustainable use and conservation of water resources through the Integrated Water Resources Management Plan under preparation (with assistance from IDB);
- land use practices more aligned with sustainable capacities by better targeting of existing incentive programs and by creating and effectively managing protected areas;
- fostering productive commercial development through adaptation, generation and transfer of technology, incentives for investment and commerce, improvements in agricultural trade policy, development of human capacity, and promotion of organizational and entrepreneurial capacity; and
- protecting and regenerating forest resources by supporting protected areas conservation, productive natural forest management and new plantation incentive programs.

Forest Policy. The new Forestry Policy made public by INAB in 1999 aims to: (i) strengthen the Guatemalan Protected Areas System (SIGAP) and conserve other strategic forest ecosystems; (ii) promote productive management of natural forests and plantation silviculture and modernize primary and secondary timber industries; and (iii) develop new forestry markets and products. A recent review of the Forest Policy identified its principal weaknesses as lack of coordination with municipalities and communities and omission of environmental services.

The Forestry Law (Decree 101-96) establishes the Forestry Incentives Program (PINFOR) which delivers direct payments to forest producers using earmarked fiscal resources. Over three years (1997-1999), the program has established some 10,500 hectares of plantations and promoted natural forest management in an additional 10,000 hectares. A total of Q3.5 million (about US$460,000) are programmed for incentive payments in CY2001. The incentive payments have been a key element in establishing government's credibility and operationalizing its reforestation and forest management policies.

Adjustments to the incentive framework may be necessary, however, since experience demonstrates that such large incentive payments for reforestation tend to: (i) be inefficient in promoting economically viable reforestation on significant scales; (ii) promote rent seeking behavior; and (iii) accrue to larger land owners. In the case of PINFOR, incentive payments for maintaining standing natural forest, where arguably there are much greater environmental services benefits, are very low. Chief among its limitations is the fact that PINFOR requires beneficiaries to have legal title, while the majority of indigenous smallholders do not have such titles. Smallholders (subsistence level and below) constitute 96% of farming households and have access to an estimated 70% of remaining forests (SNT, 1999). Integrating these smallholders into the Government's forest management program to maintain environmental goods and services is critical to the conservation of remaining forests.

Biodiversity and Protected Areas. The country's policies for biodiversity conservation and protected areas are contained in: (i) the National Biodiversity Strategy (published in early 2000 with assistance from GEF funding through UNDP), (ii) the National Policy for the Development of the Guatemalan Protected Areas System (SIGAP), and (iii) CONAP´s Strategic Plan 1999 - 2010. The central priority of all these is the *in situ* conservation of biodiversity, mainly through strengthening of the SIGAP.

CONAP directly administers 77% of the area under legal protection, though the SIGAP encompasses 22 other management entities. These include NGOs, local communities, and other public and private institutions. The SIGAP is thus a highly diverse and decentralized institutional system, requiring significant efforts to coordinate. Recently, an explicit policy was established to encourage sharing administration of protected areas between CONAP and other stakeholders. However, the country's organizational, financial,

and technical capacity for protected area management is still weak.

3. Sector issues to be addressed by the project and strategic choices:

Rural Poverty, Environmental Sustainability and Participatory Local Development. The project will address the interlinked problems of poverty, a declining and degraded natural resource base, and the lack of functional institutional mechanisms and local capacity to plan, implement and manage development activities in the Altiplano. The project supports local organizations, provides coordination and technical support for communities to work in partnership with deconcentrated government agencies, the private sector and civil society in local planning of actions to enhance sustainability of productive natural resource use, biodiversity conservation, traditional decision-making, indigenous land/resources management, community stewardship of protected areas and fragile lands.

The project will not fund social infrastructure investments (roads, bridges, potable water, electricity, clinics, schools, etc.) because:

- Financing for natural resources conservation, environmental management and productive activities is low compared to that available from the social funds and other formal sources in the Altiplano. (In 1999, FIS, FONAPAZ and FSDC invested some US$66.9 million in the Western Altiplano, of which 93% went to infrastructure);
- There is local demand for support to natural resources management and environmental sustainability actions. This is expressed in participatory diagnostics and is reflected in the increasing conflicts over access to resources (land, forests, water), incipient community and municipal initiatives to protect water supplies and remnant forests, and local poverty reduction efforts. These rely (almost exclusively) on labor and the local natural resources -- the only readily available capital to rural poor in the Altiplano; and
- The government's current natural resource management policies provide an opportunity/opening for support to traditional conservation systems and practices. Indigenous Mayan land use practices build on a long time horizon and emphasize multiple use of forests and other resources; reducing pressure on them by avoiding intensive exploitation. By working closely with local communities on these issues, the project would contribute to long-term sustainability of these systems, supporting local initiatives, productive activities consistent with local culture, norms, and locally-enforced sanctions, rather than rely on central government regulations and enforcement.

Conservation of Biodiversity. The project area of the Western Altiplano harbors biodiversity of global importance. Using the WWF/WB ecoregion classification, it includes two ecoregions that are best represented here (Central American Pine-Oak Forests and Central American Montane Forests) and which are poorly protected at present in Guatemala. A detailed study undertaken by TNC for this project revealed two large biogeographic units in the area of the project (the Volcanic Belt and the Sierra de Cuchumutanes) which are of the highest global priority due to levels of endemism, high diversity, and lack of protection.

In the absence of GEF funding, the Government of Guatemala would not have been able to effectively address the conservation needs of the area. As a result, this project includes a request for $8 million of incremental GEF funding. The main conservation gains in the Altiplano will be achieved through *in situ* conservation of biodiversity under a strengthened SIGAP and by working with local communities and indigenous groups consolidating traditional resource management approaches favorable to biodiversity.

Annex 19 includes a more detailed review of global biodiversity issues and strategic choices made by the project in this area.

Environmental Services Markets. Natural resources in the Altiplano provide critical environmental services

including hydrologic stability, soil conservation, habitat for biodiversity, scenic beauty, and reduced vulnerability to natural disasters. However, there are no ready markets for these services. These markets may be created by strengthening the link (market) between resource users and service providers and environmental services beneficiaries, whereby the former can receive money in exchange for ensuring continued provision of the services. Experience with a variety of operational and policy mechanisms (more mature in the OECD context, incipient in much of the LAC region with exceptions such as Costa Rica) suggests that successful mechanisms are country and situation specific. Therefore, the project would work with a broad range of stakeholders and test and pilot those mechanisms identified as most appropriate, while simultaneously supporting the development of the required national policy framework and instruments.

Geographical Focus. As per the Government's priorities of consolidating peace and achieving gains in poverty reduction and improved conservation of Guatemala's most vulnerable regions, the project would concentrate activities and investments in 40 of the 132 municipalities found in the Western Altiplano. These 40 municipalities represent some 40% (about 9,100 km^2) of the land area of the Western Altiplano and contain about that same percentage of the region's population - an estimated 1.23 million people live within the project target area. These municipalities were selected on the basis of: (i) macro-prioritization: national policies and priorities, specifically the 1996 Peace Accords and the current government administration's 1999 "Governability Pact," which emphasizes investments in severely impoverished areas; and (ii) regional prioritization: presence of forest or other habitat or ecosystems critical for watershed and/or biodiversity conservation, poverty targeting, and absence of other, significant programs or projects (actual or planned) with similar objectives.

Funding conservation investments under Component 2 will furthermore be targetted to an additional 10 municipalities (see Annex 19).

C. Project Description Summary

1. Project components (see Annex 2 for a detailed description and Annex 3 for a detailed cost breakdown):

Component	Sector	Indicative Costs (US$M)	% of Total	Bank financing (US$M)	% of Bank financing	GEF financing (US$M)	% of GEF financing
1. Sustainable Livelihoods 1a. Local Institutional Strengthening 1b. Subprojects Grants 1c. Support Services	Natural Resources Management	40.60	79.4	25.73	84.7	4.00	50.0
2. Biodiversity Conservation 2a. Protection of Sites of Global Importance 2b. Inter-cultural Communication 2c. Biodiversity Conservation Monitoring and Evaluation	Natural Resources Management	5.82	11.4	1.38	4.5	3.50	43.7

3. Environmental Services Markets 3a. National Strategy for Environmental Services 3b. Capacity Development 3c. Pilot Projects for Environmental Services Market Development	Other Environment	1.33	2.6	1.03	3.4	0.10	1.3
4. Program Management 4a. Administration 4b. Monitoring and Evaluation	Natural Resources Management	3.09	6.0	1.93	6.4	0.40	5.0
Total Project Costs		50.84	99.4	30.07	99.0	8.00	100.0
Front-end fee		0.30	0.6	0.30	1.0	0.00	0.0
Total Financing Required		51.14	100.0	30.37	100.0	8.00	100.0

Annex 2 also includes the amounts of IBRD and GEF financing for each subcomponent.

2. Key policy and institutional reforms supported by the project:

Policy analysis studies undertaken for project preparation, reveal an enabling and positive policy environment in favor of the project. Five principal policies - agrarian, environmental, biodiversity, and protected areas policies and forest policy and law - underpin the GOG's approach to natural resource management. Institutionally, the project implementing agencies promote the principles of decentralization and deconcentration of responsibilities and implementing resources. Principal weaknesses are lack of practical mechanisms and institutional arrangements for implementation of these policies through cooperation and coordination with private organizations (NGOs), local governments and communities. Therefore, the project will support key government, private and community sector actors to in the design and execution of activities which are based on local priorities and approaches to conservation, sustainable use of natural resources for livelihood purposes and contribute to the GOGs capacity to manage natural resources in the Western Altiplano.

The project will assist the central-level institutions responsible for natural resource policy formulation and oversight (MAGA, MARN, INAB, and CONAP) to develop and institutionalize instruments for delivery of decentralized and privatized public services for natural resource management. Training and "in-service" project experience will provide regional and departmental-level public sector staff with practical skills to work with communities and local governments in a decentralized and participatory manner.

Government extension and rural development efforts have always been mainly directed towards men. MAGA recognizes the importance of women in development, especially in the Altiplano. Here men often leave the region for seasonal work elsewhere and, resulting from the decades of violence, the percentage of women-headed households is highest in the country. At MAGA's request, the project supports MAGA's development of a gender policy and the design of implementing mechanisms.

Municipal governments and the local, traditional Mayan authorities *(alcaldias auxiliares)* will be assisted to prepare community-level local "sustainable development agendas" for natural resource use and conservation by means of participatory priority-setting mechanisms. An analysis of the municipalities proposed for inclusion in the project revealed a relative abundance of grassroots organizations, committees, formal rural associations and cooperatives, and of private sector entities, particularly NGOs, specializing and working in natural resource conservation and sustainable production technologies. These organizations provide a sound foundation on which to build effective civil society and private sector cooperation for planning and establishing local natural resources management and conservation priorities and establish

privatized service delivery mechanisms and implement technically sound investments in response to the local demands.

3. Benefits and target population:

The great majority (90-95%) of primary project beneficiaries will be members of one of 13 Mayan ethno-linguistic groups (K'iché, Mam, Jalcalteco, Ixil, Tzutzujil, K'akchik'el, Chuj, Kanj'obal, Sacapulteco, Uspanteco, Aguacateco, Sicapanense, and Tectiteco) in the Western Altiplano project area. At the same time, ladino community members will be provided with equal access to project resources. The project itself may appropriately be considered an Indigenous Peoples Development Plan (see Annex 11).

This project has four types of primary beneficiaries: i) members of approximately 650 communities and producer groups in 40 municipalities in the Western Altiplano who would be eligible to receive competitive grants for subprojects they propose and who would participate in capacity building; ii) municipal corporations that would receive capacity building assistance for planning and development; iii) communities that manage and benefit from communal forests and other conservation regimes; and iv) communities near and within the priority areas for biodiversity conservation which would receive assistance in natural resource management, conservation, and be eligible to access subproject grants. The 40 municipalities were targeted based on: poverty level (need); potential for increasing sustainability of land and resources use linked to income generation; presence and degree of vulnerability of biodiversity and critical natural resources/habitat; opportunities for capturing environmental services; and absence of other large donor-financed projects with similar objectives. A minimum of 60% of grant financing would go to households with less than 1 hectare of land, and a minimum of 30% to women.

Direct beneficiaries of productive and natural resources management investment grants will primarily be poor rural farming households whose livelihood strategies are based on: (i) maize and black bean production, generally on very small (< 0.7 ha) hillside plots; and (ii) sales of seasonal labor in coastal plantations, small scale vegetable and coffee production, and semi- and unskilled labor in larger towns and cities (or illegal emigration to the United States). Female-headed households in particular will be targeted. Other direct beneficiaries include farming households with up to 10 hectares of land and individuals dependent on small-scale, non-farm enterprises with potential for diversification, technology and productivity improvement, and job creation.

Direct local benefits are expected to include: (i) increased household incomes among small farming and landless households and local micro-entrepreneurs; (ii) increased ability of local people and organizations to manage their own development programs and relations with central government and other institutions; and (iii) improved management of natural resources leading to more sustainable and stable production systems and a more amenable environment for human habitation.

At the regional and national levels, beneficiaries include private sector and NGO staff who will be provided with additional training and employment as service providers for project activities. Central, regional and departmental government agencies (MAGA, CONAP, and INAB) will benefit from strengthened capacity to manage decentralized development, technical training, improved relationships with indigenous communities, and replicable models for rural development and biodiversity conservation. Downstream consumers of environmental services, particularly water, will also benefit. Benefits at this level will include (i) stabilizing forest cover and watersheds; (ii) demarcating and establishing community co-management plans for protected areas; (iii) improving local and national capacity to sustainably manage community forests and protected areas; (iv) improving government agency capacity to support decentralized development; (v) developing incentives to maintain protected areas and natural habitats in the long-term; and (vi) improving the quality, quantity, and sustainability of environmental services produced in the region

Global benefits will include the protection and conservation of globally important biodiversity.

4. Institutional and implementation arrangements:

(See Annex 14 for detailed institutional and implementation arrangements)

Implementing Agency

The project implementing agency is the Ministry of Agriculture Livestock and Food (MAGA). Two other GOG national level agencies, the National Protected Areas Council (CONAP) and the National Forestry Institute (INAB), will also participate in project implementation and supervision. CONAP will assume responsibility for activities related to biodiversity and protected areas, and INAB will do so for activities related to forestry and environmental services. A Memorandum of Understanding (MOU) will be signed among the three agencies detailing their mutually agreed roles and responsibilities.

As of late 2000, a new Ministry of Environment and Natural Resources (MARN) has been created to which CONAP and INAB will be attached sometime early in 2001. MARN will provide overall leadership in the natural resources sector but this change is not expected to modify the project design as the two core institutions (CONAP and INAB) placed within it are autonomous agencies and operate under their own constitutionally-established mandates. They have proven to be two of the more stable public agencies, and have weathered many institutional changes in the current government's first year in power. During Appraisal, the project team will discuss and validate with the newly appointed Minister of Environment and Natural Resources and the Minister of MAGA the implementation arrangements described below for institutional oversight and coordination. A draft MOU will be reviewed during appraisal for inclusion in negotiations.

Project Coordination and Management

A Project Coordination Unit (PCU) will be established within MAGA and located in the Western Altiplano (Quetzaltenango) to provide for overall coordination of component activities and carry out project management functions. Specifically, the PCU will be responsible for implementation, coordination and promotion, preparation of annual work programs, budgets, procurement and financial management, general supervision, and monitoring and evaluation. The PCU will also have some limited technical and implementation responsibilities, in terms of administering and supervising contracts for the implementation of support services, intercultural communication, and other cross-cutting institutional strengthening activities.

Financial Management. The PCU will be responsible for accounting and financial management of project resources, including signing contracts, authorizing payments, disbursing funds, consolidating project accounts and information, budgeting, preparing financial reports, and establishing internal controls. The formats and basis to produce financial reports would be in accordance with the Bank Financial Management Manual and LACI procedures.

Disbursements. See Annex 6.

Project Planning. The PCU will be responsible for preparing Annual Operating Plans (POAs), to be agreed upon with the IBRD. All activities involving MAGA, CONAP or INAB staff (or as institutions) will be planned jointly.

Project Monitoring and Evaluation. The PCU will be responsible for ensuring that project results and impacts are monitored (see Annex 17). Detailed project performance monitoring indicators and a draft Monitoring and Evaluation proposal have been presented in the draft PIP and will be reviewed at appraisal and finalized prior to Project Negotiations. A Mid-Term Review would be carried out to provide an

in-depth evaluation of project performance and outcomes based on the agreed targets presented in Annex 1.

Operational Manual. The functions and responsibilities of the PCU and project management will be governed by the Project Operational Manual, which would include detailed guidelines for the preparation of the POA, staffing and assignments with specific responsibilities, supervision, flow of funds, special accounts, budgeting, auditing and reporting as well as procurement and disbursement procedures. The Operational Manual would be updated according to project circumstances and project strategies, implementation experience and project objectives, and activities set forth in the PAD and Project Legal Agreement. Finalization of the Project Operational Manual will be a condition of Project Effectiveness.

Implementing Institutions & Arrangements

Execution of all project activities, with the exception of the Component 1 (Sustainable Livelihood) Municipal Grants under the Local Institutional Strengthening Subcomponent and Subproject Grants subcomponent, would be carried out directly through the PCU in concert with the GOG implementing agencies.

Local Institutional Strengthening and Subproject Grants Program. The bulk of project funds will finance municipal grants for local institutional strengthening and demand-driven subprojects. The former is a technical assistance grant and the latter is a targeted, demand-driven rural investment facility (DRIF) for natural resources management. The technical execution of these actions would be contracted to a qualified organization/or firm to establish a Grants Technical Unit (GTU) in the Western Altiplano with (at minimum) offices in the *cabacera* of each project department. The GTU's primary responsibility will be to deliver to MAGA grant subprojects eligible for financing and supervise their execution. The GTU will review subproject grant proposals and confirm that they comply with the Project's Operational Manuals and Legal Agreement regarding beneficiary group eligibility, environmental standards, and procurement and accounting procedures. Other GTU functions are detailed in Annex 14.

Project Funds Administration

Project funds will be administered through a private Trust Account Administrator (TAA), to be selected on a competitive basis. The primary functions of the TAA will be to administer project resources and release/transfer funds upon the instruction of the PCU Coordinator to facilitate the resources for the activities to be implemented under the annual operation plan (see Annex 6). Entities in Guatemala, acceptable to the World Bank, will be selected, and a short-list with a minimum of three will be invited to provide proposals for account administration. Potential entities would include UNDP, IICA, and private banks (such as BANCAFE). The World Bank is currently reviewing the capacity of private banks to provide such assistance to World Bank-financed projects; the results of the review would be used to develop the short-list.

Assessment of agency's capacity to implement procurement

During the pre-appraisal mission, an assessment of the capacity of MAGA to implement Bank-approved procurement was initiated and will be finalized at appraisal. The draft procurement plan, which also proposes specific actions to be taken before effectiveness, will be presented by the GOG at appraisal. Both the draft and the appraisal mission procurement assessment report will be sent to the Bank's Regional Procurement Advisors (RPA) office for comments upon return of the appraisal mission.

D. Project Rationale

1. Project alternatives considered and reasons for rejection:

Project preparation was characterized by strong stakeholder participation, and paid careful attention to working at a rate compatible with the national counterparts' decisionmaking processes and institutional instabilities. The emerging design benefited from a reasonably stable policy framework between government administrations. The design team considered and rejected a number of alternatives, including:

Watershed management vs. cross-cutting thematic approach: The original MAGA proposal to the Bank would have restricted project focus to investments in specific watersheds. This was rejected as: (i) too restrictive and not allowing for the Bank's and GEF's comparative advantages to work on cross-cutting issues in a number of equally critical and threatened watersheds; (ii) no single project or program could effectively address all the development and investment needs for an entire watershed's myriad, multi-sectoral and stakeholder issues; (iii) from the natural resources perspective, the region requires provision of services which cut across watersheds and whose 'boundaries' are better defined by administrative divisions (i.e., municipalities); and iv) the project's (GEF-financed) biodiversity and environmental services activities of necessity extend beyond single watersheds.

Centralized, top down (cluster) vs. local initiative approach: An initial, centrally-determined, emphasis on agro-industrial and forestry investments within the concept of sectoral "clusters" was advocated by the previous Government. It was strongly debated in the light of the Bank's commitment to rural poverty alleviation and collectively changed to support for small-scale farmers and entrepreneurs based on local initiative and demand-driven investments. Nevertheless, this does not imply that the commercial and market-oriented farm sector is excluded from project benefits. On the contrary, during preparation, studies on a number of promising commercial crops for promotion within regional, national and export markets (shade and organic coffee; fruits; vegetables; potatoes; cardamom) were carried out in reference to the National Competitiveness Program (and the Bank's Competitiveness Project under preparation), and links to the Agricultural Export Promotions Agency - AGEXPRONT, with regional offices in Quetzaltenango, will be fostered as, and wherever, opportunities arise.

Conservation vs. sustainable use approach: The option of focusing exclusively on environmental issues and activities and natural resource conservation was never a serious option for this project, given the pressing social needs in the region. The project, to be acceptable locally and nationally, needed to include a strong productivity-enhancement element. Experience with similar projects in Guatemala and other countries clearly demonstrates that without the provision of financial and economic incentives to the rural poor, efforts to stimulate changes in behavior from unsustainable resource use and production practices will not prosper. Poor farmers cannot risk changing their traditional production practices unless the alternative practices result in tangible benefits (e.g., improved productivity, income, food security, etc.). In the project area, the need to provide alternative (off-farm) income-generating opportunities to reduce pressure on natural resources has also been recognized. Bank-financed conservation projects increasingly adopt such combined production-conservation incentives mechanisms.

Centralized vs decentralized technical services approach: In Guatemala, the provision of centralized government services as a means of implementing project activities was rejected as part of the movement and policies to modernize the state. However, downsizing of public institutions, decentralization and privatization of services has reduced the state organs to the point where selective investments in strengthening (reformed) public institutional capacity to facilitate local services is required. The project supports locally-identified and client-managed assistance to producer groups and municipal governments on a cost-sharing basis as an alternative to centrally driven extension services, although some regional government offices (MAGA; INAB; CONAP) will be eligible for targeted institutional strengthening, while avoiding rebuilding bureaucratic inefficiencies.

Choice of Financing Mechanisms: During prepartion a number of alternative rural financing mechanisms (RIMs) were considered, analyzed and weighed. They ranged from selecting one or other of the existing

social funds (FIS and FONAPAZ), environmental funds (FOGUAM and FONACOM), and sectoral funds (FONAGRO). All of them were rejected for a number of discrete reasons: a) the social funds were considered too centralized and inflexible, offering little opportunity for financing locally-designed (empowering) income-generating projects; b) the social funds have no capacity for promoting and supervising environmental and natural resources management investments (technically; administratively); c) the other funds, while they offer interesting options, seem to suffer from a high level of political interference (FONAGRO and FONACOM) and, in any case, are slated to be extinguished (under the Bank-lead initiative to reduce the number of funds operating in the country). The choice to establish a Grant Technical Unit (GTU) under the PCU to implement the grant financing program (technically and adminsitratively) in its totality and to have a separate disbursement/financial administration service - the Trust Account Administrator (TAA) - was settled upon.

The Trust Account Adminstrator (TAA) - was settled upon as previous experience with such mechanisms (both by WB and others) has tended to show that accountability is much reduced when control of funds and of the development agenda are joined in the same entity.

2. Major related projects financed by the Bank and/or other development agencies (completed, ongoing and planned).

Sector Issue	Project	Latest Supervision (PSR) Ratings (Bank-financed projects only)	
		Implementation Progress (IP)	Development Objective (DO)
Bank-financed			
Inefficiencies in infrastructure	Private Participation in Infrastructure	S	S
Corruption, contract enforcement	Judicial Reform	S	S
Production inefficiencies	Competitiveness Project		
Limited capacity of local government and community organizations and provision of local infrastructure	Reconstruction and Local Development	S	S
Legal and institutional framework for land registry and cadastral services	Land Administration	S	S
Inequitable access to land resources and poor title registration systems	Land Fund	S	S
Other development agencies			
IDB	Watershed management; Forestry; Disaster Management		
AID	Disaster mitigation; AGILE		
IFAD	Proyecto Quiché -- Rural Development		
HELVETAS - ProBosques	Community reserve management		
The Netherlands	PROCUCH; PRODESAGRO		
Plan de Acción Forestal - Maya	Local-level forestry management		
Defensores de la Naturaleza	Protected area management		

CARE	Sustainable production and community forest management		

IP/DO Ratings: HS (Highly Satisfactory), S (Satisfactory), U (Unsatisfactory), HU (Highly Unsatisfactory)

The GEF has supported several biodiversity conservation projects in Guatemala. The World Bank as implementing agency has only a single GEF project in Guatemala -- a mid-sized project for the conservation of Laguna del Tigre National Park in the Petén. Through the UNDP as implementing agency, the GEF supports the RECOSMO project in the Sierra de las Minas in Eastern Guatemala, the preparation of the National Biodiversity Strategy (through an Enabling Activity Grant), the Small Grants Programme, and a proposed mid-sized project in the Altiplano with the NGO Helvetas. The Enabling Activity has been completed and the Small Grants Programme in being considered for possible renewal. Some small grants under the latter are good pilots for MIRNA investments and in the event it is renewed, close collaboration will be sought with this program.

During preparation for this project, the World Bank and Guatemalan project proponents have met extensively with UNDP and representatives of these projects. This has led for example to modeling the project execution strategy in part on the RECOSMO project and to the consideration of using the Small Grants Programme experience as a starting point for the demand-driven component of the project.

Of all these actual or proposed GEF investments, the one most closely complementary to the proposed project is the Helvetas mid-sized project: Conservation of Biodiversity in the Western Plateau of Guatemala. The two projects are distinctly different but each will be important to biodiversity conservation in the Altiplano and it will be critical to ensure coordination between them. The project team has met on many instances with Helvetas and UNDP-Guatemala to discuss these issues. The Helvetas mid-sized project focuses on municipal protected areas and forests, and would focus on the municipalities of Concepción Chiquirichapa, Cantal, and San Cristobal Cuchu (Department of San Marcos); and of San Pedro Sacatepéquez, and Tajumulco (Dept. of Quetzaltenango). There is expected to be no geographic overlap with the present project.

There are also some regional GEF projects that will need to be coordinated with the present proposal such as the UNDP FOCADES Project and the UNDP/UNEP Mesoamerican Biological Corridor (MBC) Project. On the former, initiatives are now underway to reformulate and relaunch the project. The FOCADES Project would support regional environmental initiatives. The project team will closely follow any developments to ensure synergies and sharing of information where appropriate.

On the MBC Project, the project team has met with the Project Director, Mr. Lornezo Cárdenal and with Mr. Juan Carlos Godoy, named as the National Coordinator of the MBC Project for Guatemala, and expects to continue working closely with them.

During preparation ongoing discussions were maintained with international and national NGOs and private sector organizations involved in similar forest management, community and rural development, and conservation projects. Design has taken into account IDB and other externally-financed (Government of the Netherlands, USAID, EU, and IFAD) projects in the region in order to avoid duplication and overlaps. Collaboration with IDB has involved joint missions and interchange of documents and information. Synergies with other World Bank projects (Rural Reconstruction and the Land Fund) have been identified and will be capitalized upon.

3. Lessons learned and reflected in the project design:

Country Specific Lessons:

Though the World Bank has no recent experience in Guatemala with natural resource management lending, lessons have been drawn from the existing portfolio of projects and recent Bank studies (e.g., the 1995 "*Tenencia y Manejo de los Recursos Naturales en las Tierras Comunales del Altiplano Guatemalteco*", the recent *Poverty Assessment*, and the *1997 "Guatemala: Consultation for the Indigenous Development Plan: Listening to the Mayan Elders*"). Implementation of IBRD projects in Guatemala have generally been rated as "satisfactory", although weak implementation capacity is an ongoing concern. Excessive delays in reaching internal (congressional) approval for projects and delays in project effectiveness have hampered timely implementation. In this project, such delays between negotiation and effectiveness will be addressed by: i) maintaining a continuous dialogue with sectoral authorities to ensure ownership of the project and by involving key individuals in the project preparation; and ii) proposing retroactive financing for the purposes of retaining basic PCU functions, implementing some pilot programs in the area of municipal- level natural resources planning and capacity building, pre-selection of subprojects, qualification and registration of (private sector) technical/extension services, etc.

In Guatemala, many well-intentioned public investment projects are hampered by weak local implementation capacity, bureaucratic processes (FIS/FONAPAZ), and political and institutional instability. The project design and schedules have taken account of this by proposing to work through a more agile, privatized implementation mechanism and by making provision for substantial local (municipal) and regional (RADEAS; regional sectoral offices) training and supervision - especially during the first two years of implementation. Also, the proven implementation capacity of the private sector and local NGOs will be taken advantage of. Design studies have revealed a considerable presence of community organizations and groups in the project area which, with appropriate support, can form the foundation for an effective program of productive and natural resource management. Design elements for private sector and community participation mechanisms have been drawn from similar Bank projects in other LAC countries, as well from the project's own stakeholder consultations, policy and institutional studies, social assessment and cultural analyses carried out during preparation (see Annex 8: List of documents).

As per the current CAS, performance of natural resources, rural development, environment and gender projects are rated as "poor". The project, while focusing intrinsically on sustainable productive activities and environmental conservation, will include a specific gender based monitoring program to measure performance against gender inclusive targets (see Annex 11).

Sector Lessons:

Natural Resource Management. IBRD/IDA experience demonstrates that fundamental to the success of this type of program are: (i) long-term security of land tenure/resource access as an enabling condition; (ii) assurance of local buy-in (ownership) of project activities coupled with strengthening of local management capacity in regards to the forests, watersheds, land/soils, habitats and biodiversity upon which people rely or live around; (iii) establishing mechanisms for managing resource-demand and access conflict; (iv) avoiding centralizing decisions and support systems or imposing processes and rules that overly constrain versus providing incentives responsive to local demands and needs; and (v) providing all actors with enhanced access to useful and up-to-date information, training and technical assistance which expands the range of alternatives open to them. Project design departs from these principals and builds on the positive pilot community forests/natural resources planning and management experiences of local governments and NGOs (HELVETAS, Movi Mundo), other international donors (GTZ), and GoG agencies (INAB/BOSCOM) in the Western Altiplano and supports mainstreaming these successful models within the GOG's line agencies (MAGA, INAB, and CONAP).

Agricultural Services Provision. Much has been learned in recent years relevant to organization and provision of agricultural extension and research services, particularly in the face of generally poor performance of public sector programs. Extension programs worldwide are being decentralized and privatized and general management reforms are being introduced. Lessons for managing successful rural extension programs include: (i) some public funding, monitoring and evaluation is essential to provide public-goods extension services and in order to reach and serve the poorest small farmers, even though private service provision is generally more efficient; (ii) decentralized services allow for local innovation and adaptation in response to locally identified needs; (iii) farmer involvement in planning, implementing, and financing services increases/assures program relevance and effectiveness; (iv) the role of producer organizations can be key to providing services for small farmers; (v) extension programs should seek to strengthen producer organizations, which, in turn, may play a role in organizing and financing extension to others; and (vi) provision of a menu of alternatives from which farmers can select and adapt those practices and systems most relevant to their conditions.

Specifically, extension services should: (i) do more than introduce new technologies; they should facilitate farmer links to private sector activities in input sales and product marketing to help farmers become entrepreneurs. Extension activities should offer farmers new options; (ii) facilitate horizontal and vertical interactions at various levels between farmers, researchers, policy-makers, the private sector and others; (iii) make coordinated use of all available communications channels (including especially radio) for efficiently and effectively transmitting information; (iv) include new technology and include adaptive research as a complementary activity to extension; and (v) develop linkages among farmers, research programs, input suppliers, and other sources of technology.

The above-mentioned lessons and prescriptions, are equally relevant to adaptive research, small enterprise support and agro-enterprise development activities and are included in the project design.

Grant Financing Mechanism. The World Bank has a rich experience with various demand-driven rural investment mechanisms (DRIFs), accumulated through both successes and failures. The project team has drawn from this experience during project preparation. A number of pertinent and critical lessons can be highlighted: (i) beneficiary participation is critical, including in the decisions regarding financing of subprojects, to enhance the potential to achieve sustainability of project investments; (ii) information campaigns are important to ensure transparency and effective dissemination of the program objectives; (iii) technical assistance should be provided to assist local communities in preparing viable subprojects; iv) a carefully designed monitoring and evaluation system is essential; (v) allocation to communities, municipalities, or other beneficiaries must be accompanied by a clear system of incentives and penalties to discourage misuse of funds; (vi) poverty-targeting mechanisms must be simple and transparent and minimize political interference; (vii) productive subprojects must be subject to rigorous selection criteria, provide services for a large number of community members, and assure operational sustainability and maintenance by collection appropriate user fees where appropriate; (viii) ex-ante economic analysis is essential to insure that subprojects are economically viable.

Community Contracting. The World Bank has developed substantial experience and a body of good practice recommendations for work with community contracting mechanisms, whereby services are contracted by or on behalf of local communities. Lessons from these experiences have been incorporated into the project design, principally provisions for prior assessment of local community capabilities, attention to capacity building for local organizations and service providers to manage project activities, and close monitoring and supervision of sub-projects. Bank experience with competitive funding arrangements (George, 1999) has provided guidance on organizational structures and procedures for competitive grant funding mechanisms.

Political Interference. Participation and transparency in allocating project benefits is assured by having civil

society representatives on the Regional Steering Committee and community members within the *Instancias Locales* at the municipal level (see Annex 14). Such oversight bodies should have majority membership of civil society and community/beneficiary group representatives.

Biodiversity Conservation. Through an extensive portfolio of GEF and IBRD biodiversity conservation projects in Central America, the Bank has solid experience in conservation project execution in this region. Emerging lessons include: (i) the value of corridors to protect isolated reserve islands; (ii) the importance of incorporating local communities and local governments into biodiversity conservation planning; (iii) the need for financial mechanisms to fully cover operational costs; and (iv) the importance of institutional strengthening for agencies responsible for conservation.

4. Indications of borrower and recipient commitment and ownership:

The initial request for this project was framed by the GOG's interagency Natural Resources Committee and was based on the policies and strategies designed by its member institutions. Since the inception of project preparation, the Committee has actively collaborated with the World Bank to guide the project design process. In May 1999, the Committee took a strong proactive role, preparing vision and strategy documents to guide planning, choosing a project coordinator, and assigning personnel from Committee member institutions to contribute to project design. In June 1999, the Committee presented its recommendations for project activities in the document: *Uso Integrado de los Recursos Naturales Renovables en el Altiplano Occidental: Necesidades de Inversión*. During the final six months of 1999, the Committee took an active role in the initiation of project preparation activities and studies.

Under the new Government, which took office in January 2000, participation has been similarly strong, as: (i) the new GOG has stated that current policies and approaches favoring decentralized government will continue; (ii) the participatory nature of the project design conforms to the strategic approach favored by the new administration; (iii) there was ample opportunity for design contribution from new GoG participants; and (iv) a mission presentation of the project concept to the new administration in February 2000 and during the September/October 2000 pre-appraisal missions were very favorably received within government agencies and by civil society representatives.

In March 2000 the project concept was endorsed by SEGEPLAN (GOG's General Planning Secretariat) as important for both sustainable development and for achieving goals set by the Peace Accords, and the project is included in the Ministry of Finance's project pipeline. Both the Minister of Agriculture and the Secretary of CONAP have demonstrated strong support for the project and have designated staff to assist in its preparation, as has the Minister of Environment and Natural Resources (MARN), a Ministry newly created at the end of 2000.

The GEF Focal Point during most of the preparation period was the Executive Director of CONAMA, the National Environmental Council. CONAMA provided an endorsement letter in November 1999 for the PDF proposal and the project in general. With the recent creation of MARN, Guatemala's Operational Focal Point became the Minister of MARN, who provided an endorsement letter for the project proposal in January 2001.

The project preparation period demonstrates the importance of developing, analyzing and agreeing upon concrete, appropriate targeting and implementation instruments; all within the context of a change in political administrations and several changes of sectoral authorities under the new government administration. The benefit of this investment in time has been: strong ownership of the project by the Government and civil society stakeholders, nationally, regionaly and in the project's target region.

5. Value added of Bank and Global support in this project:

The Bank has not recently financed natural resources management or agricultural projects in Guatemala, although its current portfolio includes related projects in land administration, local initiatives and municipal development, and social infrastructure (through its support to the Guatemala FIS and FONAPAZ). However, the Bank does support a rich portfolio of natural resources management, forestry and communal forest management, watershed rehabilitation projects in other Central and South American countries, from which important lessons have been captured for application in this project. Specifically Bank value added would be concentrated in:

- *Biodiversity conservation:* The Bank has wide experience and will help target project activities to zones of critical ecological importance and mobilize appropriate technical assistance. The Bank has been active in regional dialogue on environment, sustainable use and conservation of natural resources in Central America and within the framework of the MBC and has many similar projects in the region.
- *Demand-driven, competitive funds:* The Bank supports agricultural extension, social infrastructure, rural investment programs and natural resources management throughout the region. Sharing of experience from these other funds will greatly shorten the learning curve for establishing the financing mechanism for local institutional programs.
- *Agricultural technology programs:* The Bank has acquired broad experience with financing agribusiness development and producer and community organizations and can bring this experience to bear in project design and implementation.
- *Land Administration and Land Funds:* The Bank supports key projects in Guatemala's rural sector: the Land Fund, Land Administration, and Reconstruction and Local Development Projects. Coordination among projects has been discussed and opportunities for synergies have been identified.
- *Natural resources conservation and watershed protection:* The Bank finances many such projects worldwide. Experience from these initiatives has been incorporated into the project design, including good practices in private service provision and private sector development.
- *Integration of production and conservation* activities to encourage reduced environmental degradation; demand-driven priority setting and planning; support to "farmer" (client-driven) agendas for improved income security versus "agency" (supply and centrally driven) agendas seeking conservation outcomes through non-sustainable external pressures.
- *Payments for Environmental Services:* Although new for Guatemala, the World Bank is involved significantly in major environmental services projects or components in Costa Rica, El Salvador, Belize, and Colombia. A network of experts and a web page with resources has been created. This area is thus one in which the Bank is believed to be able to bring in a significant added value.

E. Summary Project Analysis (Detailed assessments are in the project file, see Annex 8)

1. Economic (see Annex 4):

○ Cost benefit NPV=US$ million; ERR = % (see Annex 4)
○ Cost effectiveness
● Incremental Cost
○ Other (specify)

The project is expected to generate a variety of benefits, including building or strengthening social capital, increasing productivity in natural resource use (agricultural, forestry, off-farm, and tourism enterprises) in a sustainable manner, promoting biodiversity conservation, strengthening institutions at the central and local level in the agriculture and natural resource sectors, and contributing to the implementation of the Peace Accords.

Not all of these benefits lend themselves to estimation in quantitative terms, and fewer to evaluation in monetary terms. Furthermore, given the wide range and diverse nature of the benefits that are expected to be generated by the project, aggregation into single measures of project worth is particularly problematic.

For these reasons, the economic and financial analysis developed for the project focuses on project activities that are amenable to reasonable estimation and aggregation of expected benefits: i.e., the sub-project grants in the productive and natural resource management categories, which amount to about 50% of the entire project budget, and to about 62% of IBRD financing. For other project activities, criteria are discussed to compare project costs to suitable benchmarks in terms of effectiveness or cost norms. See Annex 4 for further details.

An Incremental Costs Analysis (Annex 18) has also been carried out for the project, as required under GEF financing guidelines. In the expected lifetime of this project, i.e. over the next five years, the Government of Guatemala (MAGA, CONAP, and INAB) and its partners in this project have estimated at about US$ $157 million their capacity to implement the radically new approaches envisaged in this project. Available baseline financing (government funds, and IBRD and counterpart funding under MIRNA) is on the order of $149 million so they are requesting $US 8 million of incremental GEF funds.

A. Economic and financial analysis of the productive and natural resource management sub-projects

[Important note: the analysis is based on a preliminary consultant report. Assumptions used and conclusions reached in the report will have to be re-examined during appraisal, and the economic and financial analysis amended accordingly.

In addition, the final financial and economic analysis will include more detailed information on benefits indicators (such as incremental returns to labor) and sensitivity analysis (including switching values for relevant inputs and outputs categories) that was not possible to obtain on the basis of the preliminary consultants' report].

A number of farm models were developed during preparation to evaluate the economic and financial viability of the different types of sub-projects that may be submitted for financing under sub-component 1b, in accordance with the eligibility criteria included in the operational manual and referred to in the project description annex. These models compare cost and benefits under a “with” sub-project scenario, and under a “without” scenario, representing the pattern of productive activities likely to prevail in the project area in the absence of the sub-project. Models were assessed both from the beneficiary point of view (i.e. the financial assessment including grant financing at the applicable percentage), and from the stand point of the project as a whole (i.e. in economic terms).

From the economic stand point, the majority of the models feature a benefit cost ratio comprised between 1 and 2. Excluding sub-projects for which, based on information available at pre-appraisal stage, the benefit cost ratio is less than one, the Net Present Value (NPV) evaluated at a 12% discount rate ranges between $4,000 and $0.6 million, or, in per family terms, between $560 and $21,500.

Estimating aggregate measures of value for this sub-component faces the problem that the number of sub-projects demanded for each sub-type is unknown ex-ante. To provide indicative benchmarks, a range of NPV was calculated, in the two extreme cases in which the entire demand concentrates in sub-projects with the lowest, and highest individual NPV, respectively. Taking into account the sub-projects’ cost and therefore the maximum number of sub-project that could be financed for the given sub-component budget, the aggregate NPV would be in the range of $ 0.8 million – $55 million; NPV per family would correspondingly be in the range of $ 120 to $20,000, and the number of family benefited would be in the range of 1,300 to 29,000. The number of sub-projects that could be financed varies between 25 and 1,190.

For costing purposes, it has been assumed that some 500 projects worth an average of $37,600 each will be financed.

B. Other project activities

- Conservation sub-projects: Assuming that the demand for conservation activities will correspond to 25% of MIR resources, the cost of conservation sub-projects would be $6.28 million. Assuming an average cost for conservation projects of $25,000, and an average sub-project area of 100 ha, some 250 conservation projects could be financed over an area of about 25,000 ha. The resulting cost of $250 per ha would appear reasonable as compared to: PINFOR reforestation payments of $1,600/ha over five years for reforestation; $573/ha for PINFOR/PRODEFOR reforestation over five years; or $20 to $46 per ha for INAB incentives for sound forest management (Martinez and others 1999).
- Institutional strengthening (sub-component 1a): A total of $4 million (of which about $3 million from IBRD) would be made available for this sub-component. Given the demand-driven nature of the fund allocation, it is not possible to know in advance how many and which municipalities would be benefited. However, assuming distribution of resources proportional to the population of the 40 municipalities included in the project area, this sub-component would provide an average of $0.6 per capita per annum. In 1998, the weighted average of fiscal transfers to municipalities in the three departments of El Quiché, Huehuetenango and San Marcos was $20 per capita, so that the project would add a modest 3% on average to the municipalities' current transfer absorption levels.
- Biodiversity Conservation Component: Total component cost is $5.82 million; the expected outcome is improved protected area management and biodiversity conservation over an area of 1,750 square km. This gives a cost per square kilometer of some $3,300, or $660 per annum. This cost compares reasonably well with typical costs of biodiversity conservation in the LAC region: according to a recent review (Castro and Locker, 2000), biodiversity funding per square km in the region (in the period 1990-1997) can be clustered in five broad ranges, comprised between a "low" $0 - $30 (or $0 - $ 4.2 per annum) range prevailing in countries such as Chile and Argentina, and a "high" range of $210 to $12,000 (or $30 to $1,700 per annum) observed in Colombia, Ecuador, and much of Central America. The proposed project would then be in the middle of the "high" range, which is not surprising for a country like Guatemala, where a combination of high biodiversity priorities, and of complex social, economic and institutional threats to biodiversity are likely to make costs of protection high in regional comparative terms.

2. Financial (see Annex 4 and Annex 5):
NPV=US$ million; FRR = % (see Annex 4)

From the beneficiary point of view, the sub-projects, at the indicated co-financing ratios, are very attractive, with benefit cost ratios all exceeding 2 (a reasonable threshold to induce adoption). The range of NPV (in financial terms) was estimated with the approach described above (i.e. assuming concentration of demand at the lower and higher end of the distribution of individual sub-project returns), and is between $5 million and $90 million. IRR were not calculated because of the lack in most sub-projects of initial negative values of net benefits.

Fiscal Impact:

Government Recurrent Costs: The counterpart contribution for GOG to the project is $6.2 million over 5 years. The majority of these resources ($4.7 million) are for the Sustainable Livelihoods Component and a smaller portion is for administrative costs ($0.74 million), biodiversity ($0.66 million) and environmental services policy development ($0.13 million). Incremental recurrent costs for expanded activities of MAGA, CONAP, MARN, and INAB would total about $0.35 million per annum. This represents 6% percent of these institutions' current operating budget in the Western Altiplano of some Q 34 million (US$4.7 million). The required annual counterpart requirements for the Project represent about 1.5% percent of the total MAGA budget. The fiscal impact of the project on local resources is limited. *At appraisal, the project team will confirm with Ministry of Finance the GOG commitment to provide the required co-financing and its availability.*

The recurrent cost assumptions are based on local projects being completed during the project period with no additional public funding required. This in fact should be the case, as projects should be viable and require financing only for a defined initial period. There is however a strong rationale for the GoG to continue support to the sector through an expanded Rural Innovation Mechanism. Such continued support would have significant fiscal implications, as the level of investment per municipality would likely decrease considerably, but the number of municipalities to provide national coverage would increase. A purely speculative estimate would put the cost of such program at $18 million per year. This is not unreasonable in view of the current level of public financing for social infrastructure in the Western Altiplano; $18 million/year of productive and natural resource investments would be equivalent to about 28% of current rates of social investments.

Public investment in agricultural research in 1999 (16.5 million Q) was 0.09 percent of AgGDP, based on a generous estimate of funding allocated to research. This compares to a generally accepted international reference point of two percent of AgGDP. Extension per se did not even show up in government budget estimates, though the reference point for comparison is often taken as 1-2 percent of AgGDP.

The above budget figures probably do not capture investments in specific donor-financed projects. Such projects however appear to be dispersed and to have limited financing for rural technology investments. Guatemala, as a small country, might logically rely on technology spill-ins and invest relatively more in extension than in research. Investment in rural innovation is arguably far below optimal levels.

Tax revenue generation in Guatemala (9% of GDP in 1997) is among the lowest in the LAC region, and is clearly insufficient to finance the required levels of development and public goods social services. The Bank is seeking commitment from the government to meet targets for higher fiscal revenue collection (12% by 2002). This will to a large extent determine the sustainability of any expanded public investment in rural development and poverty alleviation in the Altiplano and country at large.

Local Institution Recurrent Costs: The project would support a fairly high level of activity by local institutions. This level of activity is neither likely to be sustained after completion of the project nor would it be necessary. Project actions are intended to minimize the impact of withdrawal of project resources. Investments in institutional strengthening are directed at improving self-sufficiency and would be completed by the end of the project. Grant financing will favor local projects with strategies/interventions that would subsequently be financially viable, providing a basis for continuity beyond the project life. Co-financing requirements are set to favor membership organizations and the drawing of significant in-kind support from members, support that would not be affected by completion of the project. In summary: project activities would be intended to increase incomes of participants and develop viable economic activities which, ideally, would then be attractive to local formal/informal financing institutions.

Grant projects would be subject to financial analysis (using RURALINVEST) to determine financial viability. All productivity grant projects and significant percentages of conservation projects would invest in activities to increase incomes, although it is recognized that inevitably some projects would fail. Only strict biodiversity protection projects would be unlikely to generate some increased income, though a strategy for sustainability would be required for all projects.

3. Technical:

The project builds on proven approaches to promoting rural productivity increases, natural resources management and biodiversity conservation among the rural poor. It builds on the assumption that, given the chance and reliable technical support, the rural poor have the capacity to name their problems and needs and to come up with innovative responses. It builds on experience with local participation in the management of protected areas and recognizes the need to provide economic incentives and alternatives to encourage local support and participation. Project preparation studies have confirmed the availability of local resource management innovations that are financially viable and technically feasible (CODERSA, 2000b; CODERSA, 2000c; CODERSA, 2000d; CODERSA, 2000e). Further, all proposed subprojects will be subject to technical, economic and environmental analysis to better focus investment on the more promising opportunities. Provision has been be made to assemble the best available local skills for project administration and field extension. The institutional analysis and social assessment revealed a considerable presence of local development services providers among NGOs active in the project area, to be drawn upon to contribute to the project

The project assigns a substantial implementation role to the municipal governments and their technical units, most of which are not adequately prepared and equipped to promote and facilitate local development projects. Substantial capacity-building support to the municipalities is anticipated in planning, project preparation, implementation and supervision, with support from the *Instancias Locales* and Municipal Promoters. The municipal technical units (UTMs) will be strengthened, through the hiring and equipping of a Municipal Promoter, to be able to assume the continuing development and facilitation/implementation support of local projects. Technical support will be drawn from a multi-sector pool of qualified and registered technical service providers, made available upon demand and financed by the project. These experts will be provide services to the municipal UTMs and strengthen the capacity of the Municipal Promoters, *Instancias Locales* and producer groups in planning, production, marketing, resource conservation, protected area management, legal issues, and organization strengthening.

4. Institutional:

During preparation, a set of exhaustive analyses of institutions and appropriate institutional arrangements were produced (GSD Consultants and CODERSA). These studies are available in the Project files and will be made public after project appraisal (also see the summary of these studies in Annex 13). It is official GOG policy to limit the role of central and regional public agencies to policy and regulatory functions and to stimulate local governments, communities, civil society, NGOs and the private sector to assume the provision of many sectoral and rural development services. In the project area, central and regional government agencies (especially MAGA, INAB, CONAP, and ICTA) would concentrate on facilitating, regulating, monitoring and evaluating project progress but play a very limited role in project implementation. Most implementation and execution of project activities and technical services would be procured through private sector providers, local NGOs, producer associations, universities, etc.

4.1 Executing agencies:

A principal concern of the project is not to generate new entities, but to work through, and with, existing executing agencies. MAGA and CONAP would share the primary responsibility for the project at the central level, while their regional offices, together with those of INAB, would contribute to coordinating and liaison and some limited technical and information services. Both agencies have experience in overseeing complex externally-financed projects in the country. CONAP will receive considerable logistical support to shore up its overall capacity to carry out its mandated functions.

MAGA has coordinating offices in each of the participating departments, with small technical teams of some six professionals, responsible for facilitating and regulating regional agricultural investments. They have no implementing role in this project. The project will not increase personnel in these offices, but will provide some capacity building and equipment to allow for information gathering, processing and diffusion. These regional offices suffer from lack of technical and logistical resources. They do have a nominal task of convening the *Redes de Agentes de Desarrollo* (RADEAS) to support and strengthen grassroots farmer organizations to assume bottom-up development and natural resources management activities. However they have generally not fulfilled this mandate, causing frustration and disappointment among RADEAS members. The project will assist MAGA and the RADEAS to become effective in their mandated functions, and give the regional offices the role of coordinating/liaison to facilitate linkages between the PCU and the field.

INAB is a decentralized agency whose mandate is to implement national forest policy and facilitate access to technical services and financial resources to private actors and producers and forest managers through reforestation incentive programs such as PINFOR at three levels: municipalities, communal forests, and private plantations. It maintains a presence in municipal forest management and extension offices (where they exist), providing training and support to municipal forest management programs, and forest fire prevention and control. INAB's participation in the project is important and can take place at all levels, working through the municipal offices, which in turn will be enabled to assume more responsibility and control of regional forests as time goes on.

CONAP currently has only one regional office within the project area (Quetzaltenango). Its capacity to oversee protected areas in the region is severely limited and will be built up with project resources (see Annex 2). At the central level, CONAP is a strong supporter of the project and promises to be a reliable and committed institutional partner and counterpart. To avoid possible dangers of political interference at the central level, the project promotes a strategy of extending more capacity to manage protected areas to the municipalities.

ICTA is responsible for agricultural research in the country and is present in a precarious manner throughout the project area. Like INAB, its regional offices have greater technical substance than does MAGA. It has a degree of autonomy and is less politicized than MAGA. Its services will be contracted as

required in generation, validation and diffusion of new technologies and as technical reviewer of subprojects, as appropriate. In turn, the project will provide some logistical support and strengthening to the regional ICTA offices and teams.

Universities. Natural resources management is a new area for most of the national universities. However, institutions such as the Universidad Rafael Landivar, which has regional branches in the project area, will be drawn upon for support in agricultural extension, research and specialized training and review of locally-generated technical subproject proposals. Their services will be included in the project's Registry of Qualified Service Providers and drawn upon as needed.

Municipal governments will play a key role in project execution. They are vested constitutionally with increasing development responsibilities, receive up to 10% of the national budget in transfer payments, are nominally structured to be able to carry out their mandate through Municipal Technical Units with agricultural and environmental promotion, forest and water resources management, and planning functions. In most of the municipalities in the project area, the UTMs are rudimentary and weak. The project will support the municipalities logistically and technically to be equipped to prepare "municipal development agendas" which will form the basis for subproject identification and selection, and will aim to significantly improve the municipalities' capacities to plan and execute these agendas by the end of the project.

Private entities which will be drawn upon include consulting firms, foundations, commercial enterprises, local NGOs, producer associations and organizations. Most of these entities, except for the transnational commercial enterprises, are fragile but of great importance for project implementation. They can and will be subject to strengthening and support in return for providing technical and management services to the project, as required.

Financial and banking services are available in all departmental capitals, led by BANRURAL and BANCAFE. They manage a variety of development funds and trust funds on behalf of NGOs active in the region. Also there are private entities which support micro-enterprise support programs (e.g., FAFIDES and Genesis International) and many *bancos comunales* in the region, particularly in Huehuetenango. It is recommended that the project, based on a prior analysis, link up with some of these private entities to leverage resources and support to the project.

Technical services are poorly developed in the region, given the newness of the policy shift to encourage their formation as part of the GOG's decentralizing of public services. They are more developed in Quiché and Huehuetenango than in San Marcos and their presence is concentrated in the departmental capitals. One such entity with potential significance to the project is the *Asociación Gremial de Exportadores de Productos no Tradicionales* (AGEXPRONT) with an office in Quetzaltenango. It facilitates the association of agricultural produce exporters in order to facilitate exchange of market and production information, needs, and problems, and provides services in commercial information analysis and diffusion, training and technical assistance, and marketing. Its services are available to any kind of producer and marketing groups, and in the project area has had particular success in marketing regional handicrafts abroad. This organization will be drawn upon to provide training in business and marketing, among other technical services for small farmers.

4.2 Project management:

MAGA-CONAP will establish a project coordinating unit (PCU) in the project area. Project execution will be decentralized through the PCU, and a Grants Technical Unit (GTU) contracted to implement the grants program together with municipal-level local entities described as *Instancias Locals.* The latter will be the only "newly" created entity, formed of already existing entities such as participating agencies (UTMs; municipal Environmental and Development Committees; auxiliary mayors and other local stakeholders). (See Annex

14.)

During preparation MAGA and CONAP project management and administration capacity was only partially appraised. At appraisal, the analysis will be deepened and completed, since both institutions have experienced considerable institutional reorganization in recent months. Head offices of both agencies will be responsible for oversight and policy setting within the production, natural resources and biodiversity conservation activities. The GTU will be contracted out through a competitive selection process.

Project operational manuals will provide: (i) detailed terms of reference for implementing agencies and project coordinators, (ii) monitoring and evaluation studies and plans, (iii) standard contracts for subprojects where applicable, (iv) criteria for selection of participating communities and groups and project activities, (v) financial and performance reporting and record-keeping, (vi) environmental standards applicable to all production and conservation investments and pilot projects, and (vii) guidelines for assessment of qualifications of eligible service-providers. Inputs to the manual have been drafted and will be discussed during appraisal, with a complete draft to be prepared for negotiations, and a final agreed upon by project effectiveness. The Registry of Qualified Service Providers will be developed by the GTU prior to requesting proposals for financing.

4.3 Procurement issues:

The bulk of project funds will be executed by beneficiary groups, through the municipal *Instancias locales*. Contracts are expected to be small, except for the contracting of a national or international entity or entities to operate as the GTU and Trust Account Administrator. Simple procurement methods have been identified, details of which are contained in the Procurement Plan presented in Annex 6.

4.4 Financial management issues:

A preliminary assessment of MAGA's financial management systems and capacity was carried out during pre-appraisal, and actions to be carried out by or at appraisal were agreed upon. (See Annex 6) The assessment of borrower financial and procurement systems pertaining to the participating agencies will be completed at appraisal, resulting in full financial and procurement action plans to be agreed between the Bank and GOG and certified under the Bank's PMR and Loan Assessment Initiative (LACI) systems.

Appropriate software, as part of the financial management package, to report procurement operations for PMR-based reporting of disbursements, is currently being used by SIAF (*Sistema Integrado de Administracion Financiera y Control*). It will be made available, with accompanying training, Financial Management specialist in the PCU. A workshop on Bank-approved financial and project procurement systems will be held at project effectiveness. (See Annex 6).

Transparency and efficiency in fund administration for projects and programs: In recent times concerns have been raised in regard to the proliferation of *Fondos*, their accountability and transparency, and their faithfulness to the purposes for which they were established (i.e., diversion of funds). Therefore the project will competitively contract a private Trust Account Administrator (TAA) whose sole purpose will be to administer project resources and release funds upon the instruction of the PCU Coordinator.

Project Management Reports: Disbursements for this project will be aimed toward compliance with the principles and concepts of the Bank's Loan Administration Change Initiative (LACI). Under LACI, semi-annual planning projections will be the mechanism for making disbursement estimates and measuring project performance. Quarterly disbursements will be tied to financial statements, project progress reports, and procurement management reports. From the outset, the project will incorporate quarterly Project Management Reports (PMRs).

Annual Audits: In addition to the quarterly PMRs, the PCU will contract an independent public accountant

firm, to be selected by project effectiveness. These auditors will be hired under a multi-year contract, as per TORs acceptable to the Bank, and will carry out interim audits through each year of project implementation. Audit costs will be provided for in the PCU's annual technical services budgets and the reports submitted to the Bank within 180 days of the close of the annual project's financial year. The Guidelines and Terms of Reference for Audit of Projects with Bank Financing by the World Bank in the LAC region will be followed when preparing the auditors terms of reference. The auditors will be hired prior to the start of the fiscal year to be audited. The terms of reference and proposed short list of accounting firms should be presented to the Bank at negotiations, and the selected audit firm will be hired within 30 days of project effectiveness.

5. Environmental: Environmental Category: B (Partial Assessment)

5.1 Summarize the steps undertaken for environmental assessment and EMP preparation (including consultation and disclosure) and the significant issues and their treatment emerging from this analysis.

During preparation an environmental analysis of the Western Altiplano (*Analisis Ambiental General del Altiplano Occidental de Guatemala del Proyecto MIRNA*-CODERSA 2000) was carried out, a summary of which is included (Annex 15) in the PAD. The analysis concludes that environmental risks associated with the proposed project are minimal and that overall impact should be expected to be highly positive for land, watershed, forest and biodiversity conservation. The Annex includes a more detailed discussion of the environmental issues facing the project, the steps the project will take to minimize environmental risks (i.e., the EMP), and the project's compliance with Safeguard Policies.

No project-level environmental analysis was contemplated as the project's primary investments are to be made through demand-driven, locally generated subprojects. A indicative list of eligible subproject investments (upon which the environmental analysis was based), is included in this document (Annex 12). Further information on screening procedures can be found in Annex 15.

5.2 What are the main features of the EMP and are they adequate?

The principal features of the environmental analysis and mitigation plan (attached as Annex 12) include: (i) analysis of environmental problems rising in the Western Altiplano, their causes and possible mitigating measures (CODERSA 2000); (ii) preliminary environmental screening criteria and procedures for application in the subprojects review and approval process, to be included in the Project Operational Manual (screening will take place at several levels and times during sub-project preparation: in the field with the beneficiary and Promoter/Extension agent, at the muncipal-level with the *Instancia Local* and, depending on the size and nature of the subproject, by higher level technical/environmental experts); (iii) a negative list of subprojects which will not be financed on environmental grounds; (iv) a Monitoring and Evaluation program with detailed project performance, compliance and impact indicators; and (v) supervision and oversight procedures which would provide early warning and trigger immediate responses to potentially negative environmental impacts.

Given the objectives and nature of the project, the fact that most investments are geared towards improving and rehabilitating environmental quality and conservation of natural resources, the measures summarized above are considered to be adequate.

5.3 For Category A and B projects, timeline and status of EA:

Date of receipt of final draft: n/a

5.4 How have stakeholders been consulted at the stage of (a) environmental screening and (b) draft EA report on the environmental impacts and proposed environment management plan? Describe mechanisms of consultation that were used and which groups were consulted?

This is a " B" category project. It finances mainly locally-defined productive, natural resources

management and conservation subprojects which cannot be meaningfully detailed in advance. Consultations on the project concept, objectives and design were carried out at several levels during project preparation, including: (i) a comprehensive Social Assessment over the six Western Altiplano Departments; and (ii) additional stakeholder consultations with national and regional stakeholders (a three-day national stakeholder workshop in Antigua and regional consultations in San Marcos, Huehuetenango, Solola and Quiche with regional mayors, alcaldes auxiliares and NGOs. Reports from these are included in Project files. A sample of the many stakeholder groups consulted during project preparation and pre-appraisal includes: Plan de Acción Forestal Guatemala/PAF-G, ASOREMA, Defensores de la Naturaleza, Plan de Acción Forestal Maya/PAF-Maya, IDEADS, Madre Selva, HELVETAS-Probosques, MoviMundo, AGEXPRONT, ANACAFE, and PROARCA, along with mayors, auxiliary mayors, Mayan spiritual leaders, representatives of local catholic and protestant development organizations, leaders of local development committees, representatives of local and national NGOs, and community members (including men, women, and elders) among many others.

Provision will also be made in the Project Operational Manual for subproject-level environmental screening and consultations (e.g., by the *Instancia Local*), representing local community and municipal interests, as condition for financing. The Project Operational Manual will be further reviewed with target and stakeholder groups prior to project effectiveness with additional refinements made based on the outcomes of these discussions. All updates and changes in the Project Operational Manual will be submitted for IBRD approval prior to their final approval.

5.5 What mechanisms have been established to monitor and evaluate the impact of the project on the environment? Do the indicators reflect the objectives and results of the EMP?

The Environmental Analysis found the project to be designed to have positive impacts on the environment and natural resources of the Western Altiplano. Compliance with Bank and GOG environmental assessment requirements would be assured in that: (i) independent technical reviews of all subprojects would assess potential environmental impacts and implementing agencies would be required to screen subproject proposals for compliance with environmental management provisions prior to approval; (ii) implementing agencies would coordinate monitoring of subproject compliance with environmental mitigation measures and report on environmental impacts of subprojects; (iii) a set of basic environmental indicators has been established for monitoring subprojects, a negative list identifies types ineligible subprojects; (iv) all these procedures are to be included in the environmental management specifications of the Project Operations Manual.

6. Social:

6.1 Summarize key social issues relevant to the project objectives, and specify the project's social development outcomes.

The primary challenges in the design and implementation of this project at the community level are socio-cultural in nature. Any project in this region must accommodate and build on the strengths of local cultural diversity. The development goals and cultural relationship to land and resources of indigenous (90-95%) and *ladino* (5-10%) residents will be reflected in the types of project proposals they put forward. The presence of communal resource management systems and sacred areas, high levels of poverty, and local impacts of civil war will be taken into account in project implementation. The issues outlined below are of primary concern (as reflected in the Social Assessment - see Annex 15) and have been incorporated into project design:

Indigenous peoples: The indigenous people of the Western Altiplano belong to 13 ethno-linguistic Mayan groups. While in most towns the indigenous population is bilingual, in many of the outlying communities, Spanish is spoken at only at a rudimentary level. Women and older people are more likely to speak only

Mayan languages. The project will provide culturally appropriate (bilingual, as much as possible) technical assistance to farmer and artisan groups and community forest management committees (along with all other stakeholders) to stimulate increased productivity and conservation of natural resources. Funds have been made available to the planning team to prepare technical information local Mayan languages and to prepare culturally appropriate communications strategies for use during project implementation. At the same time the project will respect *ladino* culture and promote *ladino* participation in the project.

Historically (and in general), indigenous peoples have been mistrustful of government agency representatives, and government agencies have not placed trust in, or invested in improving, the capacity of indigenous communities. To address this, trust-building learning activities between indigenous peoples and government agencies will be included in the project institution-strengthening activities (especially at the municipal, community and group levels). Such measures were strongly recommended by the Social Assessment and are elaborated upon in the Indigenous People's Development Plan (see Annexes 11 and 15).

Gender: Due to seasonal migration to the south coast and outmigration to the capital and USA, added to the impacts of many years of rural violence and civil war, women-headed households are very common in the rural Western Altiplano. This fact makes it all the more important that the project provide special support to and attend to the skills and productive capacities of rural women. The Social Assessment tried to elicit the views of the project from the perspective of women, men and families and on their respective roles in production and resource management, and overall needs and aspirations. It also included an annex of findings and recommendations focused specifically on the role of women in natural resources management and production. Women's participation in development decisions, production and conservation is very important at the household and at the community level. The project fosters women as equal agents of change, innovation and project implementation. Rural women's productive and natural resources management (soils, forest and watershed management) activities will be eligible for grant-financed subprojects as will efforts and programs to facilitate their participation in (culturally appropriate) decision-making and planning forums. During preparation additional funds were acquired to enhance the gender focus of the project.

Post-conflict reconstruction: Decades of violence has strained the social fabric of Western Altiplano communities. The project will contribute to rebuilding social capital in the region by (i) strengthening traditional and other local organizations in (rather than creating new ones); (ii) supporting local leadership development; (iii) providing access to project benefits without prejudice to ex-combatants, returned refugees, ex-civil patrol members and others who remained in their communities during the violence; (iv) fostering participatory decision-making in regard to project implementation and conflict management and providing training and technical assistance as needed; (v) working at the community and municipal levels and with local demand-driven development approaches; (vi) strengthening or building local capacity for self-development and stimulating active engagement in problem-solving; (vii) providing opportunities for local community co-management of protected areas and for planning and implementing grant financed subprojects; viii) fostering better relations between indigenous and *ladino* populations and government officials in an effort to rebuild trust between government and civil society in the Western Altiplano.

Resettlement: The project would not finance any involuntary (physical) relocation of people as defined in the Bank's operational directive on involuntary resettlement (OD 4.30). Also, in accordance with Bank's (draft) OP4.12 which identifies the need for compensation for any form of economic loss and restrictions resulting from imposed changes in land and resource use and access (paragraphs 2B and 6), a Process Framework has been prepared. (See E.7: Safeguard Policies for details.) In addition, a mechanism for flagging and avoiding (perhaps mitigating) potentially conflicting resource claims will be built into the functions of local municipal-level entities' (*Instancias Locales*) review functions, giving early warning of such potential conflicts and the ability to select out subprojects which might be conflictive.

6.2 Participatory Approach: How are key stakeholders participating in the project?

The project is designed to be responsive (not directive) to local needs as defined by the beneficiaries. Local self-development is supported through beneficiary identification, design, and implementation of subprojects. The sustainability of local organizations' ability to continue the type of activities and technologies supported by the project is buttressed through the project's local organizational strengthening initiatives. Given the broad diversity of socio-cultural and economic conditions in the project area (among many other good reasons) local participation in project decisions is indispensable.

In project preparation: Representatives of stakeholders at all levels (GOG, private sector agricultural and development firms, municipal mayors, community auxiliary mayors, producer cooperatives and associations, communal forest management committees, local pro-development committees, Mayan elders, women's groups, and small local NGOs, staff of bi- and multi-lateral donor projects in the project area) participated in the design of the project. Participation was invited through a series of local stakeholder/beneficiary workshops in the project area, consultations and verification meetings in the capital and in Antigua with GOG agency counterparts and other stakeholders, and in the field visits carried out within the Social and Indigenous Peoples Assessment.

In project implementation: All subprojects (productive, resource management, and conservation) will be based on community- and demand-driven development initiatives, and stakeholders and beneficiaries will help to plan and implement the projects they select. Protected area management and biodiversity conservation activities necessarily require strong local involvement and will draw on local knowledge and indigenous resource management practices and experience. All activities will be designed to ensure the participation of community organizations (community corporations, pro-development committees, forest committees, producer associations) and other civil society groups (representing, inter alia, Mayan elders, ex-combatants, women, and displaced peoples). In addition, much of the support services provided to these beneficiciary groups will be provided by local firms and NGOs.

In project oversight and monitoring: Stakeholders will also participate in project oversight and guidance, help assure transparency of project objectives and activities, and monitor project outcomes through their representatives on the Regional Steering Committee and municipal *Instancias Locales* (See Annex 14.)

In project monitoring and evaluation: Impacts of the subprojects and the institutional strengthening activities supporting them will be measured (in part) through participatory monitoring based on indicators discussed and designed by direct beneficiaries and within the *Agendas Municipales de Desarrollo Sostenible* and the *Instancias Locales*. Impacts of conservation work under Components 1 and 2 and Component 3's environmental services pilots will be measured through participatory monitoring by the most immediate beneficiaries of these activities (such as the communal forest and protected areas committees and members of adjacent communities) as well as through data gathering among indirect beneficiaries (e.g., downstream water users).

6.3 How does the project involve consultations or collaboration with NGOs or other civil society organizations?

A wide variety of actors participated in project preparation, and the consultative and collaborative processes used in that phase will be maintained throughout project implementation as part of project monitoring and on-going collaborative efforts. As part of preparation, a multidisciplinary team carried out an analysis of local stakeholders and held regional consultation workshops and focus groups with a broad range of local stakeholder representatives in the departments of Solola, Quiche, San Marcos, Huehuetenango, and Quetzaltenango. (Reports from these are listed in Annex 8 and will be made available to the Bank's InfoShop for public access.) Communal forest managers, selected mayors, auxiliary mayors, indigenous leaders, women, and Mayan and *ladino* community representatives participated in these. The input of producer associations was solicited through consultations with RADEAS (department-level producer associations) and

through field visits with producer association leaders.

Consultations were also held with COPMAGUA (a national indigenous organization), ASOREMA (the coordinating board for NGOs working in environmental and sustainable development issues), private sector producer associations (AGEXPRONT, ANACAFE, Quetzaltenango regional potato producers association), and key national and international NGOs (PAF-Maya, Saq'be Ixil, PRODESAGRO, Defensores de la Naturaleza, Caritas parochial rural assistance offices, HELVETAS, CARE, CRS, UNDP) through individual meetings and through workshops. An exhaustive list of NGOs working in the Western Altiplano was compiled, and project experience and lessons from many of these were compiled through interviews and document review and were incorporated in project design. TNC and FLACSO collaborated directly in the design process. During implementation, coordination and, where possible, collaboration with NGOs working in the Western Altiplano will be facilitated through periodic meetings as proposed and agreed to by representatives of these NGOs at the project's stakeholder consultation workshop in September 2000. Several opportunities for synergistic project implementation in coordination with other NGOs were verified, and plans for taking advantage of these have been made. In addition, the majority of the technical and institutional strengthening services contracted through project funds will be provided by qualified NGOs and other civil society organizations (see below and Annex 2).

6.4 What institutional arrangements have been provided to ensure the project achieves its social development outcomes?

Attention to indigenous and gender issues and beneficiary participation in the design, implementation and evaluation phases of the project activities is indispensable for effective work in the Altiplano and is built into all aspects of the project. The results and recommendations of the project's Social Assessment are incorporated into project design and will contribute to achieving social development outcomes in the following ways: (i) the project's entire approach is community- and demand-driven; (ii) as described in Annex 14, a majority civil society membership Regional Steering Committee will provide oversight for social development objectives; (iii) attention to collaborative decision-making and conflict management will strengthen civil society and improve cohesion within communities; and (iv) the strengthening of traditional and other existing local organizations' ability to plan and implement their own development activities will improve the opportunities for social development after the projects itself ends.

The project is designed to support decentralization and strengthen civil society's ability to both provide and contract crucial development support services. NGOs, private firms, universities and other civil society organizations will participate in the project as beneficiaries (of training) and, more importantly, as providers of services to local-level beneficiary groups. Eligible organizations will be enrolled in a Registry of Qualified Service Providers (see Annex 2: Component 1c) after which they can be contracted by local beneficiary groups to provide technical and institutional support services (see Annex 2: Component 1b).

6.5 How will the project monitor performance in terms of social development outcomes?

The project Monitoring and Evaluation Plan outlined in Annex 17 contains the central social and economic indicators to be tracked during implementation. Many of the indicators to be used will measure impacts on people (e.g., level of satisfaction with project processes and outcomes, level of women's participation within beneficiary organizations) or on institutional performance (e.g., gauging improvements in a producer organization's ability to effectively market its products or in a community pro-development committee's ability to prepare project proposals for funders). Grant-financed subproject proposals will contain social and economic baseline information which will be transferred into the project's information system for periodic tracking and monitoring, and each subproject will include a monitoring plan with a set of indicators (including indicators to measure social impacts, and some which will be defined by beneficiaries). As noted in 6.2 above, direct beneficiaries of subprojects and residents of communities bordering protected areas will participate in

carrying out some aspects of the monitoring and analysis, and impacts on indirect beneficiaries will also be monitored.

In addition, Project Operations Plans (POAs) will be prepared by the PCU for submission and no objection to the Bank. Bi-annual (Semestral) Progress Reports will be prepared and submitted to the Bank in advance of Bank supervision missions and will be combined into a single Annual Progress Report for submission to the Bank. A Mid-term Review (MTR) and Project Completion Report (ICR) will be carried out, at which time stakeholder workshops will be held to share and review project progress and outcomes/impacts, including social outcomes. Where necessary, modifications based on monitoring and evaluation recommendations will be made in the Project Operational Manual. The PCU will prepare all project reports and the Regional Steering Committee (RSC) will review, comment and sign off on these reports and monitoring results. A Monitoring and Evaluation Coordinator will be placed within the PCU and given adequate logistical support to allow him/her to carry out these data gathering and evaluation functions.

7. Safeguard Policies:

7.1 Do any of the following safeguard policies apply to the project?

Policy	Applicability
Environmental Assessment (OP 4.01, BP 4.01, GP 4.01)	● Yes ○ No
Natural habitats (OP 4.04, BP 4.04, GP 4.04)	● Yes ○ No
Forestry (OP 4.36, GP 4.36)	● Yes ○ No
Pest Management (OP 4.09)	● Yes ○ No
Cultural Property (OPN 11.03)	● Yes ○ No
Indigenous Peoples (OD 4.20)	● Yes ○ No
Involuntary Resettlement (OD 4.30)	● Yes ○ No
Safety of Dams (OP 4.37, BP 4.37)	○ Yes ● No
Projects in International Waters (OP 7.50, BP 7.50, GP 7.50)	○ Yes ● No
Projects in Disputed Areas (OP 7.60, BP 7.60, GP 7.60)	○ Yes ● No

7.2 Describe provisions made by the project to ensure compliance with applicable safeguard policies.

Environmental Assessment (OP 4.01). The Project is classified as Category B, requiring environmental analysis (EA) at the level of subproject activities and short of a full-scale environmental impact assessment (EIA). Simplified environmental screening and assessments will be required for all subprojects to be financed by the project. Standard formats and checklists will be developed to facilitate preparation and review of assessments. These measures will be reviewed and cleared by the World Bank at appraisal and will be included in the Project Operational Manual. A detailed environmental analysis study, *Analisis Ambiental del Altiplano Occidental de Guatemala y del Proyecto MIRNA* (prepared by CODERSA) was submitted to the Bank in October, 2000. In accordance with the Bank's Information Disclosure Policy (BP 17.50), copies of this report (in Spanish) are available for public viewing at the MIRNA office in Guatemala City and a copy will be forwarded to the Bank's InfoShop. The key findings and recommendations from this report are reflected in the project design. Additional studies (see Annex 8) have yielded important information. The Policy and Institutional Analysis study is of particular significance, as it reveals that Guatemala has, in balance, a very satisfactory set of policies in regard to natural resources management (but almost no capacity to see them implemented). This provides a strong justification for the institutional strengthening activities proposed in the project.

Natural Habitat Policy (OP 4.04). The project (through its primarily GEF-financed Component 2) is designed to maximize protection of existing remaining natural habitats and increase the amount and representivity of all such habitats within the national protected areas system (SIGAP). Component 1, through which rural sustainable livelihoods will be enhanced, has criteria which strictly prohibit project financing from

encouraging further incursions into and conversion of natural habitats, including forests, upland meadows and dry forests and wetlands. Checklists and screening mechanisms governing the selection of demand-driven local subprojects will filter out any proposals which could be harmful to such natural habitats. On the contrary, community-managed forests and private conservation efforts will be encouraged and supported, financially and with expert technical assistance and information. Information on all the relict natural habitats within the Western Altiplano will be generated, stored within the monitoring data base (GIS) and divulged through the environmental information and public education programs (in indigenous languages wherever possible).

Forestry (OP 4.36). The project will adhere to the spirit and letter of the prescriptions contained within this important Bank policy. The project will: i) seek, above all, to stimulate concern for and support forest management processes and practices which would retain as much natural forest as is possible, in areas where such forests still exist and are viable; (ii) improve the environmental aspects and reduce waste and unsustainable practices of current forest use and management practices; (iii) stimulate the revegetation of degraded lands and watersheds with natural and planted forests, wherever conditions allow for this to occur in a sustainable and efficient manner; (iv) contribute to the monitoring of existing forest cover within the project area (baseline) and changes in this cover, assisting MAGA, CONAP and INAB to address any incentives and identifiable causes which lead to forest conversion and degradation; (v) work with municipal governments and communities in improving the management of existing and encouraging expansion of forests, wherever such expansion is viable and sustainable (e.g., for the generation of chargeable environmental services); and (vi) protect samples of rare and threatened forest types within protected areas and parks and in general address all manner of threats to existing forests (fire, poor grazing practices, unsustainable extraction of forest materials) through improved management capacity building at the regional (INAB), municipal and community levels.

In regard to the extraction of forest-based products (including timber, stakes, firewood, forest trash used as farm fertilizer, medicinal plants, etc.), the project will promote sustainable practices through financing community forest management plans, provide communities with forestry specialized technical assistance, and support traditional management approaches which have shown to retain viable forest stands while allowing for low-intensity use of the forests.

Pest Management (OP 4.09): The project does trigger this important Bank OP, in that almost all farmers and gardeners in the project area use chemical inputs, such as chemical fertilizers and highly toxic pest and weed controls (as well as their traditional organic inputs swept from the forest floor) to produce locally-grown crops such as vegetables, corn and beans (*milpa*), coffee, and other products for home consumption and local and regional (and occasional export) markets. The incidence of malpractice in regard to the application of these inputs is very high (as is highlighted in CODERSA's: "*Analisis Ambiental del Altiplano*" cited above). The project's aim is to raise agricultural productivity within the project area while also substituting for natural resources-degrading practices and turning back their effects (erosion, contamination, mining of fertility, and replacement of forest with agricultural and livestock production). This process will take time and investments in public environmental education. However, the productive subprojects grant mechanism allows for project screening and discussions with farmers about inappropriate applications of chemicals to their land. Thus, the project is expected to contribute to an overall reduction in the volume and nature (toxicity) of the chemical inputs, (pest and weed controls), it will do so gradually by substituting toxic substances for less toxic ones, large and inappropriate applications for more appropriate quantities (also of artificial fertilizers), and generally promote sustainable practices (e.g., integrated pest management) over environmentally unsustainable practices. In addition, no procurement of agrochemicals within the WHO Class 1 or 2 list would be allowed and, where agrochemical usage is an issue, all relevant subprojects will be required to include such elements as soils testing to reduce over-fertilization, training on appropriate use and storage and disposal of agrochemicals and containers, cleaning of equipment, personnel precautions to be taken, etc. Strong gains will be made in these objectives through the environmental education and information programs, the local-level extension and advisory services.

Cultural Property (OPN 11.03):Cultural Property (OPN 11.03 and draft OP 4.11). During preparation, the project contributed to financing a series of workshops in the project area on indigenous (Mayan) natural resources planning and management practices. The results of these workshops, the Social Assessment and the close participation of the indigenous *Plan de Accion Forestal Maya* (PAF-Maya) in the project preparation process, have been drawn into the project design and are reflected in the project delivery and management structure whereby decisions and proposals are generated and decided upon at the local level and with the full participation of local village and community authorities and representatives, including the women. (See Annex 11.)

Indigenous Peoples (OD 4.20): Because some 90-95% of rural people in the project area belong to one or another Mayan indigenous ethnic group, the project itself should be regarded as and Indigenous Peoples Development (and participation) Plan (IPDP). As such, it has been designed as per the Bank's definitions and policies set out in OD 4.20. In addition, based upon the Social Assessment and its recommendations, and in compliance with the Bank's OD 4.30, an IPDP has been drafted. Most important for the project design is the commitment for the project to work within traditional Mayan cultural and natural resources and land use practices to achieve improvements in income and in natural resource conservation. The IPDP is summarized in Annex 11, and a copy (in Spanish) will be placed in the Bank's InfoShop after project appraisal.

Involuntary Resettlement (OD 4.30 and draft OP 4.12): The project would not support any involuntary relocation of people as defined in the Bank's OD 4.30 and the Draft OP 4.12 paragraph 2A. While the project design makes it quite clear that no Bank or GEF funds will be directed towards involuntary resettlement (out of national protected areas, for instance), a Process Framework summarizing current GOG legal provisions and instruments regarding rights of populations in and around protected areas has been prepared. The Process Framework also provides guidelines and outlines means (such as extra assistance in preparation of proposals and access to subproject funds) for addressing potential adverse economic impacts that might result from project-supported implementation of existing and new collaboratively designed management plans that include restriction of access national protected areas and natural resources protected under other local regimes. A copy of the Process Framework document *(Analisis Legal - Politica de Reasentamiento*. Paredes, 2000) in Spainsh is listed in the Project files and will be available through the Bank's InfoShop after project appraisal.

F. Sustainability and Risks

1. Sustainability:

Incentives for stakeholders to implement the project are considered to be the most important investment in the sustainability of project outcomes. The project will establish partnerships with stakeholders (communities, indigenous groups, the private sector, local municipal governments, and NGOs) to involve them in local planning, subproject identification, selection and implementation. These groups will benefit from the project's investments in capacity building and training, and they will ensure that project objectives are "owned" locally and nationally, with the capacity in place to replicate the successful experiences and processes elswhere in the region and country. The project would model decentralized and bottom-up (demand-driven) development processes and private sector services delivery in agriculture, forestry and biodiversity conservation, thus making up for the near total absence of any such public services in the sectors. The degree to which these processes are successful and take hold among the beneficiaries will be a measure of project success and sustainability.

The project will improve the ability of national and local agencies (MAGA, INAB, CONAP, and NGOs and private groups) to integrate natural resources and biodiversity conservation values into development planning at all levels. The project will furnish and make available to local governments and communities planning information (GIS) previously held in tight control by centralized agencies in the capital.

Decentralized regional MAGA, INAB and CONAP personnel will have been exposed to participatory resources management approaches and, together with the private technical service providers, will be better placed to contribute technical services to the rural populations in the project area.

The project's gender focus (during preparation, grant resources to support MAGA in articulating a gender policy were secured) and diffusion of culturally appropriate information should make a permanent contribution to the capacity of rural women and indigenous people to gain greater acceptance and contribute to the regional economy and the care and conservation of natural resources.

The project will help ensure financial sustainability beyond the project period by developing cost recovery and financing mechanisms to recover the management costs of protected areas (through tourism, concessions and user fees) and capture payments for conservation of environmental capital and services. The most durable investments are represented by the improved production and resource conservation practices it will foster, test and mainstream, combined with the institutional structures to carry them on into the future.

Government support beyond the project phase is nominally assured by the current decentralizing natural resource and rural development and agrarian policies. The project builds on these concepts and will test implementing mechanisms for their application. It is hoped that these will be successful and can become a model for continued practice in the future.

2. Critical Risks (reflecting the failure of critical assumptions found in the fourth column of Annex 1):

Risk	Risk Rating	Risk Mitigation Measure
From Outputs to Objective		
Commitment to overcoming economic, social and inter-ethnic inequities is not sustained at national, regional and local levels over the life of the project.	M	Current trends are towards increased democratization in Guatemala. The project's emphasis on transparent civic processes will contribute to this and to inter-ethnic dialogue and social interchange.
Social and economic incentives for maintaining local and national conservation mechanisms (such as protected areas and communal forests) are diminished.	M	The project will explicitly address economic and socio-cultural aspects of protected area management and community-based conservation.
National and international policy and economic environments do not favor emergence of environmental service markets.	S	The project will pilot local environmental service markets that will be balanced with access to international markets.
From Components to Outputs		
Local capacity is insufficiently developed to absorb capacity building effort and manage subprojects.	M	The site selection process considers local institutional capacity, and capacity building activities will be explicity tailored to local needs.

Management regimes for key protected areas are not sustainable (financially and socially).	M	The project will support the SIGAP in design of management plans that include social considerations and strategies to improve financial sustainability. The project will facilitate linkages to the project's competetive productive subproject grants.
Pilot arrangements can not effectively test the concept of internalization of environmental services in the absence of a complete reform of national policies and given minimal capacity.	M	The project will: (i) develop consensus on the importance of valuing environmental services; (ii) design mechanisms for doing so; (iii) pilot test those mechanisms; and (iv) lay the groundwork for the implementation of the national environmental services strategy designed through the project.
Overall Risk Rating	M	

Risk Rating - H (High Risk), S (Substantial Risk), M (Modest Risk), N(Negligible or Low Risk)

3. Possible Controversial Aspects:

The project is consisent with Government policy for the sector and the region, has its full support, and has been widely agreed to by local community, municipal and other civil society representatives. The main contentious element in the project has to do with indigenous communal land rights, resource access and uses (eg. communal and municipal forests), in light of the absence of a GoG policy on communal lands to give full legal recognition to community-held land rights and titles. The project cannot and will not directly address land tenure issues, since these are the subject of other public programs and investments such as the Bank-financed Land Fund and Cadaster projects and the GoG agency CONTIERRA. However, wherever possible, the project will respect local and traditional land use systems. It may also make resources available to communities to engage legal and other technical counsel in regards to such elements, where it is judged to be helpful and appropriate. This will occur within the context of demand-driven subprojects.

G. Main Loan and Grant Conditions

1. Effectiveness Condition

By project effectiveness, the borrower/recipient will be required to have completed the following:

- Preparation of the Project Operational Manual and Financial Regulations satisfactory to the Bank;
- Implementation of adequate financial management systems for the project within MAGA/CONAP which are acceptable to the Bank and include procedures for their operations and maintenance during project implementation;
- Identification of qualified personnel to manage the project, selection of PCU Coordinator and Component 1, 2 and 3 Coordinators.
- Presentation of first-year operating plan (POA) and budget with evidence of allocation of GOG counterpart financing.

2. Other [classify according to covenant types used in the Legal Agreements.]

No other conditions have been identified.

H. Readiness for Implementation

☐ 1. a) The engineering design documents for the first year's activities are complete and ready for the start of project implementation.
☒ 1. b) Not applicable.

☐ 2. The procurement documents for the first year's activities are complete and ready for the start of project implementation.
☐ 3. The Project Implementation Plan has been appraised and found to be realistic and of satisfactory quality.
☐ 4. The following items are lacking and are discussed under loan conditions (Section G):

I. Compliance with Bank Policies

☒ 1. This project complies with all applicable Bank policies.
☐ 2. The following exceptions to Bank policies are recommended for approval. The project complies with all other applicable Bank policies.

Philip Hazelton	John Redwood	D-M Dowsett-Coirolo
Team Leader	**Sector Manager**	**Country Manager**

Annex 1: Project Design Summary

GUATEMALA: WESTERN ALTIPLANO NATURAL RESOURCES MANAGEMENT PROJECT

Hierarchy of Objectives	Key Performance Indicators	Monitoring & Evaluation	Critical Assumptions
Sector-related CAS Goal: Foster sustainable economic growth, social cohesion and environmental protection through improved participation and productive opportunities for the poor within the framework of the National Peace Accords.	**Sector Indicators:** Rural poverty and natural resource depletion rates decline, and social capital increases	**Sector/ country reports:** Ministry of Finance, MAGA, INAB, CONAP and International databases and reports.	**(from Goal to Bank Mission)**
GEF Operational Program: Improve management of natural resources and conservation of globally important biodiversity within the framework of the Mesoamerican Biological Corridor	Better and more representative protection of globally important habitats and ecosystems.	MAGA, INAB, CONAP and International databases and reports.	Policies and institutions remain stable and congruent with project objectives
Project Development Objective: Improve management and conservation of natural resources and biodiversity and the livelihoods of the peoples dependent upon them in the Western Altiplano of Guatemala.	**Outcome / Impact Indicators:** ● 20 % increase of household incomes for 30,000 participants ● 30% of direct participants are women ● Biodiversity and natural resource conservation upgraded in 175,000 ha of priority areas for globally important biodiversity in the Sierra de Cuchumutanes and the Volcanic Belt ● National policy framework for markets for environmental services in place with institutional arrangements successfully piloted	**Project reports:** ● Economic assessments ● MAGA and CONAP reports ● Independent assessment	**(from Objective to Goal)** ●National commitment to overcoming economic, social and inter-ethnic inequities is sustained ●Social and economic incentives for maintaining local & national conservation mechanisms remain strong ●National and international fiscal environments evolve so as to favor functional markets for environmental services ●Social, agricultural and environmental policies remain stable and congruent with project's development objectives

Output from each Component:	**Output Indicators:**	**Project reports:**	**(from Outputs to Objective)**
1. Sustainable Livelihoods Effective sustainable production and resource and biodiversity conservation initiatives designed and managed by capable municipalities, communities, and local producer and resource management groups	• Capacity of 40 municipalities and 750 local organizations to plan and implement local development through production and conservation projects strengthened • About 1000 local subprojects executed with at least 80 % rated Satisfactory or better • Support services facilitate effective implementation of local development activities	Project monitoring and supervision reports Technical audits of design and execution of subprojects MAGA and INAB reports Independent assessment	Local capacity is sufficiently developed to absorb capacity building effort and manage subprojects Adopted management practices will be sustained Higher production will not result in extensification of agricultural area rather than intensification
2. Biodiversity Conservation Biodiversity conservation enhanced through consolidation of the SIGAP and strengthening of locally managed conservation regimes	• Conservation in priority areas improved through strengthening of CONAP and local management organizations and implementation of sound management plans • Environmental education programs reach community and school audiences • Natural resources mapping and information system effectively tracks changes in natural resources conditions	Project monitoring and supervision reports Project supported analytical, institutional and sector studies CONAP and MARN reports Annual reports of forestry and agriculture institutes	Protection and conservation of key protected areas will be sustainable Communities and Government are able to work together towards conservation goals National information systems can be integrated so as to provide usable decision-influencing information

3. Environmental Services Markets National policy, strategy and instruments to internalize the value of key environmental services designed and tested through participatory processes	● Strategy and national policy for capturing value of environmental services developed ● Trained GoG staff conduct studies resulting in design of feasible valuation and market testing pilots ● 4 pilot projects provide effective lessons for environmental services markets development	Project monitoring and supervision reports Project supported analytical, institutional and sector studies	Pilot arrangements can effectively test the concept of internalization of environmental services in the absence of a complete reform of national policies and given minimal capacity. Private sector in Guatemala builds on expressed interest to contribute to strategy formulation
4. Project Management: Effective project management, monitoring, and evaluation	● Project Coordination Unit effectively facilitates project implementation ● Project monitoring system accurately measures project impacts	Bank supervision missions Annual Project Reports Mid-Term Review	Local counterpart funding will be available Project coordinating unit will be able to function in a complex multi-institutional environment
Project Components / Sub-components:	**Inputs: (budget for each component)**	**Project reports:**	**(from Components to Outputs)**
1. Sustainable Livelihoods 1a Local Institutional Strengthening 1b Subprojects Grants 1c Support Services	US $40.60 million	● Copies of contracts ● Field managment reports ● Financial management, evaluation and quarterly and annual reports	Resources are disbursed in a timely manner
2. Biodiversity Conservation 2a Protection of Sites of Global Importance 2b Inter-cultural Communications 2c Biodiversity Conservation Monitoring and Evaluation	US $ 5.82 million	● Field managment reports ● Financial management, evaluation and quarterly and annual reports	Resource access conflict are not severe enough to disrupt conservation initiatives

3. Environmental Services Markets 3a National Strategy for Environmental Services 3b Institutional Capacity for Environmental Services Analysis 3c Pilot Projects for Environmental Services Market Development	US $1.33 million	● Field managment reports ● Financial management, evaluation and quarterly and annual reports	Willingness to pay for environmental services can be adequately identified and tapped
4. Project Management 4a Project Administration 4b Project Monitoring and Evaluation	US $3.09 million	●Copies of contracts ● Field managment reports ● Financial management, evaluation and quarterly and annual reports ● Supervision missions by the GoG and the World Bank	Political risk can be managed such that critical PCU staffing is stable

Annex 2: Detailed Project Description

GUATEMALA: WESTERN ALTIPLANO NATURAL RESOURCES MANAGEMENT PROJECT

By Component:

Project Component 1 - US$40.60 million

Sustainable Livelihoods Component

The Sustainable Livelihoods Component will finance investments to improve the productivity and sustainability of Western Altiplano farming and forest management systems and natural resources conservation and management processes. This will be achieved by means of resource use planning, project identification, and financing structures and procedures which respond to local needs and interests through community-based demand-driven processes. The aim is to increase rural incomes while containing degradation, improving the state of the natural resources upon which those production processes and incomes depend. The project will reach for total productivity improvements, not only greater crop yields, by fostering off-farm income-generating activities, such as rural industries and craft production and marketing.

This project component will support three inter-related activities which will: (i) strengthen local (municipal, community, producer and resource management associations) institutional capacity to plan and manage development activities; (ii) finance locally identified production, marketing, and conservation subprojects aimed at increasing rural incomes while conserving the natural resources upon which they depend within agro-ecological systems; (iii) finance the provision of private-sector and self-sourced technical assistance and rural extension from a pool of service providers to stimulate agricultural innovation and sustainable rural development in the region. Support would go to 40 municipalities in the Western Altiplano (out of a total of 132) prioritized for project intervention. Fifteen municipalities would participate in year one, an additional 21 in the second year and the final 4 would be added in the third year. Municipalities of highest importance for biodiversity (see Annex 19) would be favored for the GEF-financed subprojects (these represent 22 of the 40 municipalities).

The Sustainable Livelihoods Component Coordinator in the PCU, in collaboration with MAGA, would be responsible for implementing Component 1. MAGA's departmental offices in the Western Altiplano would facilitate and monitor all component activities. The PCU would contract an institution with recognized capacity in management of local development projects as a Subprojects Grant Technical Unit (GTU) to provide implementation support services for the subprojects described in Subcomponent 1 (b). The Project Operational Manual will incorporate detailed terms of reference for the MAGA departmental offices, the Component 1 Coordinator, and the GTU.

Subcomponent 1.a: Local Institutional Strengthening (Total: $5.40 million; IBRD: $3.40 million; GEF $0; National/Local: $2.00 million)

The Local Institutional Strengthening subcomponent will enhance the capacity of municipal governments, community development committees, communal land and forest management committees, farmer and small enterprise organizations, and other local production and conservation groups to plan and carry out development and natural resources conservation activities. This installed planning and project management and design capacity will contribute to the sustainability of project investments and contribute to maintaining local initiatives and local self-development efforts in the region. The project will also provide some limited assistance to regional MAGA and INAB offices and to the RADEAS (departmental-level networks of producer groups) to enable them to contribute to and support project activities.

Local Institutions: Municipal and community-level strengthening will be financed through provision of block grants to participating municipalities. These financial grants will allow the municipality to purchase

specialized technical assistance, agricultural and forest extension, training and other services as needs dictate and as required. The municipalities will allocate funds from these grants to provide the capacity-building and skills which would allow beneficiary groups to identify and prepare subprojects. They will provide training in basic planning and project implementation, monitoring, and evaluation skills, and strengthen the sustainability of subproject initiatives. These skills and practices will improve the ability of local groups and beneficiaries to continue to define their own development goals in the future. The project will maintain a roster of pre-qualified service providers (see Subcomponent 1c) and facilitate the contracting of these services. Municipalities with inadequate financial administration and project management systems and capacity (to be evaluated in each participating municipality) to administer the block grants will be assisted to improve their skills and/or to select and contract a municipal grant program administrator. These block grants will be tranched based on successful completion of successive steps in the institutional capacity building program. These grants will be used for:

Municipal planning: (i) establish, or strengthen, a municipal-level council or forum (*Instancia Local*) consisting of representatives from municipal government and local stakeholders (see Annexes 11 and 14 for details) to develop (or strengthen) a Municipal Sustainable Development Agenda (*Agenda de Desarrollo Sostenible)*, prioritize and select local subprojects for project grant financing (see Subcomponent 1b), and provide for oversight of subprojects in progress; (ii) employ, train and equip a municipal Promoter (*Promotor Municipal*) to work with the *Instancia Local* to support municipal development planning and subproject grant activities. The Municipal Development Agenda will result from a participatory analysis and planning process between the municipality and the members of the *Instancia Local*, which identifies municipal priorities for natural resource conservation and management and economic development.

Local organization strengthening: (i) promote identification of local conservation and productivity subproject proposals to submit for project or other financing; and (ii) provide initial grants for strengthening of local organizations, as required, to enable them to access subproject grant financing for participatory planning; establishing or improving financial accounting, planning, and management systems; multi-stakeholder collaborative decision-making and problem solving; developing leadership skills; membership training, participatory monitoring and evaluation, gender inclusion, and cultural communications skills; cross-visits to learn from successful groups; and linkages with other organizations and programs;

Subproject planning: (i) emit calls for subprojects and help improve the design of local conservation and productivity subproject proposals to submit for project financing; (ii) provide training and technical assistance in proposal preparation; and (iii) prioritize and select subprojects eligible for project financing (as per the Operational Manual);

On-going development: (i) oversee the on-going development and implementation of subprojects; and (ii) hold regular discussion forums on conservation and development issues, plans, and innovations.

Departmental Producer Networks: The RADEAS (*Redes de Agentes de Desarrollo Agropecuario Sostenible*) are regional networks which represent the full gamut of rural producer organizations. They will receive programmatic support to carry out their responsibilities to: (i) interact with the groups they represent to identify and prioritize types of assistance required; (ii) seek financing to meet those priorities; and (iii) provide an intermediate-level forum for interchange between local producer groups and the state agencies (MAGA, INAB).

MAGA and INAB: Staff of regional and departmental MAGA and INAB offices will receive limited financing to improve the effectiveness of their decentralized and deconcentrated support for local development through the project. Such support will include training in environmental and social aspects of natural resources management, technical extension services, participatory planning, and monitoring and evaluation. Support will be provided for participation in project activities, provision of technical and policy inputs to the municipal development planning activities, and assistance with technical support of beneficiary groups where they have

requested these services.

This subcomponent will finance the costs of planning and promotional activities (meetings, workshops, specialized consultants, training sessions, materials and supplies, travel costs, promotions materials, communications bulletins, etc.); training; technical assistance; incremental salaries for municipal-level promoters; limited operating expenses for promoters and *Instancias Locales* (office rental and equipment, supplies and maintenance; transportation expenses; and per diems); limited operational and recurrent costs for RADEAS functions; limited incremental operational costs of decentralized MAGA and INAB offices; and other services (legal, planning, administrative, technical). Municipalities and local organizations will co-finance on average 10% of total costs of institutional strengthening activities.

Subcomponent 1.b: Subproject Grants (Total: $29.20 million; IBRD: $18.33 million; GEF $4.0 million; National/Local: $6.87 million)

The project will finance subproject grants to increase productivity, stimulate innovation, generate employment and value-added processing, and enable rural people to increase incomes and improve management of the natural resource base. A wide range of local organizations (including cooperatives, producer groups, microenterprise associations, Mayan organizations, women's groups, local pro-development committees, local NGOs, and municipal governments, as well as coalitions of these groups), will be eligible to submit subproject proposals. Preliminary eligibility and financing criteria, an indicative list of subprojects, and a negative list are detailed in Annex 2a.

Prioritization and selection of subprojects would be done at the municipal-level by the local committee known as the *Instancia Local* (see below and Annex 14), within pre-established grant ceilings for each municipality (see below and Annex 2a). The average subproject is expected to cost $39,500 and will include a client contribution averaging 23% (required client contribution is higher for productive subprojects and lower for conservation subprojects). Projects will be implemented over a maximum of three years. Total costs of subprojects could range from a minimum of $5,000 to a maximum of $250,000 (unless a prior no-objection is received from the World Bank), depending upon the size of the client organization and the type of project proposed. All projects over $100,000 would be subject to prior review by the World Bank.

Subproject Categories: Eligible subprojects fall into three categories: the project is estimated to finance around 640 subprojects. Because of the demand-driven nature of the subprojects, it is not possible at this time to meaningfully estimate what number will constitute Sustainable Production, Natural Resource Management Subprojects or Conservation Subprojects.

Sustainable Production Subprojects: these subprojects will have a (primarily) production objective but will foster improved resource management and production practices, avoid or mitigate adverse environmental impacts and, where possible, increase the contribution of the productive landscapes to biodiversity conservation. Essentially, these will be 'win-win' subprojects with positive environmental externalities and, from the financial perspective, a benefit/cost ratio greater than 1. Such subprojects will include: (i) improvement of production systems which require substantial use of inputs and technology (e.g., greenhouses); (ii) production for export or high-value domestic markets (e.g., vegetables, cardamom, shade coffee); (iii) value-added processing of local products; (iv) improvements and development of small-scale artesanal and cottage industries or microenterprises to increase off-farm employment; and (v) commercial reforestation.

Natural Resource Management Subprojects: these will be subprojects with a (primarily) conservation objective in which productive activities are improved in order to enhance the overall sustainability of farming and other resource use/management activities. These will be subprojects with positive environmental externalities with, from an economic perspective, expectations of a benefit/cost ratio greater than 1 if the environmental benefits were quantified/quantifiable. Subprojects will include: (i) improved resource management within traditional cropping and grazing systems; (ii) improved management of communal and municipal forests to sustain yields

and environmental services within existing traditional, multiple-use systems; (iii) crafts and cottage industries and microenterprises, to provide employment and to reduce pressures on the already stressed and fragile ecosystems (especially in and around protected areas); (iv) improved environmental management of public goods, such as improving local solid waste disposal and management systems through improved collection, recycling, composting, and better siting and management of waste dumps (municipal and village-level subprojects); (v) other productive activities which would reduce extractive pressures on protected areas; and (vi) public goods such as land and soils rehabilitation, slope stabilization of heavily eroded or slumping slopes in critical sites, and reforestation or revegetation on heavily degraded lands.

Conservation Subprojects: these will be subprojects which explicitly encourage environmental conservation in and around protected areas, communally managed lands and other areas that still retain biodiversity values. These will be subprojects with positive environmental externalities in which, for social, cultural or pragmatic reasons, communities have decided to put aside or enhance protection of a natural area. Subprojects of this type would also be community and demand-driven and would include: (i) creation and/or improvement of community managed protected areas, areas managed by the municipalities or by local NGOs (management planning, demarcation, and conservation infrastructure); (ii) improved management of community forests, aquifer recharge zones and potable water sources; (iii) natural disaster mitigation activities; (iv) recreational and ecoturism areas; and (v) the protection of *jicham witz* (hilltop sacred sites).

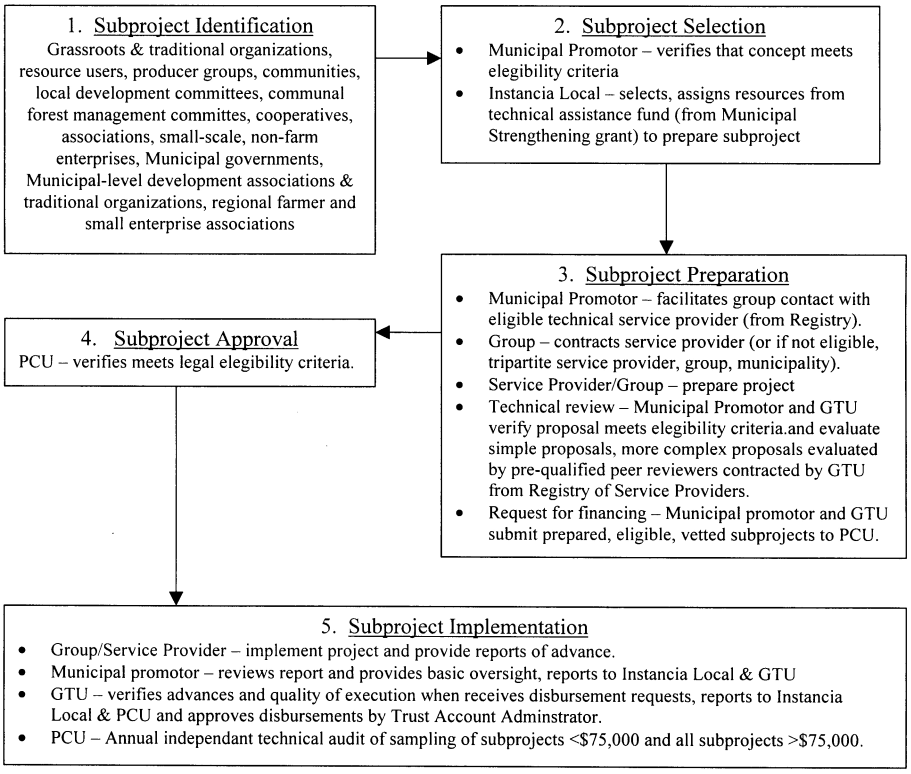
Subproject Grant Application and Approval Process: Potential subprojects will be identified and designed based on the ideas and demands of eligible local organizations. They will be selected (based on priorities established in the municipal *Agenda de Desarrollo Sostenible*) by the *Instancias Locales*. Trained municipal promoters will assist local organizations to prepare and submit proposals which conform to the eligibility requirements set out in the Subproject Operational Manual. Where necessary, the *Instancias Locales* will allocate institutional strengthening funds (Subcomponent 1a) to contract qualified technical service providers to help eligible groups to design effective subprojects.

Three times each year, the *Instancias Locales* will issue a well publicized call for subproject proposals. They will receive, review, and prioritize the proposals submitted to them. Preliminary grant financing ceilings will have been established for each municipality based on a per capita distribution. Over the 3 to 4 years during which a municipality participates in the project, the total financing available to that municipality is roughly equivalent to one annual per capita allocation (based on 10% of general revenues) of funds made to that municipality by the GOG. The ceilings represent the maximum indicative amount which the municipality can receive from the project. This is not a guaranteed amount. To access the grant funds, municipalities will have to submit adequately prepared, eligible subproject proposals. Municipal allocation ceilings will be reviewed annually, in light of total grant financing still uncommitted from the previous year. Then, and after assessing the need for increased project design assistance for beneficiary groups, ceilings can be adjusted. This will be done by redistributing uncommitted funds, and/or lowering the ceilings of municipalities not accessing funds, and raising ceilings of the more active municipalities. This system provides incentives to the municipalities which are capable of mobilizing local communities, producer groups and technical assistance to develop eligible subprojects. Based on local priorities as reflected in the municipal *Agenda de Desarrollo Sostenible*, the quality of the proposals, eligibility criteria (described in Annex 2a) and detailed in the Subproject Operational Manual, and the availability of funds, the *Instancias Locales* will select proposals to forward to the Subprojects Grant Technical Unit (GTU).

The GTU will be a private entity (firm or organization) contracted by the PCU to review grant proposals for compliance with the Project and Subproject Operational Manuals and Legal Agreement, to supervise approved subprojects, and to maintain administrative, management and monitoring systems in coordination with local Promoters and the *Instancias Locales* (see Annex 14). The GTU will confirm that the subprojects proposed are technically, economically and socially feasible and otherwise in compliance with the Subproject Operational Manual. In cases where GTU in-house expertise is insufficient to effectively review a specific

subproject proposal, the GTU will contract outside reviewers from its registry of pre-qualified technical experts to review and make recommendations on how to improve the subprojects if necessary. If improvements in a subproject are required, the proposal will be sent back to the originating *Instancia Local* along with specific recommendations. If necessary, the *Instancia Local* may choose to provide additional funds for proposal preparation. Proposals meeting project criteria will be submitted to the PCU for final verification that they are consistent with the project legal agreement, following which they will be sent to the Trust Funds Account Administrator (TAA) for financing (see Annex 14 for details). The Regional Steering Committee will carry out an *ex post* review of the "packages" of approved projects at least twice a year, as a basis for recommendations of changes in financing policies, project operational manuals and regulations, and to enhance the impacts from use of the funds.

Subproject Grants Cycle

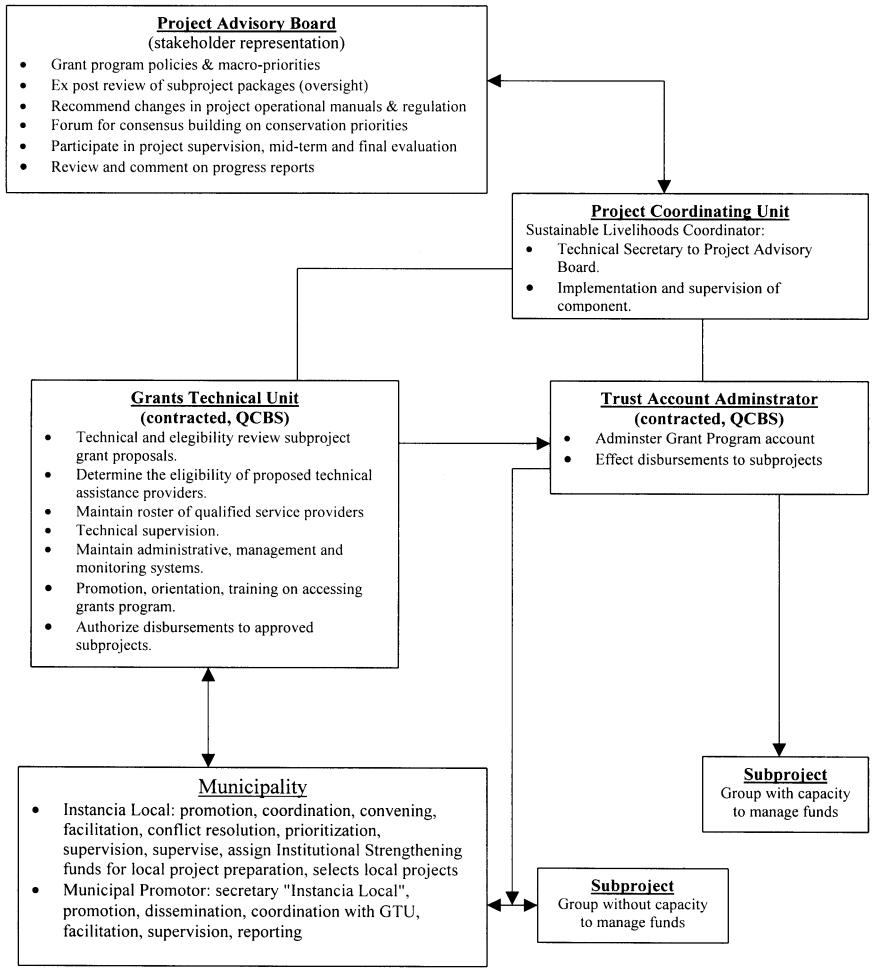


Subproject funding: Upon receiving approval from the PCU, the Trust Fund Administrator (TAA) will commit the funds for the entire subproject and disburse the first tranche for the start up phase of the subproject. In the case of a subproject client organization with legal status and verified capacity to manage funds, funds will be disbursed to the organization directly. In the case of a subproject client organization without legal status and/or verified capacity to manage funds, funds will be disbursed to the entity signing the contract. This will either be the Municipal government or the service provider, depending on the client organization's preference and the capacity of the Municipality or service provider to manage funds. Subsequent tranches will be made by the GTU, based on proof of expenditures and subproject advances.

Subproject Implementation: For most subprojects, the client organization will contract subproject

implementation services directly from universities, NGOs, technical assistance and extension firms, research institutes, agribusiness and other private firms, or others enrolled in the Registry of Qualified Service Providers (see Subcomponent 1c). Client organizations can implement subprojects directly if they have demonstrated capacity and legal personality (*personaria juridica*). If not, they may enter into an agreement for co-implementation with a qualified service provider. The municipal Promoter will provide basic oversight for subproject implementation. Subproject progress will be monitored and evaluated through participatory mechanisms.

Administration of Subcomponent 1b. Subproject Grants



Subproject grants will finance: technical assistance, training, services, studies, limited goods and equipment, small works and infrastructure, and limited fixed and working capital investments. The Subproject Operational Manual will describe detailed procedures for preparation and selection of subprojects for financing, eligibility criteria for projects and client organizations, costs to be financed, and environmental standards. This manual will also include standard documentation and describe detailed procedures for contracting (see Annex 6), accounting, reporting, disbursement, and monitoring and evaluation, as well as provide procedures for monitoring problem subprojects, steps to resolve problems, and procedures for prompt cancellation if problems persist. (Details on the subproject cycle and implementation arrangements are presented in Annex 14, and financing criteria are summarized in Annex 2a). GEF funds will primarily finance the Conservation

Subprojects and incremental costs for biodiversity conservation within the Sustainable Production Subprojects and Sustainable Natural Resource Management Subprojects.

Subproject Grants Supervision and Monitoring. The GTU will have primary responsibility for subproject grant supervision and monitoring. All subproject proposals will be reviewed and verified in the field. The first 60 subprojects to be financed will be evaluated for physical advances and quality of execution, with each request for disbursement. The next 60 subprojects will be evaluated for physical advances and quality of execution at every other request for disbursement. Subsequently, a sampling system will be developed to evaluate physical advances and quality of execution; to be designed based on the experience with the first 120 subprojects. All subprojects with a total cost greater than $100,000 will be evaluated in the field for physical advances and quality of execution with each request for disbursement from the subproject. Subproject beneficiaries and service providers will be required to submit proof of expenditures and reports on advances to request subsequent disbursements. Annual, independent technical audits of a sampling of subprojects will be contracted by the PCU each year.

Subcomponent 1.c: Support Services (Total: $6.00 million; IBRD: $4.00 million; GEF $0; National/Local: $2.00 million)

Drawing upon a pool of qualified technical experts, the project will provide quality control and sound technical support for the design and implementation of subprojects. These services will not be limited to specific subprojects (as in Subcomponent 1b), but will be broadly applicable across subprojects. The PCU will manage some support services directly and others through contracts. Some required support services are identified in advance, and included in the Registry of Qualified Service Providers, for core training services, subject matter specialist advisory services, and mass media information services. Other support services will be (i) identified in response to client demand; (ii) triggered by project monitoring and evaluation results pointing to the need for special support; and/or (iii) hired to prepare and implement strategic regional subprojects.

Registry of Qualified Service Providers: To facilitate contracting of technical services for subproject design and implementation, the PCU will establish and maintain on behalf of MAGA a Registry of Qualified Service Providers. Service providers will include NGOs, universities and other educational institutions, private firms, cooperatives and community organizations, and government agencies. To be registered, service providers must demonstrate evidence of legal status, a bank account, and technical qualifications in an area of technical expertise related to the project (environmental conservation, institutional strengthening, agricultural production, off-farm employment, etc.). Criteria for technical qualification will be detailed in the Subprojects Operational Manual.

Training: Upon program start-up, the PCU will contract for the development and presentation of a series of core training programs. Contracts will finance design of training modules for basic, refresher, and community-level training courses in Project/Program Orientation, Participatory Planning and Project/Program Implementation, Participatory Monitoring and Evaluation, Biodiversity and Environmental Conservation, Local Organization Development, Marketing, and Non-Farm Employment. The target audience for the basic and refresher courses will be the municipal-level Promoters, *Instancia Local* leaders, institutional strengthening and extension service providers, and the RADEAS. The target audience for the community-level courses will be municipal government staff and client organization leaders and members. Contracts will finance a specified number of courses and/or trainees for each course module. The municipal *Instancias Locales* will be eligible to use funds from their institutional strengthening block grants to approve subprojects to finance additional courses, if desired. Subproject-specific technical training will be financed as a part of subprojects in response to client demand. In addition, a limited number of training scholarships will be provided to increase the expertise of indigenous and female professionals in rural development and natural resources conservation.

Subject Matter Specialist Advisory Services: The PCU will contract local and/or international experts to

provide assistance for short periods (1/2 day to 1 week) in response to client requests and project needs on specific issues (e.g., technical review of subproject proposals where expertise is not available within the PCU or GTU, diagnosis of crop diseases, legal assistance in preparing contract documents, design of an irrigation system, design of packaging materials for export products, clarification of legal land and resource rights). Specialist services will provide assistance for unforeseen problems or to address needs that are broader than a single subproject and would be of more general use.

Rural Information Services: The PCU will contract local institutions to develop mass media communications programs and materials appropriate to the Western Altiplano and essential to the success of the project. The mass media campaigns will utilize radio and other media to ensure availability of information in indigenous communities and will emphasize targeting for women and speakers of Mayan languages. The programs will provide information on project objectives and activities, means for accessing subproject funds, organizational strengthening topics, marketing and commercial development. The institutions will also help to establish a rural information system on market prices, business and employment opportunities, and technical information services.

Strategic Regional Subprojects: Proposals for regional subprojects of strategic importance to the project and to the sustainable development of the Western Altiplano will be submitted through RADEAS and reviewed and approved through the same processes used by the *Instancias Locales* for local subprojects. Eligible regional subprojects might include: applied research and market studies; subprojects covering several municipalities or departments; special training or information programs; and strategic alliances to strengthen local institutions (e.g., alliances between local and international potato, fruit, or livestock research programs; alliances between local and national farmers' organizations; local exporters and international trade promotion groups).

The project will finance the evaluation and registration of service providers; the design of training programs and the costs of training events; Subject Matter Specialist consultancies; and the production and dissemination of information programs and materials. The Project Operational Manual will provide detailed procedures for establishing and maintaining the Registry of Qualified Service Providers; terms of reference and procedures for contracting core-training services; procedures for contracting and allocating Subject Matter Specialist services; and procedures and criteria for strategic regional subproject identification, selection, and contracting.

Project Component 2 - US$5.82 million

Biodiversity Conservation

Supplementing the direct investments in Conservation subprojects, the Biodiversity Conservation Component will finance activities to strengthen local and national capacity to: conserve natural habitats containing globally important biodiversity and areas maintaining locally and nationally important environmental services (e.g., headwaters of most of Guatemala's rivers are situated within the project area); and maintain traditional natural resource use and religious and cultural traditions. A number of target areas (northern Huehuetenango, northern El Quiché, southwestern Huehuetenango, Volcanes de San Marcos, Volcanes de Quetzltenango, Volcanes de Atitlán, and community forests of Totonicapán; see also Annex 19) were selected, based on: the presence of important biodiversity; representation in the national protected areas system (SIGAP); contribution to strengthening the Mesoamerican Biological Corridor (MBC); presence of unique geomorphological traits or cultural sites; watershed and environmental services; and synergies with other activities in the area. This prioritization exercise was carried out during project preparation in a participatory exercise led by The Nature Conservancy (TNC). All relevant documents are in the Project file.

The Biodiversity Conservation Component will finance: (i) protection of sites of global and local importance; (ii) intercultural communications and education on environmental issues; and (iii) monitoring and evaluation of biodiversity conservation.

The responsibility for implementation of Component 2, will be vested in the Biodiversity Conservation

Component Coordinator in the PCU in collaboration with CONAP. CONAP offices in the Western Altiplano will facilitate and monitor all component activities. The PCU will contract technical and implementation support services from an institution (such as a qualified NGO or other private organization) with recognized capacity in biodiversity conservation. This Biodiversity Component Technical Unit (BCTU) institution will contract, train and equip biodiversity conservation promoters and an environmental communications specialist to work with CONAP on implementation of the Biodiversity Conservation Component. The Project Operational Manual will incorporate detailed terms of reference for the CONAP regional offices, the Biodiversity Conservation Component Coordinator, and the BCTU.

Subcomponent 2.a: Protection of Sites of Global Importance (Total: $4.14 million; IBRD: $0.80 million; GEF $2.60; National/Local: $0.74 million)

A set of inter-related activities will strengthen local and national institutional capacity for conservation and co-management of natural resources in target areas. These activities will complement local institutional strengthening activities under the Sustainable Livelihoods Component and policy work under the Environmental Services Market Component. The activities will include: regional coordination of planning for development and conservation of target protected areas; strengthening of CONAP; expansion of the SIGAP; strengthening traditional tenure and management systems for natural resources; strengthening local capacity for management of natural resources; and special studies of biodiversity and conservation.

Planning for Protected Areas: Within each of the seven areas targeted for improved protection, biodiversity conservation promoters working for the BCTU will consult with municipalities and with development and conservation programs in the region, draw on available maps and studies of the areas, and facilitate regional planning through workshops and consultations on natural resource management. BCTU promoters, *Instancia Local* leadership, and municipal Promoters will be key participants in these workshops, along with community members and other local stakeholders. The workshops will serve to promote appropriate biodiversity conservation strategies in municipal planning processes. Based on these consultations, CONAP and BCTU promoters will develop plans for co-management of within the seven priority areas for conservation.

Strengthening CONAP: CONAP, with support from the BCTU, will develop plans to reform CONAP programs, strategies, procedures and operations. CONAP will implement these reforms to strengthen its program of biodiversity conservation in the Western Altiplano.

Expanding the SIGAP: BCTU biodiversity conservation promoters will respond to requests from communities to establish new protected areas. The project will provide communities technical assistance for special studies, local training and workshops, multi-stakeholder participatory planning, and legal services required to establish new protected areas under a variety of management regimes (e.g., municipal regional parks, private reserves). CONAP will coordinate activities with the *Instancias Locales*, municipal Promoters, institutional strengthening activities and other projects active in municipalities and requesting assistance.

Strengthening Traditional Tenure Rights and Management Systems: CONAP and the BCTU promoters will carry out special studies and provide targeted assistance to communities wishing to strengthen traditional tenure and management systems for natural resources (principally community forests). Biodiversity conservation promoters will identify candidate communities by consulting with local leaders and institutions, RADEAS, *Instancias Locales*, and municipal governments. Community consultations will provide a basis for interventions, and assistance will be offered only if requested by the community.

The BCTU and CONAP will provide technical assistance to help to resolve local conflicts over resource ownership and use and will strengthen management systems where these are currently inadequate to conserve the resource base for sustainable use. Case study documentation of these interventions will provide a better understanding of issues relating to traditional tenure rights and management systems for community forests. Experience with these community interventions will provide a base for proposing modifications to the

regulatory framework for rights and management of community resources.

Special Studies on Biodiversity and Social-Environmental Interactions: In the course of participatory planning for biodiversity conservation, CONAP and the implementation services provider will identify issues requiring additional research to increase understanding of the biodiversity of the Western Altiplano and of its sustainable management. The PCU will contract qualified local or international organizations or individuals to complete studies on topics such as ecological evaluations of specific areas, flora and fauna inventories, hydrological studies, studies of tenure and management systems, or others. The project will publish the completed studies and make these available on a CONAP central database.

The project will finance: technical assistance; travel and operating costs for BCTU promoters; costs of annual workshops for target protected areas; vehicles and equipment, training, and technical assistance for CONAP; special studies; and technical assistance and training for community activities; and small public works to improve national park infrastructure.

Subcomponent 2.b: Inter-cultural Communications (Total: $1.12 million; IBRD: $0.58 million; GEF $0.34 million; National/Local: $0.20 million)

The BCTU will implement a program of inter-cultural communications to increase public awareness of environmental issues, values, and management practices and to share this knowledge across the cultures of the Western Altiplano. A (multilingual) Environmental Communications Specialist provided by the BCTU will lead this effort, working with implementing agencies for the subprojects program, other Biodiversity Conservation Component activities, other donors, and other projects. The Specialist will coordinate these various activities as an integrated Environmental Communications Strategy and will develop a strategy for future expansion and sustainability of the program.

Environmental Communications Strategy: The Environmental Communications Specialist will develop an Environmental Communications Strategy based on extensive consultations with institutions and individuals with relevant expertise who are active in the region. The PCU and Project Advisory Board will approve the Strategy as the basis for additional work on environmental communication.

Mass Media Communication: Based on the approved Environmental Communications Strategy, the PCU will contract local institutions to develop multilingual materials for radio, video and other communications media (including printed materials) in the nine principal languages of the region on environmental issues relevant to the seven environmental protection target areas.

Community Environmental Communications Programs: A series of multilingual interactive community environmental programs will be designed to stimulate awareness of environmental issues and draw on traditional knowledge. These programs will be integrated with the Mass Media Communication and Formal Environmental Education initiatives. Biodiversity conservation promoters will present programs in response to community requests.

Formal Environmental Education: The implementation services provider will collaborate with the Ministry of Education to develop a multilingual training program on environmental education and pilot this in primary schools.

The project will finance technical assistance for development of multilingual environmental communications programs and mass media products; community environmental programs; costs of broadcasting, printing, and or performing environmental communications materials; training for teachers; and costs for schools to introduce environmental elements in the curricula.

Subcomponent 2.c: Biodiversity Conservation Monitoring and Evaluation (Total: $0.56 million; IBRD: $0 million; GEF $0.46 million; National/Local: $0.10 million)

The Biodiversity Conservation Component will strengthen CONAP's biodiversity monitoring and evaluation capacity by establishing a comprehensive biodiversity information system for the Western Altiplano. CONAP will implement these activities and (i) upgrade its GIS with new equipment, computer programs, and data; (ii) update ecosystem maps for INAB; (iii) establish a central database on protected areas within the SIGAP and other areas of natural habitat under other types of protective and use regimes (this system will have linkages to Western Altiplano regional offices and form part of a national system).

The project will finance: equipment, training, travel expenses, and technical assistance for CONAP to develop and implement an expanded biodiversity monitoring and evaluation program.

Project Component 3 - US$ 1.33 million

Environmental Services Market

The Environmental Services Market Component will develop the framework for policies and markets for environmental services. Environmental services markets will be approached in the context of government actions required to overcome market failure in provision of environmental services. This Component will be the first step in a process to put in place policies, institutions, and programs to facilitate the supply of environmental services. Development of private markets for environmental services will be encouraged, but will not be the major emphasis of the project.

The Environmental Services Market Component Coordinator within the PCU will be responsible for implementing activities in collaboration with INAB and other stakeholders. The Project Operational Manual will incorporate detailed terms of reference for the Environmental Services Market Component Coordinator and the INAB counterparts.

This Component will finance: (i) development of a National Strategy for Environmental Services; (ii) development of institutional capacity to promote environmental services; and (iii) pilot projects to internalize environmental services.

Subcomponent 3.a: National Strategy for Environmental Services (Total: $0.20 million; IBRD: $0.10 million; GEF $0.10 million; National/Local: $0)

During project preparation, a group of high level representatives from government, academia, NGOs, civil society, and the private sector was formed to serve as an Environmental Services Committee to take the lead in the elaboration of a National Strategy for Environmental Services. They participated in the design of this component and will continue to provide guidance on environmental services initiatives. The Committee will develop terms of reference for special studies (legal, economic, institutional, and others) and convene workshops to work towards national strategy formulation. The Component Coordinator will work with the Committee, consultants preparing the special studies, and with government staff and other stakeholders to formulate an environmental services market strategy statement. The aim of the strategy will be to expand awareness of the importance of environmental services and to build a consensus for policy and institutional reforms. Immediate legislative and regulatory reform will not be the major objective.

The project will finance: technical assistance for special studies, workshops, and publication of special study reports and the Proposed National Environmental Services Strategy.

Subcomponent 3.b: Institutional Capacity for Environmental Services Analysis (Total: $0.30 million; IBRD: $0.30 million; GEF $0; National/Local: $0)

Training and technical assistance will build understanding of the value of environmental services and institutional capacity for work on related policies and institutions. Training for local and national officials working in areas related to environmental services will include in-country courses and visits to relevant programs in the region. INAB and the Component Coordinator will identify research studies and technical assistance assignments required to strengthen understanding of the value of environmental services and market and policy mechanisms affecting their provision. The PCU will contract consultants to carry out these studies, which INAB will make available on its website and which universities could integrate in their curricula.

The project will finance local and foreign technical assistance for research and special studies and training for local and national officials.

Subcomponent 3.c: Pilot Projects for Environmental Services Market Development (Total: $0.83 million; IBRD: $0.63 million; GEF $0; National/Local: $0.20 million)

A series of feasibility studies and four pilot projects will provide experience with the application of alternative options developed based on the work outlined above and good practice in development of environmental services markets and policy reforms. The Component Coordinator in collaboration with INAB and the Environmental Services Committee will identify potential interventions to develop environmental services markets or policy reforms, and the PCU will contract technical assistance to carry out feasibility and planning studies for these proposed interventions.

The Committee will select four proposed initiatives for pilot environmental services market projects to improve environmental services provision. The PCU will contract pilot project implementation from local organizations and will monitor and document the experience to identify good practice in environmental services market and policy development.

The project will finance technical assistance for feasibility and planning studies and for implementation of pilot projects; operating costs for pilot project implementation; and costs of a final workshop and publication of workshop proceedings and good practice recommendations.

Project Component 4 - US$3.09 million

Project Management

The Project Management Component will finance costs of project management and development of strategies for sustainable support for conservation and efficient use of natural resources. This component will finance: (i) project administration and planning and (ii) program monitoring and evaluation.

Subcomponent 4.a: Project Administration (Total: $2.03 million; IBRD: $1.20 million; GEF $0.23 million; National/Local: $0.60 million)

This component will finance the Project Coordination Unit (PCU) to be established under MAGA. The PCU will have overall responsibility for project administration, coordination between MAGA and other relevant government institutions (INAB, CONAP, CONAMA, SEMARN), procurement and disbursement, and meeting the Project's reporting requirements to the World Bank. A small office consisting of approximately nine professionals, including: Project Manager, Budget and Finance Officer, Procurement Specialist, Social and Indigenous Specialist, Gender Specialist, Monitoring and Evaluation Specialist, and Component Coordinators for Sustainable Livelihood, Biodiversity Conservation, and Environmental Services Markets, along with eight support staff.

Financing will be provided through this component for the meetings of the Regional Steering Committee, PCU

salaries, operating costs, vehicles and equipment, training, technical assistance, office rental and supplies; and training, equipment, and incremental operating costs for component-coordinating agency offices (MAGA, CONAP, INAB), annual independent financial and technical audits, studies and technical assistance required for project administration, and for internal evaluation missions for mid-term and final reviews.

Subcomponent 4.b: Program Monitoring and Evaluation (Total: $1.06 million; IBRD: $0.73 million; GEF $0.17 million; National/Local: $0.16 million)

The Monitoring and Evaluation (M&E) Unit in the PCU will be responsible for supervising M&E work within each of the component activities, consolidating information for project reports, and arranging special impact and evaluation studies. Project M&E activities will include: a Project Management Information System maintained by the PCU; special studies on program impact and operations; and program reviews to assess operations, procedures, and functioning of the PCU.

The project will finance salaries, operating costs, equipment and vehicles, and training for the M&E Unit; technical assistance for special studies; and technical assistance for Annual and Mid-Term Reviews and a Project Completion Report.

Annex 2a: Subproject Grants Description
Preliminary Eligibility and Financing Criteria and Indicative Subprojects

The eligibility and financing criteria described here are preliminary. Based upon experience with similar programs and projects, it is expected that these financing criteria will change and evolve over the life of the project and in response to emerging opportunities. Once the project is operational and the Subproject Grants Technical Unit (GTU) is in place, the (draft) Subprojects Operational Manual will be reviewed, amplified and finalized. The Subprojects Operational Manual will describe the operational procedures for the identification, preparation, evaluation, approval, financing, monitoring, auditing and evaluation of subprojects, including: (i) the criteria for selecting and approving eligible beneficiaries and eligible subprojects, respectively; (ii) financing criteria; (iii) implementation arrangements and responsibilities and functions of regional GOG agency staff, PCU and the GTU; (iv) a model format for a Subproject Grant Agreement and a Municipal Grant Agreement; v) description of the responsibilities of the different participants in the implementation of the subproject grants; (vi) accounting, reporting and auditing procedures to be followed by the PCU, GTU, and subproject participants in carrying out their respective parts of the subproject grants; (vii) guidelines for the evaluation of the activities to be carried out under the subproject grants and for approval and awarding of subproject grants; (viii) guidelines and procedures for procurement of works, goods, consultant services and training; (ix) subproject grants monitoring and evaluation plan; (x) the plans for actions to promote the participation of local groups, rural communities, municipalities, private entities and NGOs in the Subproject Grants Program; and (xi) the plan of actions to protect the environment, and/or mitigate any potential negative environmental effect, under the subproject grants. The manual may be amended from time to time with the agreement of the Bank.

Geographic priorities and eligible project areas. Criteria utilized to select priority areas within the Altiplano included: (i) presence of forest (total area and percent of watershed); (ii) presence of habitat or ecosystems critical for biodiversity conservation (total area and percent of watershed in the SIGAP, actual and proposed; importance for biological corridors; etc. [see also Annex 19]); (iii) poverty targeting (Peace Accords, Index of Unsatisfied Basic Needs ["DBI" or "*Demanda Basica Insatisfecha"]*); (iv) absence of other, significant programs or projects (actual or planned) with similar objectives; and (v) operational criteria designed to avoid dispersion of efforts.

The following eleven priority watersheds were identified in the Western Altiplano for project intervention. They represent the watersheds of the following rivers: Nacapoxlac, Nentón, Azul, Ixcan, Xacbal, Selegua, Cuilco, Suchiate, Coatán; a portion of the upper Naranjo and a small portion of the upper, western Chixoy. Subsequently, all municipalities with significant land area within these watershed areas (a total of 40) were identified as priority target area. Table 1, below, contains the list of eligible project municipalities and the grant ceilings (based on population) preliminarily assigned.

Table 1. Eligible Project Municipalities & Preliminary Subproject Grant Ceilings

Municipality	Population (est.)	No. Aldeas/ Poblados	DBI /[1]	Watershed	Preliminary Subproject Grant Ceiling ($15.72/capita)
Department: El Quiche					
Chajul*	37,217	36	146.7	Xacbal, Chixoy	$ 585,010
Ixcan*	62,571	131	ND	Xacbal, Chixoy	$ 983,547
Nebaj*	51,413	84	133.7	Xacbal, Chixoy	$ 808,155
Department: Huehuetenango					
Santa Ana Huista	5,867	19	ND	Nentsn, Azul, Selegua	$ 92,223
San Rafael Petzal	6,671	11	118.3	Selegua	$ 104,861
Santiago Chimaltenango	7,490	15	137.8	Selegua	$ 117,734
San Antonio Huista	12,782	20	114.6	Azul, Selegua	$ 200,919
San Rafael la Independencia*	12,928	24	127.3	Ixcan, Azul	$ 203,214
Malacatancito	15,004	56	221.5	Selegua, Cuilco, Chixoy	$ 235,846
San Juan Atitan*	16,552	31	168.4	Selegua	$ 260,179
San Sebastian Coatan	18,410	78	181.9	Ixcan, Nentsn, Azul	$ 289,385
Santa Barbara	19,525	41	259.5	Selegua, Cuilco	$ 306,911
San Juan Ixcoy*	20,737	48	208.4	Ixcan	$ 325,963
Concepcisn Huista*	21,713	24	136.8	Azul, Selegua	$ 341,304
San Sebastian Huehuetenango*	22,817	35	219.0	Selegua, Chixoy	$ 358,658
San Miguel Acatan*	23,500	65	203.1	Nentsn, Azul	$ 369,394
Nentsn*	24,466	60	155.4	Nacapoxlac, Nentsn	$ 384,578
Santa Eulalia*	26,390	71	173.9	Ixcan	$ 414,822
Colotenango	27,095	21	170.3	Selegua	$ 425,903
La Libertad*	27,525	71	178.1	Selegua	$ 432,662
Todos Santos Cuchumatan*	28,578	77	146.2	Ixcan, Azul, Selegua, Chixoy	$ 449,214
San Pedro Necta	29,235	53	160.0	Selegua	$ 459,542
San Idelfonso Ixtahuacan	29,630	48	205.0	Selegua, Cuilco	$ 465,751
San Mateo Ixtatan*	31,411	83	188.0	Ixcan, Nacapoxlac	$ 493,746
San Pedro Soloma*	35,590	72	142.4	Ixcan	$ 559,435
Jacaltenango	37,418	30	118.7	Nentsn, Azul	$ 588,169
La Democracia	44,976	73	130.6	Selegua	$ 706,973

Cuilco*	50,958	112	145.1	Selegua, Cuilco	$ 801,003
Santa Cruz Barillas*	58,559	202	ND	Xacbal, Nacapoxlac	$ 920,483
Chiantla*	73,927	123	161.6	Ixcan, Selegua, Chixoy	$1,162,051
Huehuetenango	88,371	53	ND	Selegua, Chixoy	$1,389,094
Department: San Marcos					
San Lorenzo	11,400	15	86.3	Cuilco, Naranjo	$ 179,195
San Rafael Pie de la Cuesta	13,735	49	61.7	Suchiate	$ 215,899
El Rodeo	15,005	68	ND	Suchiate, Naranjo	$ 235,862
Sibinal*	19,974	37	127.0	Coatan, Suchiate	$ 313,969
Ixchiguan*	20,482	38	128.3	Cuilco, Suchiate	$ 321,954
San Pablo	34,799	94	ND	Suchiate	$ 547,002
San Marcos*	36,175	38	ND	Cuilco, Suchiate, Naranjo	$ 568,631
Tajumulco*	41,974	113	176.8	Suchiate	$ 659,785
Malacatan	66,593	110	ND	Suchiate	$1,046,768
40 Municipalities	**1,229,463**	**2,429**	**Median : 149**	**11 Watersheds**	**$19,325,796**

/ - "Demanda Básica Insatisfecha" (Unsatisfied Basic Needs) is an indicator based on percent of population with access to the following three services: sanitation, potable water, and electricity. A figure of "300" would signify that 100% of the population lacks access to these 3 services; a figure of "0" would signify that none of the population lacked access to these services. The range for the 132 municipalities in the Western Altiplano is 10.7 in San Mateo, Quetzaltenango to 282.3 in San Gaspar Ixil, Huehuetenango with a median value (for which data exists) of 145.

* - Indicates the 22 (out of 32) municipalities prioritized by the TNC study as being of particular importance for conservation of global biodiversity and which will be eligible for the conservation subprojects.

Indicative Subprojects and Eligible Beneficiaries. Grants would be made available to eligible beneficiaries in order to finance subprojects of the following three types: (i) Sustainable Production Subprojects; ii) Sustainable Resource Management Subprojects, and (iii) Conservation Subprojects. Table 2 (below) lists eligible beneficiaries and characterizes the expected types of subprojects to be financed through Subproject Grants.

Table 2. Indicative Subprojects

Subproject Type	Objectives	Indicative Subprojects	Eligible Beneficiaries

Sustainable Production	● Increase income ● Improve management & production practices ● Mitigate/ avoid negative environmental impacts ● Increase contribution of productive landscapes to biodiversity conservation.	● Conversion of conventional to organic coffee production ● Small-scale irrigation ● Environmental management of irrigated production systems ● Family greenhouses for diversification of production ● Modern forest nurseries with non-contaminating practices ● Commercial reforestation ● Production of certified seed ● Para-veterinary services ● Marketing and commercialization services ● Human resources development in micro-enterprise administration, management, and technical skills ● Small-scale organic or other certified coffee processing facilities ● Small-scale meat, dairy, fruit or vegetable processing ● Small-scale produce collection, preparation, marketing centers ● Small-scale storage facilities for gains, tubers, and seeds ● Artesanal production of metal silos for crop storage ● Small-scale woodworking and furniture shops ● Artesanal production of handicrafts, textiles, household items and processed foodstuffs	● Informal groups: grassroots & traditional organizations, resource users, producers, communities, local pro-development & communal forest management committes, etc. ● Formal groups: cooperatives, associations, producer groups, etc.
Sustainable Resource Managment	● Improve natural resources management ● Reduce pressure on natural resources base ● Increase direct/indirect household or local benefits.	● Soil and water conservation in hillslope cropping systems ● Gully control ● Community-based ecotourism development ● Management and processing of medicinal plants ● Forest beekeeping: small-scale honey bottling/beeswax processing ● Small-scale dry coffee processing facilities ● Hillside production system diversification/intensification ● Management of natural regeneration and secondary forests ● Low impact forest management for timber/non-timber products ● Multiple-use forest management for environmental services ● Participatory reforestation of communal lands ● Small-scale forest tree seed production/ commercialization ● Production of pinabete for ornamental and ceremonial use ● Solid waste management (recycling, composting, dump siting/management, etc.) ● Management of human wastes ● Stabled livestock and organic fertilizer production ● Semi-stabled sheep in mixed production systems ● Checkdams for multiple-use ● Waterharvesting for household and livestock consumption ● Marketing and commercialization ● Human resources development in grassroots organizations ● Promotion of community-level environmental awareness	● Associations of small-scale, non-farm enterprises ● Associations of small-scale, secondary or tertiary processors of forestry or farm product ● Municipal governments ● Municipal development associations & traditional organizations
Conservation	● Conserve and protect biodiversity values.	● Protection of groundwater and aquifer recharge zones ● Forest protection (esp. forest fire control) ● Small-scale conservation-related infrastructure ● Human resources development for biodiversity conservation and/or protected areas management ● Conservation & management of protected areas by communities, municipalities & other non-government actors ● Delimitation and demarcation of protected areas ● Protected areas feasibility and management planning studies	● Regional farmer & small enterprise associations (e.g., potato and tree fruit growers)

General and Financial Subproject Criteria. Tables 3a. and 3b (below) present preliminary financing criteria.

N.B., there may be occasions when individual property owners would be eligible for grant financing, such as when an individual invests in improving a major public good (e.g., by fencing off a watercourse to prevent cattle from polluting it; isolating a natural forest area to improve protection of environmental services; etc.)

Table 3a. Indicative Criteria For Subproject Financing

General Criteria:

- In pre-defined eligible areas
- Maximum three year execution period
- Involving stakeholders with demonstrated interest and significant prior experience, or where significant prior experience is not a constraint given adequate technical assistance
- Demand-driven by beneficiary groups and acceptable to local stakeholders
- Would not be better served by financing from another available source
- Is technically, institutionally, and socially feasible and sustainable under local conditions
- Includes the necessary training and technical assistance to allow successful implementation and sustainability
- No-objection from municipal-level body (instancia local) representing key stakeholders designated to prioritize and select subprojects to receive financing.

Technical Criteria:

- Potential for programmatic replication on scales significant to community, municipal, departmental or regional economy
- Responds to key constraints recognized as both relevant and priority by concerned stakeholder groups
- Financially sustainable, with the exception of subprojects for: conservation and protection of biodiversity values, technology introduction and verification, training and capacity building, or others where environmental and/or social externalities so justify
- Existence of capacity to execute the proposal
- Clearly identifies beneficiaries and mechanisms of participation for identification, design, and execution.
- Includes no significant environmental risk

Equity Criteria:

- A minimum of 60% of total financing directed to smallholder households (holdings <1 ha)
- A minimum of 30% of direct beneficiaries women
- Priority to be given to eligible projects benefiting female-headed households, existing traditional community organizations, and households classified as "subsistence" or "infrasubsistence" by MAGA criteria

General Financing Criteria:

- Cost-effectiveness as measured by percentage of total participant co-financing
- Financing ceiling: $250,000 total cost (including beneficiary co-financing); exceptions with IBRD approval
- Grant financing ceilings:
  - Sustainable Production: 60% total subproject cost; maximum 35%, fixed and working capital
  - Sustainable Resource Management: 80% total subproject cost; maximum 50%, fixed and working capital
  - Conservation: 90% total subproject cost
- GEF co-financing of Production and Resource Management subprojects:
  - Sustainable Production: 80% of investment costs of incremental activities that directly increase the contribution of the productive landscapes for biodiversity conservation
  - Sustainable Resource Management: 90% of investments costs of incremental activities that directly protect specific areas that still retain biodiversity values
- Per beneficiary grant financing ceiling: $3,500 over the life of the project

Restrictions on Fund Use

Funds <u>may not</u> be used for:

- Practices or activities which promote resource degradation or contamination
- Subprojects whose results would create conditions which further marginalize or overburden any component of the family or social group
- Payment of taxes (direct or indirect)
- Rental or purchase of lands, or titling
- Payment of debts, dividends or for capital recovery
- Purchase of stocks, bonds or other investment instruments
- Consumer goods
- Activities which are inappropriate to the experience level of the client without adequate technical assistance
- Religious or political activities of any kind
- Any illicit or immoral activities
- Purchase of vehicles without prior no-objection from IBRD
- Payment of salaries of staff of government or publicly-financed institutions
- Activities in areas subject to land tenure or property rights conflicts (Note, that in cases of minor conflicts, the project would would promote the use of local forums for conflict , while in the case of more serious conflicts, the group proposing the activity would be refered to CONTIERRA.)

Annex 3: Estimated Project Costs

GUATEMALA: WESTERN ALTIPLANO NATURAL RESOURCES MANAGEMENT PROJECT

Project Cost By Component	Local US $million	Foreign US $million	Total US $million
Sustainable Livelihood Development	32.88	5.18	38.06
Biodiversity Conservation	4.14	1.25	5.39
Environmental Services Policy Development	0.66	0.60	1.26
Project Administration	1.97	0.92	2.89
Total Baseline Cost	39.65	7.95	47.60
Physical Contingencies	0.09	0.11	0.20
Price Contingencies	2.55	0.49	3.04
Total Project Costs	42.29	8.55	50.84
Front-end fee		0.30	0.30
Total Financing Required	42.29	8.85	51.14

Project Cost By Category	Local US $million	Foreign US $million	Total US $million
Goods	0.37	0.85	1.22
Technical Assistance	5.23	7.96	13.19
Training	0.57	0.57	1.14
Service Contracts	0.93	0.93	1.86
Grants	25.10	0.00	25.10
Operating costs	3.94	1.16	5.10
Physical Contingencies	0.09	0.11	0.20
Price Contingencies	2.54	0.49	3.03
Total Project Costs	38.77	12.07	50.84
Front-end fee		0.30	0.30
Total Financing Required	38.77	12.37	51.14

[1] Identifiable taxes and duties are 5.05 (US$m) and the total project cost, net of taxes, is 38.09 (US$m). Therefore, the project cost sharing ratio is 79.73% of total project cost net of taxes.

Annex 4

GUATEMALA: WESTERN ALTIPLANO NATURAL RESOURCES MANAGEMENT PROJECT

Economic Analysis

Summary of benefits and costs:

The Project would integrate activities for natural resources conservation, sustainable productivity, and improved rural livelihoods to enhance value of the natural resource base of the Western Altiplano according to the strategy outlined in Table 4.a.

Table 4.a: Project Strategy to Enhance Value of Environmental Resources

Source of Value	Example of Value	Project Strategy to Enhance Value
Value from Use	Direct	Agricultural production, timber, recreation, tourism, etc. Component 1: Investment in increasing productivity and efficiency in use of resources
	Indirect	Watershed protection, natural beauty, carbon sequestration, etc. Component 3: Development of environmental services markets
Value from Preservation	Existence	Biodiversity, religion and culture, inheritance, science and learning, aesthetics, etc. Component 2: Conservation of protected areas
	Options	Possible future uses: Component 1 & 2: Investment in natural resource conservation and environmental education

Benefits from the Project would include:

- Social capital built in local organizations, decentralized government units, and new institutional arrangements: This social capital is essential to future social and economic development of the area.
- Productivity increases from sustainable agricultural, forestry, off-farm, and tourism enterprises made possible by Project investments: These productivity increases and the sustainable employment generated by the Project are important parts of national strategy to reduce the high poverty levels of the area.

- Conservation of natural resources and biodiversity: Natural resources of the area provide both essential local environmental services and globally important biodiversity. Environmental services market and policy development would establish a basis for future supply of essential environmental services.
- Development and demonstration of a viable strategy and institutional arrangement for government financing of rural development: The mechanisms being developed by the Project would serve as a basis for wider national investments in sustainable management and use of natural resources.
- Contribution to implementation of the Peace Accords, national integration and avoidance of future civil strife: Rural developments in the area are a government commitment and are essential to overcoming the distrust and disruption of past civil war.

Not all of these benefits lend themselves to estimation in quantitative terms, and fewer to evaluation in monetary terms. Furthermore, given the wide range and diverse nature of the benefits that are expected to be generated by the project, aggregation into single measures of project worth is particularly problematic in methodological terms, with results probably difficult to interpret.

For these reasons, the economic and financial analysis illustrated in this annex focuses on project activities that are amenable to reasonable estimation and aggregation of expected benefits: i.e., the sub-project grants in the productive and natural resource management categories, which amount to about 50% of the entire project budget, and to about 62% of IBRD financing. For other project activities, this annex discusses criteria to compare project costs to suitable benchmarks in terms of effectiveness or cost norms.

A. Economic and financial analysis of the productive and natural resource management sub-projects

[Important note: the analysis is based on a preliminary consultant report. Assumptions used and conclusions reached in the report will have to be re-examined during appraisal, and the economic and financial analysis amended accordingly as needed.

In addition, the final financial and economic analysis will include more detailed information on benefits indicators (such as incremental returns to labor) and sensitivity analysis (including switching values for relevant inputs and outputs categories) that was not possible to obtain on the basis of the preliminary consultants' report].

Project preparation studies have identified and analyzed 19 agricultural and 17 small industry innovations and technologies (all existing) as models of the type of interventions with potential to increase productivity and incomes in the area that the grants program would finance (CODERSA, 2000b; CODERSA, 2000c). Innovations included: organic manures, apiculture, medicinal plants, IPM, irrigation, fruit production, post-harvest storage improvements, and organic coffee production. A study of agricultural market systems in the area identified 71 possible activities that would improve market efficiency and producer incomes (CODERSA, 2000e); a study of farming systems prevailing in the region identified investment opportunities relevant to different classes of farmers: sub-subsistence, subsistence, and surplus producers (CODERSA, 2000f). Analysis of 27 successful agricultural projects demonstrated potential for increasing productivity and income while conserving natural resources and maintaining sustainability of production systems (CODERSA, 2000d). These successes included: organic coffee, cardamom, and vegetable production; integrated sheep-basic food production systems; potato production; and medicinal plants.

Based on this information and data, a number of farm models were developed (CODERSA, 2000g) to evaluate the economic and financial viability of a group of different types of sub-projects that may be submitted for financing under sub-component 1b, in accordance with the eligibility criteria included in the operational manual and referred to in the project description annex.

These models compare cost and benefits under a "with" sub-project scenario, and under a "without" scenario, representing the pattern of productive activities likely to prevail in the project area in the absence of the sub-project.

The models analyzed include a mix of production and natural resource management sub-projects in accordance with the typology introduced in Annex 2, and cover a broad range of income generating activities suited to the various combinations of conditions present in the Altiplano, including agro-ecological zones, levels of organization, degree of access to markets. The models reflect actual experiences and practices of sustainable productive practices being experimented with by development organizations operating in the Altiplano. Key summary information on the economic analysis of the model is summarized in table 4b below.

Table 4b - Sample of productive and NRM sub-projects

Sub-Project	Total Sub-project Cost (US$)	Total Sub-project Cost including administration (US$)	Size of production unit (Has)	Number of families benefitted by the project	Beneficiaries co-financing	Economic Assessment (without grant financing)		Financial Assessmer (with grant financing	
						NPV (US$)	Benefit-Cost ratio	NPV (US$)	Benefit-Cost ratio
Organic Manures	38,900	43,763	1.5	25	40%	90,339	1.89	168,950	2.93
Sheep and Vegetables	47,059	52,941	1.4	20	20%	2,333	1.03	87,253	2.10
Apiculture	130,540	146,858	3.5	20	20%	-10,220	0.97	308,032	1.94
Maize and medicinal plants	14,025	15,778	1	25	40%	8,307	1.25	41,029	2.48
Family water tanks	28,208	31,734		25	40%	31,300	2.26		
Organic vegetables	320,700	360,788	1	25	40%	28,857	1.07	825,951	3.98
Organic coffee	656,245	738,276	1.5	150	40%	-117,357	0.27	232,609	3.30
Family greenhouses	147,425	165,853	1	25	40%	481,885	2.05	800,671	2.98
Agroforestry	122,420	137,723	2	25	40%	-13,728	0.22	44,512	6.88

The table summarizes estimates of the sub-projects viability, both from the beneficiary point of view (i.e. the financial assessment including grant financing at the applicable percentage), and from the stand point of the project as a whole.

From the beneficiary point of view, the sub-projects, at the indicated co-financing ratios, are very attractive, with benefit cost ratios all exceeding 2 (a reasonable threshold to induce adoption).

From the economic stand point, the majority of the models feature a benefit cost ratio comprised between 1 and 2; two models have a ratio exceeding 2; in three cases the benefit-cost ratio is less than one, quite possibly reflecting the fact the analysis undertaken at pre-appraisal stage does not yet include the positive environmental externalities of some of these sub-projects (for example, soil conservation, watershed protection). As part of the appraisal process, sub-projects that are likely to entail significant (and quantifiable) environmental externalities will be re-assessed to ensure that to the extent possible relevant social benefits are included in the economic analysis.

Excluding sub-projects for which, based on information available at pre-appraisal stage, the benefit cost ratio is less than one, the Net Present Value (NPV) evaluated at a 12% discount rate ranges between $4,000 and $0.6 million, or, in per family terms, between $560 and $21,500.

Estimating aggregate measures of value for this sub-component faces the problem that the number of sub-projects demanded for each sub-type is unknown ex-ante. The actual allocation of beneficiaries' demand across the different sub-project types is likely to be determined during implementation by a variety a factors, such as relatively profitability, agro-ecological suitability to each specific location, degree of technical complexity of sub-project preparation, co-financing requirements, etc. All these factors make ex-ante aggregation of the individual sub-projects' measure of worth problematic and heavily dependent on assumptions on likely beneficiaries' response to the project.

To provide indicative benchmarks, a range of NPV was calculated, in the two extreme cases in which the entire demand concentrates in sub-projects with the lowest, and highest individual NPV, respectively. Taking into account the sub-projects' cost and therefore the maximum number of sub-project that could be financed for the given sub-component budget, the aggregate NPV would be in the range of $ 0.8 million – $55 million; NPV per family would correspondingly be in the range of $ 120 to $20,000, and the number of family benefited would be in the range of 1,300 to 29,000. The number of sub-projects that could be financed varies between 25 and 1,190. For costing purposes, it has been assumed that some 500 projects worth an average of $37,600 each will be financed.

B. Other project activities

- Conservation sub-projects: Conservation projects could be subjected to a variety of analyses, though cost efficiency may be the most appropriate. Benefits accrue from increased productivity in the near term, environmental services for which markets are yet ill-developed, potential future use and production that is difficult to value or project, and maintenance of current system productivity.

  Assuming that the demand for conservation activities will correspond to 25% of MIR resources, the cost of conservation sub-projects would be $ 6.28 million. Assuming an average cost for conservation projects of $25,000, and an average sub-project area of 100 ha., some 250 conservation projects could be financed over an area of about 25,000 ha. The resulting cost of $ 250 per ha. would appear reasonable as compared to: PINFOR reforestation payments of $1,600/ha. over five years for reforestation; $ 573/ha.for PINFOR/PRODEFOR reforestation over five years; or $20 to 46 per ha for INAB incentives for sound forest management (Martinez and others 1999).

- Institutional strengthening (sub-component 1a): the project would fund a number of activities aimed at strengthening local institutions and organizations in their capacity to plan and undertake natural resource management activities. A total of $4 million (of which about $3 million from IBRD) would be made

available for this sub-component. Given the demand-driven nature of the fund allocation, it is not possible to know in advance how many and which municipalities would be benefited. However, assuming distribution of resources proportional to the population of the 40 municipalities included in the project area, this sub-component would provide an average of $0.6 per capita per annum. In 1998, the weighted average of fiscal transfers to municipalities in the three departments of El Quiché, Huehuetenango and San Marcos was $ 20 per capita, so that the project would add a modest 3% on average to the municipalities' current transfer absorption levels.

- Biodiversity Conservation Component: The Biodiversity Conservation Component includes a host of activities of diverse nature (community level planing, institutional strengthening, studies, communication and outreach, biodiversity monitoring and evaluation). The benefits of the component's outputs are characterized by widespread local, national and global externalities and hence do not lend themselves readily to monetary quantification.

  For this reason, a cost efficiency analysis at the level of expected outcome would be appropriate. Total component cost is $5.82 million; the expected outcome is improved protected area management and biodiversity conservation over an area of 1,750 Km2. This gives a cost per square kilometer of some $3,300, or $660 per annum. This cost compares reasonably well with typical costs of biodiversity conservation in the LAC region: according to a recent review (Castro and Locker, 2000), biodiversity funding per square Km in the region (in the period 1990-1997) can be clustered in five broad ranges, comprised between a a "low" $0 - $30 (or $0 - $ 4.2 per annum) range prevailing in countries such as Chile and Argentina, and a "high" range of $210 to $12,000 (or $30 to $1,700 per annum) observed in Colombia, Ecuador, and much of Central America. The proposed project would then be in the middle of the "high" range, which is not surprising for a country like Guatemala, where a combination of high biodiversity priorities, and of complex social, economic and institutional threats to biodiversity are likely to make costs of protection high in regional comparative terms.

Annex 5: Financial Summary

GUATEMALA: WESTERN ALTIPLANO NATURAL RESOURCES MANAGEMENT PROJECT

Years Ending December 31

	IMPLEMENTATION PERIOD						
	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7
Total Financing Required							
Project Costs							
Investment Costs	4.7	9.6	11.8	12.5	10.7	0.0	0.0
Recurrent Costs	0.1	0.2	0.4	0.4	0.4	0.0	0.0
Total Project Costs	4.8	9.8	12.2	12.9	11.1	0.0	0.0
Front-end fee	0.3	0.0	0.0	0.0	0.0	0.0	0.0
Total Financing	5.1	9.8	12.2	12.9	11.1	0.0	0.0
Financing							
IBRD/IDA	4.3	6.5	6.6	6.5	6.5	0.0	0.0
Government	0.4	1.3	1.6	1.6	1.3	0.0	0.0
Central	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Provincial	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Co-financiers(GEF)	0.3	1.3	2.1	2.5	1.8	0.0	0.0
Beneficiaries	0.1	0.7	1.9	2.3	1.5	0.0	0.0
Others	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Project Financing	5.1	9.8	12.2	12.9	11.1	0.0	0.0

Main assumptions:

This Financial Summary assumes that the World Bank will finance from its own resources the 1% Front End Fee (US$0.3 million) in the first year of project effectiveness, which will be confirmed at project appraisal.

Annex 6: Procurement and Disbursement Arrangements

GUATEMALA: WESTERN ALTIPLANO NATURAL RESOURCES MANAGEMENT PROJECT

Procurement

Procurement of goods and works financed by the Bank under the Project would be carried out in accordance with the Bank's *Guidelines: Procurement under IBRD Loans and IDA Credits*, published in January 1995 (revised January/August 1996, September 1997 and January 1999). Consultant services would be procured in accordance with the *Guidelines: Selection and Employment of Consultants by World Bank Borrowers* published in January 1997 (revised in September 1997 and January 1999), and the provisions stipulated in the Loan Agreement.

Assessment of agency's capacity to implement procurement

During the pre-appraisal mission, an assessment of the capacity of MAGA to implement Bank-approved procurement was initiated and will be finalized at appraisal. The draft procurement plan, which also proposes specific actions to be taken before effectiveness, will be presented by Government at appraisal. Both the draft andf the appraisal mission procurement assessment report will be sent to the Bank's Regional Procurement Advisors (RPA) office for comments upon return of the appraisal mission.

A project PCU will be established under MAGA. The PCU will be responsible for all project procurement. It has been agreed with the Government that a Procurement Officer with experience and qualifications acceptable to the Bank would be hired to be located within the PCU. He/she would be trained in Bank procurement procedures.

Procurement methods (Table A)

The methods described below and their estimated amounts, are summarized in Table A. The threshold contract values for the use of each method are fixed in Table B.

Procurement of Goods. Goods to be procured under the proposed project would include vehicles, motorcycles, boats, computers and associated equipment, office furniture and miscellaneous equipment. A preliminary estimate of goods for the project are estimated to cost about US$0.70 million equivalent. Therefore, no ICB is expected. To the extent possible, goods would be procured in packages of at least US$25,000 that can be procured following NCB procedures. Contracts estimated to cost less than US$25,000 equivalent may be procured using shopping procedures acceptable to the Bank, with comparison of written quotations from at least three eligible suppliers.

Other Contracted Services. Other contracted services would include major contracts for biodiversity conservation promotion and other assistance totaling US$1.66 million equivalent and would be procured using NCB procedures. No ICB is expected. For contracts estimated to cost below US$350,000 shopping procedures will be followed up to an aggregate amount of US$420,000.

Selection of Consultant Services and Training. Consultant Services are estimated to cost about US$14.46 million equivalent and would include technical assistance, seminars, workshops, training, and studies. Terms of reference for technical assistance proposed for the first year's operation would be prepared by the Project Preparation Unit (PPU) and presented for review at negotiations. Technical assistance is estimated to cost about US$12.66 million equivalent and would include, inter-alia, consultants to assist the Borrower and stakeholders in: i) strengthening local capacity in sustainable livelihood development, ii) developing long term biodiversity management plans, iii) developing a national environmental services policy; iv) technical management of the Subproject Grants Program; and (v) fund administration. Training for the project is

estimated to cost about US$ 0.48 million and would consist of seminars, workshops and in-service training designed to strengthen institutional capacity and community capacity to self-manage natural resources. The project includes studies to be carried out which are estimated at about US$1.32 million equivalent. These studies would include environmental impact assessments, research studies, planning and feasibility studies for environmental services pilot projects, and a management information study for project monitoring and evaluation. Consulting firms will be selected using QCBS procedures with the exception of the Trust Account Administrator (TAA). The TAA, which will administer project funds, would be selected using QBS as entities likely to participate would include UNDP.

Community Subprojects. Community subprojects are grants to finance subprojects for sustainable production and natural resource conservation and are estimated to cost US$25.1 million equivalent including beneficiary contributions**.** There will be three types of subprojects eligible for grant financing, including: 1) Sustainable Production Subprojects that increase production and income without harming natural resources (e.g., greenhouses, low-impact product processing facilities, and commercial reforestation); 2) Sustainable Resource Management Subprojects for improving management of natural resources (e.g., soil conservation in hillside cropping systems, livestock stables for organic fertilizer production, and waste managment), and 3) Conservation subprojects that encourage environmental conservation in and around protected areas and communally mangaged lands. At this time individual subprojects cannot be predefined, though model subprojects have been developed and analyzed based on existing small projects and estimates of demand.

Subproject grants would consist of technical assistance, training, services, studies, limited goods and equipment; small works and infrastructure, and limited fixed and working capital investments. It is expected that each subproject would consist of a combination of goods, works and services. The contracts for these goods, works and services are expected to be very small, as the average of individual grants will be approximately US$39,000, including beneficiary contributions. Grants-financed procurement of goods, works and services would thus follow community-based procurement procedures and use the sample contracts that will be described in the Subproject Operations Manual to be finalized as a condition to Project Effectiveness.

The subprojects Grant Technical Unit (GTU) will put together and maintain a roster of service providers which would include local NGOs, more advanced communities, private firms and individual consultants from which technical assistance would be contracted. The roster would be updated and published bi-annually by the PCU; the Subproject Operations Manual will also contain specific directives to guide the communities in the selection of consultants. The GTU will be selected on a competitive basis to administer the community subprojects component.

No prior review of Grant contracts under US$ 25,000 would be required. Rather, eligibility for IBRD and GEF financing would be determined on the basis of ex-post review. Larger subproject grants for more comprehensive technical assistance, i.e. land use or potential, production marketing and distribution, etc. would be eligible for grant financing but procurement would be carried out by the PCU in accordance with Bank procedures established in Tables A and B of this Annex.

Project Funds Administration. A Trust Account Administrator (TAA) would be contracted competitively to adminster project funds. Entities in Guatemala, acceptable to the World Bank, will be selected from a short-list with a minimum of three qualified fund adminstrators. Potential entities would include UNDP, IICA, and private banks (such as BANCAFE). *The World Bank is currently reviewing the capacity of private banks to carry provide such assistance to World Bank-financed projects; the results of the review would be used to develop the short-list.*

Operating Costs. Project incremental recurrent expenses are estimated at US$1.72 million and would be financed by the Bank on a gradually declining basis over the life of the project. Recurrent costs to be financed include salaries of project and administrative staff, rental of facilities, vehicle operational costs, communication expenses related to project implementation, maintenance of procured goods, office supplies

and utilities.

No civil works are expected under the project except for the community subprojects.

Procurement Plan. MAGA has been required to prepare a detailed procurement plan that will be discussed and reviewed by the Bank by appraisal. Annual procurement plans will also be submitted as part of the Annual Operating Plan.

Table A: Project Costs by Procurement Arrangements
(US$ million equivalent)

Expenditure Category	Procurement Method[1]				Total Cost
	ICB	NCB	Other[2]	N.B.F.	
1. Works	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)
2. Goods	0.00 (0.00)	1.04 (0.62)	0.41 (0.25)	0.00 (0.00)	1.45 (0.87)
3. Services Consultants and Training	0.00 (0.00)	0.00 (0.00)	14.93 (10.45)	0.00 (0.00)	14.93 (10.45)
4. Service Contracts	0.00 (0.00)	1.82 (1.16)	0.62 (0.39)	0.00 (0.00)	2.44 (1.55)
5. Front-end fee	0.00 (0.00)	0.00 (0.00)	0.30 (0.30)	0.00 (0.00)	0.30 (0.30)
6. Grants	0.00 (0.00)	0.00 (0.00)	15.46 (15.46)	11.14 (0.00)	26.60 (15.46)
7. Recurrent Costs	0.00 (0.00)	0.00 (0.00)	5.42 (1.74)	0.00 (0.00)	5.42 (1.74)
Total	0.00 (0.00)	2.86 (1.78)	37.14 (28.59)	11.14 (0.00)	51.14 (30.37)

[1/] Figures in parenthesis are the amounts to be financed by the Bank Loan/Grant. All costs include contingencies

[2/] Includes civil works and goods to be procured through national shopping, consulting services, services of contracted staff of the project management office, training, technical assistance services, and incremental operating costs related to (i) managing the project, and (ii) re-lending project funds to local government units.

Table A1: Consultant Selection Arrangements (optional)
(US$ million equivalent)

Consultant Services Expenditure Category	Selection Method							
	QCBS	QBS	SFB	LCS	CQ	Other	N.B.F.	Total Cost[1]
A. Firms	7.87 (6.67)	0.90 (0.77)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	8.77 (7.44)
B. Individuals	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	5.22 (3.22)	0.00 (0.00)	5.22 (3.22)
Total	7.87 (6.67)	0.90 (0.77)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	5.22 (3.22)	0.00 (0.00)	13.99 (10.66)

1\ Including contingencies

Note: QCBS = Quality- and Cost-Based Selection
QBS = Quality-based Selection
SFB = Selection under a Fixed Budget
LCS = Least-Cost Selection
CQ = Selection Based on Consultants' Qualifications
Other = Selection of individual consultants (per Section V of Consultants Guidelines), Commercial Practices, etc.

N.B.F. = Not Bank-financed
Figures in parenthesis are the amounts to be financed by the Bank Loan/Grant.

Prior review thresholds (Table B)

The prior review thresholds are summarized in Table B. **Prior review thresholds (Table B)** Bank's prior review would be required for a) all ICB; b) first two NCB contracts for goods and service contracts; c) first contract for goods and service contracts under shopping procedured; c) contracts with individuals consultants above $50,000, and for consultant firms above $100,000. The proposed thresholds for prior review are the standard thresholds used in Guatemala. In addition to the prior review of individual procurement actions, an Annual Operating Plan and budget would be reviewed and approved by the Bank.

Table B: Thresholds for Procurement Methods and Prior Review [1]

Expenditure Category	Contract Value Threshold US$	Procurement Method	Contracts Subject to Prior Review
1. Works			
2. Goods	> 150,000	ICB	All
	25,000-150,00	NCB	First two
	< 25,000	shopping	First one
3. Services-- Training, Studies and Technical Assistance	> 200,000	QCBS International Short List/ Expresstions of Interest	All
	> 100,000	QCBS	All
	< 100,000 for firms	CQ	Only TORs
	> 50,000 for individuals	IC	All
	< 50,000 for individuals	IC	Only TORs
4. Service Contracts	>1,500,000	ICB	All
	350,000-1,500,000	NCB	First two
	< 150,000	shopping	First one

Total value of contracts subject to prior review:

Overall Procurement Risk Assessment

High

Frequency of procurement supervision missions proposed: One every 6 months (includes special procurement supervision for post-review/audits)

All direct contracting (single source contracts) notwithstanding contract value subject to prior review (other than under community subproject grants). Modifications to all contracts as set forth in Appendix 1, Paragraph 3 of the Guidelines, notwithstanding the contract value. A systematic ex-post review would be carried out during the planned 2-3 annual project supervision missions resulting in Bank review of about 40 percent of all contracts. Confirmation would be sought on prior review arrangements at negotiations.

Procurement Audits. It has been agreed that periodic procurement audits would be carried out for subprojects. TORs will be reviewed and approved by the Bank at appraisal.

[1] Thresholds generally differ by country and project. Consult OD 11.04 "Review of Procurement Documentation" and contact the Regional Procurement Adviser for guidance.

Disbursement

Allocation of loan/grant proceeds (Table C)

The proceeds of the proposed loand would be disbursed over a five-year period. The loan is expected to become effective around January 15, 2002. It is estimated that the project would be completed by January 15, 2007 and the loan would be closed no later than July 15, 2007. An estimated delay of about six months has been assumed between contract signing and first disbursement from Bank funds. The annual estimated disbursements are indicated in a table on the first page of this Project Appraisal Document.

Table C: Allocation of Loan/Grant Proceeds

Expenditure Category	Amount in US$million	Financing Percentage
Goods	0.87	100% of foreign expenditures; 60% of local expenditures
Consulting Services and Training	10.45	100 %
Service Contracts	1.55	90 %
Community subprojects	15.46	100 % of MAGA's share
Operating Costs	1.74	100 % of eligible expenditures in Year 1; 75%-Year 2; 50%-Year 3; 25%-Year 4; 25%-Year 5
Total Project Costs	30.07	
Front-end fee	0.30	
Total	30.37	

Use of statements of expenditures (SOEs):

Special account:

A Special Account in US Dollars would be opened in the Banco de Guatemala, with an authorized allocation of US$ 6 million each, under the control of the PCU.

Disbursement Procedures

Disbursements for this Project would be aimed toward compliance with the principles and concepts of the Bank's Loan Administration Change Initiative (LACI). Under LACI, semi-annual planning projections would be the mechanism for making disbursement estimates and measuring project performance. Quarterly disbursements would be tied to financial statements, project progress reports, and procurement management reports. From the outset, the project would incorporate quarterly Project Management Reports (PMRs).

The Project would, by the time of Loan Negotiations, have in place the general ledger specific to the Project and in such detail that it would support the preparation of PMRs and complete the financial sections of the PCU Operational Manual. This system must have undergone an assessment by a Bank Financial Management Specialist as a condition to negotiations. Similarly the PCU would launch a training and action plan to develop the capacity to produce all components of the quarterly PMR, as required under LACI, as a condition to effectiveness.

Use of PMRs.

PMRs will serve as disbursement requests. Each application for withdrawal should separately identify the funds requested from the loan account, and would be supported by a PMR or such other documents and evidence as the Bank may request. PMRs shoud be submitted within 45 days from the preceeding quarter. Each of these reports would: (a) show actual sources and applications of funds for the Project, both cumulatively and for the period, and projected sources and applications of funds for the Project for the upcoming six-months; (b) list separately expenditures financed out of the credit during the period covered by the report and expenditures proposed to be financed during the upcoming six-month period; (c) describe physical implementation progress, both cumulatively and for the period covered, and explain variances between the actual and previously forecast implementation targets; and (d) set forth the status of procurement under the Project and expenditures under contracts financed from the credit for the period covered. Upon receipt of each appplication for withdrawal, the Bank, on behalf of the Borrower, shall withdraw from the loan account and deposit into the Special Account an amount equal to the lesser of: (a) the amount requested; (b) the amount the Bank has determined, based on the PMR accompanying the application, is required to be deposited in order to finance eligible expenditures during the six-month period following the date of the report, but in no case should exceed 20% of the total loan funds, without prior authorization from the Loan Department.

Retroactive Financing

An amount equal to US$ 250,000 of eligible expenditures made after January 1, 2001, may be financed retroactively from the project's Special Account. These funds would be used to accelerate project implementation by allowing a project manager and key project staff to be employed prior to project effectiveness and for limited first-year technical assistance and studies to be initiatied.

Auditing Arrangements.

Project accounts, including contracts and their modifications and amendments, as well as the deposits and withdrawals from the Special Account would be audited each year by an independent auditing firm acceptable to the Bank. A shortlist of audit firms would be prepared and reviewed by the Bank for its no-objection prior to contracting. Terms of reference (TORs) for such would be prepared and agreed upon in accordance with Bank model TORs, and would cover statements of income and expenses, all sources and uses of project funds and comparisons with the Bank's Project Appraisal Document, assets and liabilities, Special Account, internal control system, and conformity with the Bank's Loan Agreement. A multi-year contract would be sought to ensure continuity in the audit and financial control process and to avoid delays in the preparation and submission of audit reports to the Bank.

Audit reports would be submitted within six months following the end of the fiscal year. The costs of annual audits are incremental costs and would be included in project costs and Bank financing. The audit would include all project accounts including the Special Account and Statements of Expenditures. Auditing procedures would apply to the IBRD loan and to the GEF grant, as well as to government counterpart financing. The Bank's Financial Accounting and Reporting and Auditing Handbook (FARAH) published January, 1995 would be used by the auditors in accordance with current Bank guidelines. In addition to the annual financial statements conforming to International Standards on Auditing (IFAC Standards), the audit report would include comments on the accuracy and propriety of all expenditures. The audit report would evaluate the extent to which supporting information could be relied upon as a basis for requesting disbursements from the loan using PMRs. Audit reports, with the related statements, would be submitted to the Bank within six months of the end of the Borrower's fiscal year. All supporting records would be maintained at the project site for at least one year after the completion of the project for review by the Bank.

Flow of Funds

The PCU will contract a Trust Account Administrator (TAA) that will manage a loan account and will

facilitate the resources for the activities to be implemented under the annual operation plan. The TAA would open an account in a commercial bank found acceptable to the Bank (or, in the case of UNDP being selected, the fund flow would be through UNDP in New York). As a condition to effectiveness, the Government of Guatemala would deposit an initial amount equal to US$250,000 into this account. This amount is estimated to cover the entire project's expenditures for the first three-month period of operations. As expenditures increase, the amount in this account will need to be increased to meet rising project expenses.

Financial Management

A preliminary assessment of the procurement and financial management capacity of MAGA was carried out and the following actions were agreed to be taken by project appraisal:

1. Preparation of an Project Operations Manual specifying procedures and requirements on, among other areas, procurement of goods and selection of consultants, contract monitoring and controls, and accounting-financial procedures (draft for appraisal, finalized version by Effectiveness).

2. Preparation of the Subproject Operations Manual, detailing eligibility criteria, procurement procedures, administrative, financial management and accounting, monitoring and evaluation aspects related to Subproject Grants. In addition, standard documents such as sample contracts, shopping procedures, and templates for evaluation of proposals will be contained in the Manual. (draft for appraisal, finalized version by Effectiveness)

3. Identification of (long list) qualified Procurement and Financial Managers, with experience in procurement and contracting. TORs and (eventual) selection will be subject to prior review by the Bank. Selection by Project Effectiveness.

4. Procurement and Financial Management staff trained in workshops by the Bank. Workshop to be done at Project initiation.

5. Acquisition of appropriate software, as part of the financial management package, to report procurement operations for PMR-based disbursements. This aspect to be agreed in conjunction with financial capacity assessment of the MAGA.

Annex 7: Project Processing Schedule

GUATEMALA: WESTERN ALTIPLANO NATURAL RESOURCES MANAGEMENT PROJECT

Project Schedule	Planned	Actual
Time taken to prepare the project (months)	18	20
First Bank mission (identification)	06/01/99	06/01/99
Appraisal mission departure	01/22/2001	
Negotiations	02/20/2001	
Planned Date of Effectiveness	12/01/2001	

Prepared by:

Ministerio de Agricultura, Ganadería y Alimentación (MAGA), Consejo Nacional de Areas Protegidas (CONAP), Instituto Nacional de Bosques (INAB), Unidad de Preparación del Proyecto (UPP/MAGA).

Preparation assistance:

Ing. Eddy Díaz y Virginia Ortiz (UPP/MAGA); Carmen María López (UPP/CONAP); Gary Alex (Agr. Specialist); Rees Warne (Sociologist); Robert Etheredge (Financial Analyst); Jaime Carrera (RUTA); Beatriz Villeda (RUTA); Silvel Elias, Georg Gruenberg, Norman Schwartz (Social Assessment); Francisco Aguirre (Extension Specialist); Roberto Cabezas, Ronald Curtis (Policy Analysts); Otto Valle, Felix Alvarado (Institucional Analysts); Consultora para el Desarrollo Sostenible (CODERSA-Technical Project Analysis), Andreas Lehnhoff and Estuardo Secaira (TNC).

Bank staff who worked on the project included:

Name	Speciality
Phil Hazelton	Task Manager, LCSES
James Smyle	Forestry Specialist, LCSES
Reynaldo Pastor	Sr. Counsel, LEGOP
Raffaello Cervigini	Environmental Economist, LCSES
Douglas J. Graham	Biologist, LCSES
Juan Martinez	Sociologist, LCSES
Teresa Roncal	Procurement Analyst, LCSES
Lisa Taber	Operations Analyst, LCSER
Enzo de Laurentis	Sr. Procurement Specialist, LCSES
Anna Bran	Staff Assistant, LCSES
Manuel Vargas	Financial Management Specialist, LCOAA

Annex 8: Documents in the Project File*

GUATEMALA: WESTERN ALTIPLANO NATURAL RESOURCES MANAGEMENT PROJECT

A. Project Implementation Plan

The Project Implementation Plan (PIP) is currently under preparation by the borrower. Prior to appraisal it will be submitted to the Bank and will form the basis for Project appraisal. Once complete, copies of the PIP and the PAD will be made available to the Bank's InfoShop for public access.

B. Bank Staff Assessments

The Project has been assessed by other Bank staff in a manner of forms, including peer reviews prior to the PCD and PAD meetings. (June and December 2000, respectively). The peer reviewer comments and minutes of the PCD and PAD meetings will be placed in the Project electronic files.

An extensive electronic library has been created for this project with well over 150 documents prepared during the development of the project or of interest for the project's preparation. This can be consulted within the Bank. All the key documents will, after Appraisal, be posted for public access (will be available through the Central America Environment Projects site of the World Bank at www.worldbank.org/ca-env). Below we list some of the key documents used during preparation.

C. Other

Boerma, P., 2000. "Watershed Management: A Review of the World Bank Portfolio (1990 - 1999)". Rural Development Department.

Cabezas, J.R. 2000. Análisis del Marco de Políticas en el Area de Recursos Naturales Renovables.

Cabrera, J. 1999. Estudio de Caso: Elementos Económicos, Culturales, y Agropequarios en el Manejo de Recursos Naturales: Chajul, El Quiché.

CODERSA. 2000a. Análisis de Potencialidades Institucionales para Participar en el MIRNA. MIRNA/PPU.

CODERSA. 2000b. Ejemplos de Perfiles de Proyectos Locales Con Potencial para ser Financiados por el Proyecto MIRNA.

CODERSA. 2000c. Identificación y Valoración de Tecnologias Agropecurias Potencialmente Replicables en el Area de Influencia del Proyecto MIRNA.

CODERSA. 2000d. Análisis de Experiencias Exitosas en Sistemas Agropecuarios con Enfoque Sostenible Potencialmente Replicables por el MIRNA.

CODERSA. 2000e. Análisis de las Cadenas de Commercialización de Productos Agropecuarios y Forestales.

CODERSA. 2000f. Estudio Cualitativo Sobre las Características Agroecológicas y Socioeconómicas de los Principales Sistemas de Producción del Altiplano Occidental.

CODERSA. 2000g. Estrategia General para el Desarrollo Forestal del Altiplano Occidental, Guatemala.

CODERSA. 2000h. Estudio de Bosques Comunales y Tierras Municipales del Altiplano Occidental de Guatemala.

CODERSA. 2000i. Identificación y Análisis de Leyes, Normas, y Reglamentos Relevantes para el Proyecto MIRNA.

CODERSA. 2000j. Análisis Ambiental General del Altiplano Occidental de Guatemala del Proyecto MIRNA.

CODERSA. 2000k. Equidad de Genero en el MIRNA.

CODERSA. 2000l. Mecanismo de Innovación Rural "MIR" Para el Proyecto MIRNA.

CODERSA. 2000m. Supplemental Information on Institutions and the Western Altiplano Region.

Curtis, R. 2000. Payment for Environmental Services: The Case for Guatemala; Manejo Integrado de Recursos Naturales.

Grimble, R. and M. Laidlaw. 1999. Biodiversity conservation in rural development: Mainstreaming biodiversity considerations in planning rural and agricultural development projects. Prepared by DFID for the World Bank.

Godoy, JC. 1998. Matriz de Programas y Proyectos en Ejecución con apoyo de la Cooperación Externa en el tema de Conservación y Manejo de Recursos Naturales en Guatemala.

GSD. 2000. Análisis del Marco Institucional para Manejo Integrado de Recursos Naturales en el Altiplano Occidental.

INAB. 1998. Programa de Incentivos Forestales.

MAGA. 1999. Marco de Funcionamiento de Políticas.

Leiva, R. 2000. Estudio de Bosques Comunales y Tierras Municipales.

Martinez, H. 2000. La Administración Municipal del Manejo de los Recursos Naturales Renovables en Guatemala.

Martinez, H., M. de los Angeles, and R. de Camino. 1999. Guatemala: Revisión y Elaboración de Propuestas de Políticas, Estratégicas e Instrumentos para el Desarrollo del Sector Forestal. Recursos Naturales Tropicales S.A. Prepared for IDB.

Mendez, J.C. 2000. Diagnóstico de Instrumentos Financieros.

Mendez, J.C. 2000. Factibilidad Técnica y Financiera: Fondos en Guatemala.

MIRNA/PPU. 1999. Cartografía Digital Mínima para la Identificación Preliminar de Areas Geográficas de Enfoque para el Proyecto "Manejo Integrado de Recursos Naturales en el Altiplano Occidental".

Pagiola, S. and J. Kellenberg. 1997. Mainstreaming Biodiversity in Agricultural Development: Towards Good Practice. World Bank.

Paredes. 2000, Análisis Política-Legal de Reasentamiento: Process Framework.

Rondot, P. and M. Collion. 2000. Investing in producer organizations for sustainable rural development: A framework for World Bank Action. (mimeo).

RUTA. 2000. Evaluación del Potencial de los Servicios Ambientales en Pueblos Indígenas

Schneider, P. 1999. Esquema Institucional para el Manejo de Cuencas Programa de Manejo Sostenible de Cuencas Prioritarias. (mimeo).

Secaira, E. 2000. Conservación de la Naturaleza, el Pueblo y Movimiento Maya, y la Espiritalidad.

SEGEPLAN, 1999. Planes Estratégicos Departmentales: Sololá, El Quiché, Huehuetenango, Quetzaltenango, San Marcos y Totonicapán.

Schwartz, N., G. Grunberg and S. Elias. 2000a. MIRNA: Plan de Desarrollo Indígena.

Schwartz, N., G. Grunberg and S. Elias. 2000b. Análisis Socio-etnográfica del Altiplano Occidental.

Warne, R. 1999. Guatemala: Priorities in Natural Resources Management: Start-up Phase Literature Review/Diagnosis.

World Bank. 2000. Supplemental PHRD Proposal.

World Bank. 1999. Competitiveness Project: Forestry Cluster Studies.

*Including electronic files

Annex 9: Statement of Loans and Credits

GUATEMALA: WESTERN ALTIPLANO NATURAL RESOURCES MANAGEMENT PROJECT

15-Oct-2000

Project ID	FY	Purpose	Original Amount in US$ Millions IBRD	IDA	SF	GEF	Cancel.	Undisb.	Difference between expected and actual disbursements[a] Orig	Frm Rev'd
P007223	1997	GT/BASIC EDUCATION REFORM	33.00	0.00			0.00	10.30	-1.70	0.00
P040198	1999	GT/FIS II	50.00	0.00			0.00	8.18	-25.44	0.00
P049386	1999	GT/RECONSTRUCTION & LOCAL DEV.	30.00	0.00			0.00	27.27	8.27	0.00
P048657	1998	INTEG FIN MGMT II	15.70	0.00			0.00	6.13	6.13	0.00
P047039	1999	JUDICIAL REFORM	33.00	0.00			0.00	29.80	7.30	0.00
P049616	1999	LAND ADMINISTRATION	31.00	0.00			0.00	26.36	6.96	0.00
P054462	1999	LAND FUND	23.00	0.00			0.00	22.77	6.47	0.00
P048756	1997	PRIV PRTCPTN INFR TA	13.00	0.00			0.00	9.83	8.78	0.00
P035737	1998	RURAL & MAIN ROADS	66.70	0.00			0.00	49.95	3.75	0.00
P048654	1998	TAX ADMIN. TAL	28.20	0.00			0.00	24.50	24.50	0.00
		Total:	323.60	0.00			0.00	215.09	45.02	0.00

GUATEMALA
STATEMENT OF IFC's
Held and Disbursed Portfolio
15-Oct-2000
In Millions US Dollars

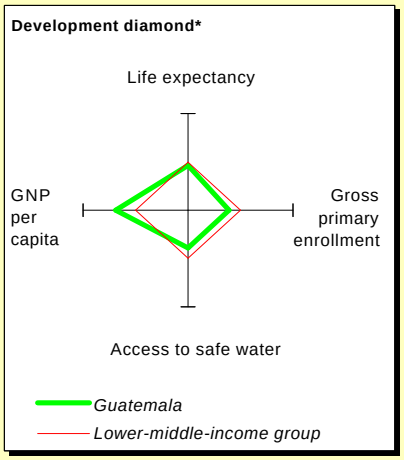
		Committed IFC				Disbursed IFC			
FY Approval	Company	Loan	Equity	Quasi	Partic	Loan	Equity	Quasi	Partic
1997	Aceros	13.50	0.00	0.00	9.33	13.50	0.00	0.00	9.33
1994	Fabrigas	2.63	0.00	1.00	0.00	2.63	0.00	1.00	0.00
2000	Frutera	7.00	0.00	0.00	0.00	7.00	0.00	0.00	0.00
1998	La Fragua	20.00	0.00	0.00	0.00	20.00	0.00	0.00	0.00
1997	Orzunil	12.91	1.17	0.00	14.70	12.91	1.17	0.00	14.70
1996	Pantaleon	12.50	0.00	0.00	0.00	12.50	0.00	0.00	0.00
1993/96	Puerto Quetzal	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1993	Vigua	4.13	0.00	0.00	0.00	4.13	0.00	0.00	0.00
	Total Portfolio:	72.67	1.17	1.00	24.03	72.67	1.17	1.00	24.03

		Approvals Pending Commitment			
FY Approval	Company	Loan	Equity	Quasi	Partic
	Total Pending Commitment:	0.00	0.00	0.00	0.00

Annex 10: Country at a Glance

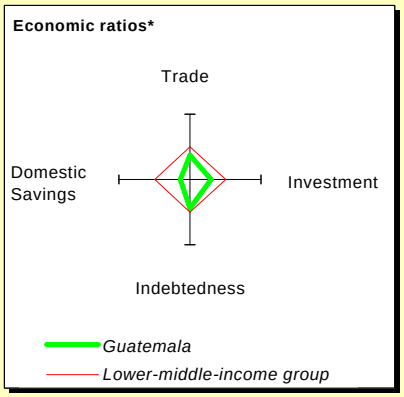
GUATEMALA: WESTERN ALTIPLANO NATURAL RESOURCES MANAGEMENT PROJECT

POVERTY and SOCIAL	Guatemala	Latin America & Carib.	Lower-middle-income
1999			
Population, mid-year *(millions)*	11.1	509	2,094
GNP per capita *(Atlas method, US$)*	1,660	3,840	1,200
GNP *(Atlas method, US$ billions)*	18.4	1,955	2,513
Average annual growth, 1993-99			
Population *(%)*	2.6	1.6	1.1
Labor force *(%)*	3.6	2.5	1.2
Most recent estimate (latest year available, 1993-99)			
Poverty *(% of population below national poverty line)*	75	..	..
Urban population *(% of total population)*	39	75	43
Life expectancy at birth *(years)*	64	70	69
Infant mortality *(per 1,000 live births)*	37	31	33
Child malnutrition *(% of children under 5)*	27	8	15
Access to improved water source *(% of population)*	67	75	86
Illiteracy *(% of population age 15+)*	32	12	16
Gross primary enrollment *(% of school-age population)*	88	113	114
Male	93	..	114
Female	83	..	116

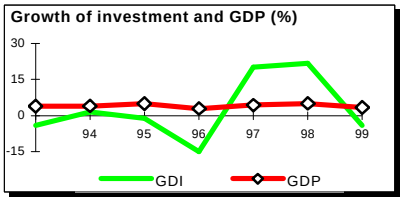


KEY ECONOMIC RATIOS and LONG-TERM TRENDS	1979	1989	1998	1999
GDP *(US$ billions)*	6.9	8.4	18.9	18.0
Gross domestic investment/GDP	18.7	13.5	16.0	15.7
Exports of goods and services/GDP	21.3	17.3	18.6	18.8
Gross domestic savings/GDP	14.2	8.3	7.7	8.3
Gross national savings/GDP	16.1	8.0	10.5	11.5
Current account balance/GDP	-3.0	-5.4	-5.5	-5.3
Interest payments/GDP	0.7	1.3	0.7	0.8
Total debt/GDP	15.2	31.5	20.9	22.6
Total debt service/exports	7.3	19.6	9.8	9.6
Present value of debt/GDP	..	..	22.6	..
Present value of debt/exports	..	..	105.2	..

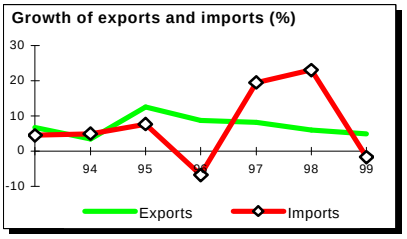
	1979-89	1989-99	1998	1999	1999-03
(average annual growth)					
GDP	0.4	4.1	5.1	3.5	5.0
GNP per capita	-2.3	1.5	2.8	0.6	2.4
Exports of goods and services	-3.7	6.5	6.0	4.8	7.9



STRUCTURE of the ECONOMY	1979	1989	1998	1999
(% of GDP)				
Agriculture	25.4	25.6	23.4	23.1
Industry	21.5	20.1	20.0	20.1
Manufacturing	16.3	15.2	13.5	13.4
Services	53.1	54.3	56.6	56.8
Private consumption	78.7	83.8	86.8	85.9
General government consumption	7.1	7.9	5.6	5.8
Imports of goods and services	25.9	22.5	26.9	26.2



	1979-89	1989-99	1998	1999
(average annual growth)				
Agriculture	0.7	2.9	3.5	2.2
Industry	-0.6	4.2	5.2	4.1
Manufacturing	-0.3	2.8	3.6	2.6
Services	0.6	4.6	5.8	3.7
Private consumption	0.8	4.3	5.5	3.0
General government consumption	2.8	4.5	10.6	4.8
Gross domestic investment	-3.3	5.2	21.9	-4.0
Imports of goods and services	-4.2	9.0	23.0	-1.7
Gross national product	0.1	4.2	5.5	3.2

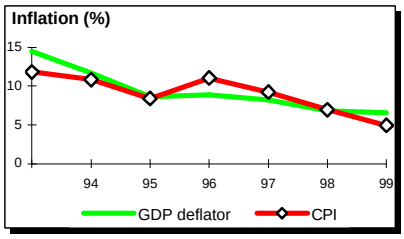


Note: 1999 data are preliminary estimates.

* The diamonds show four key indicators in the country (in bold) compared with its income-group average. If data are missing, the diamond will be incomplete.

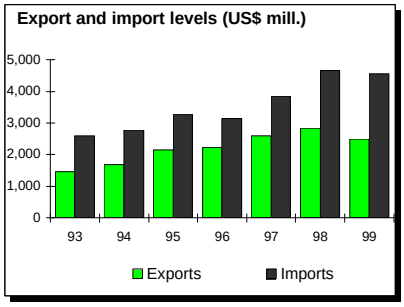
PRICES and GOVERNMENT FINANCE

	1979	1989	1998	1999
Domestic prices				
(% change)				
Consumer prices, average	11.3	11.4	7.0	4.9
Implicit GDP deflator	8.6	10.9	6.8	6.6
Central Government finance				
(% of GDP, includes current grants)				
Current revenue	..	..	9.9	9.8
Current budget balance	..	..	2.4	1.6
Overall surplus/deficit	..	..	-2.5	-3.1



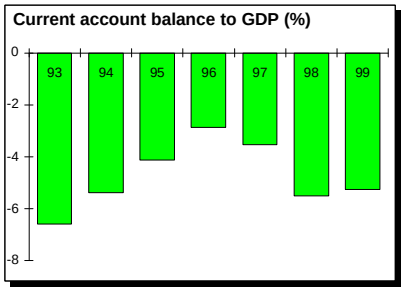
TRADE

	1979	1989	1998	1999
(US$ millions)				
Total exports (fob)	..	1,126	2,847	2,488
Coffee	..	380	581	561
Sugar	..	92	314	192
Manufactures	..	..	929	839
Total imports (cif)	..	1,641	4,651	4,558
Food	..	231	969	960
Fuel and energy	..	212	284	321
Capital goods	..	352	1,373	1,289
Export price index *(1995=100)*	..	84	89	81
Import price index *(1995=100)*	..	101	93	91
Terms of trade *(1995=100)*	..	84	96	90



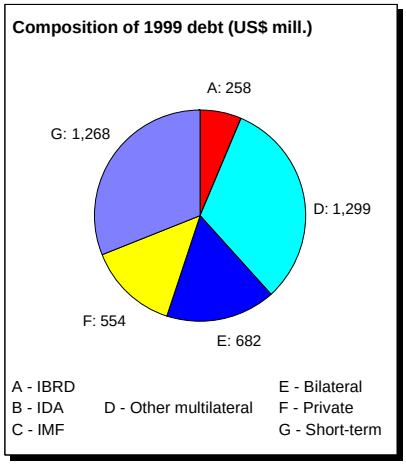
BALANCE of PAYMENTS

	1979	1989	1998	1999
(US$ millions)				
Exports of goods and services	1,449	1,465	3,455	3,475
Imports of goods and services	1,784	1,869	5,028	5,005
Resource balance	-335	-404	-1,573	-1,530
Net income	3	-195	-169	-200
Net current transfers	123	148	705	783
Current account balance	-209	-451	-1,037	-947
Financing items (net)	183	364	1,279	822
Changes in net reserves	26	88	-243	125
Memo:				
Reserves including gold *(US$ millions)*	718	329	1,209	1,084
Conversion rate *(DEC, local/US$)*	1.0	2.8	6.4	7.4



EXTERNAL DEBT and RESOURCE FLOWS

	1979	1989	1998	1999
(US$ millions)				
Total debt outstanding and disbursed	1,050	2,651	3,944	4,061
IBRD	108	261	203	258
IDA	0	0	0	0
Total debt service	113	304	396	386
IBRD	10	48	26	31
IDA	0	0	0	0
Composition of net resource flows				
Official grants	20	127	152	71
Official creditors	126	16	124	58
Private creditors	61	7	-52	-46
Foreign direct investment	117	76	673	155
Portfolio equity	0	0	0	0
World Bank program				
Commitments	0	29	154	23
Disbursements	47	14	30	70
Principal repayments	2	27	14	15
Net flows	44	-13	15	55
Interest payments	8	21	12	17
Net transfers	36	-34	3	38



Additional
Annex 11

Indigenous Peoples Development and Participation Plan Summary

This document summarizes the Participation Plan and Indigenous Peoples Development Plan (IPDP). The two documents have been combined because some 95% of the rural residents within the 40 municipalities in the project focal area are indigenous Mayans. For this reason, the Western Altiplano Natural Resources Management Project should, in essence, constitute an IPDP as per the Bank's OD 4.20. However, because indigenous issues are so central to the Project's planning and implementation, a separate IPDP was prepared, based on the results of the Social Assessment (an extensive socio-ethnographic evaluation of the project's focal region) and other consultations.

The importance of ensuring the informed participation of the beneficiaries, especially of the indigenous peoples in the project area, cannot be overstated. They need to be fully involved in both planning (as has been the case), preparation and implementation of the project. Informed participation means that there will be: direct and full consultation with beneficiaries, their direct participation in decision-making within the project, and transparent adequate knowledge of project activities. This IPDP/Participation Plan is in compliance with the World Bank's OD 4.20 on Indigenous Peoples. It is based on the fulfillment of the set of prerequisites outlined in the Bank's OD 4.20: 14 (Prerequisites). The set of issues outlined in OD 4.20: 15 (Content) are summarized below.

Legal Framework

The Political Constitution of Guatemala, decreed on 31 May 1985, in articles 66-70 contains a special section entitled "Indigenous Communities." These laws recognize the existence of diverse ethnic groups and demand respect for their lands, customs, languages, dress and cultural rights. Article 67 states that "Indigenous communities and others that possess lands that historically have belonged to them and that traditionally have been managed and administered [by them] in a special way, will maintain this system." Article 68 continues: "By means of special programs and adequate legislation, the State will provide state lands to those communities that need them for their development." Article 70 contains arrangements such that articles 66 – 69 may be made into law by means of a special decree. Although this Constitution was promulgated in 1985, up to the present date no regulations and rules have been promulgated referent to these articles. Hence, the legislation has not been operationalized, and no concrete orders to emit judicial decisions and sanctions, in cases where the rights contained in these articles are violated, have been given.

The Peace Accords of 1996 stress the rights of indigenous peoples and importance of taking into account their views regarding actions that affect them directly. The Accord on Socioeconomic Issues and the Agrarian Situation (ASESA) and the Accord on the Identity and Rights of Indigenous Peoples (ASIDPI), signed in December 1996 as part of the Peace Agreement, recognize that the "Subject of Land" and the management of natural resources play a central role in development. The ASESA states that for the structural evolution of the agrarian sector, land tenure and use of land must be advanced in a way that makes its goal the incorporation of the rural population, and above all the indigenous population, in economic, social and political development. Moreover, security of land tenure is to be the basis for improving their social welfare and is to be the guarantee of their liberty and dignity. Similarly, in 1997 the Government of Guatemala ratified Treaty 169 of the International Labor Organization (ILO) relative to the rights of indigenous peoples. Treaty 169, in articles 15, 16, 17, 18 and 19, deals with the theme of land. It establishes that the rights of property and possession of land that traditionally belong to indigenous peoples should be recognized. Treaty 169, in article 61, also establishes that "whenever legislative or administrative measures that have the potential to affect them directly are foreseen," governments should "consult with affected peoples, by appropriate means and especially through their representative institutions." In addition, article 6.1.c indicates that "means for the full development of the

institutions and initiatives of these peoples must be established, and in appropriate cases, they must be given the resources necessary for this end."

Guatemala also has ratified other international treaties that include clauses pertaining to indigenous communities, such as the International Convention on Biological Diversity (preamble and articles 8 and 10). The Convention recognizes the close interdependence between forms of traditional indigenous life and prudent use of biological resources. It also acknowledges that signatories promise to respect, preserve and maintain the knowledge, innovations, and practices of indigenous and local communities that involve traditional life styles pertinent to the conservation and sustainable use of biological diversity, and to promote their wise use, with the approval and participation of those who possess this knowledge, innovations, and practices. In this way, the equitable distribution of the benefits derived from their use will be promoted.

Baseline Data

Based on the Social Assessment, local and national Institutional Analyses, Policy Analysis, Biodiversity Evaluation, and Technical Analyses carried out during Project preparation (see Annex 8) to provide baseline data, the following were identified as fundamental issues for indigenous development.

Lands and territories. In the Western Altiplano there is widespread traditional stability of indigenous lands and territories, but this has not been sufficiently recognized by the political administrative structure of the country. Many of the indigenous communities possess communal lands or a combination of private and communal titles. Conflicts have arisen where private parties have attempted to (and often succeeded in) registering communal lands as private holdings. The problem of lack of definition of territorial limits between municipalities, communities and forests also persists. The project could assist with the participatory definition of boundaries of communal lands where requested, but should refer such concerns to and might facilitate the linkages to CONTIERRA (GOG land conflict management agency) where appropriate. [Note: While it is understood that these will not be undertaken by the project, it is nevertheless important to note the following recommendations resulting from the Social Assessment and the preparation of the IPDP: (i) a geo-referenced inventory of communal lands in each municipality, an inventory of sacred places, legalization and regularization of use rights to communal lands, and, thereafter, participatory physical demarcation of the above, should be carried out; (ii) a proposal for a law to protect communal lands by explicitly titling them in the name of the indigenous communities should be prepared and presented to Congress; (iii) a National Council of Communal Lands (a representative body for communities which own communal property resources) should be created as an instrument for the sound management of natural resources, and (iv) in order to facilitate cooperation between indigenous communities that are divided by national frontiers, and in accord with article 32 of ILO Treaty 169, a Plan for Cross-Frontier Cooperation with Mexico should be elaborated. In fact, while recognizing that assistance in assuring comprehensive legal titling of communal lands is of central importance to conservation of natural resources in the Altiplano, the Project will not become involved in this, beyond referring communities to other entities that can provide this service.]

Local institutionality. An initial systematization of the management of communal lands belonging to indigenous peoples reveals the existence of traditional or "customary" law, along with existing legal bodies that implement these laws. There is a rich tradition of managing the communal lands in accordance with such law which has a ritual and ceremonial character. The tradition includes surveying practices, definitions of territories and individual usufruct rights, designation of authorities, and rules to apply in cases of conflict between communities or between members of the same community. These mechanisms of conflict management for land and for assigning usufruct rights are applied, with variations, in many communities. The major difficulty in making them effective results from the intrusion of external mechanisms and reasoning, such as a parallel structure of state sanctioned power in any given community. The recognition of the traditional systems the communities use to resolve conflicts related to land tenure should be accompanied by a process that strengthens and recovers indigenous norms, as stipulated in the Peace Accords.

Traditional management of natural resources. Traditional management is firmly maintained through a system of internal regulations that explicitly or implicitly dictate community activities in relation to forests, water, and other community resources. These regulations contain a set of norms and sanctions that are respected by the population and form part of what is termed the local institutionality for the management of natural resources. Local institutionality in the management of natural resources is exercised through the traditional social structure (e.g., communal assemblies). Systems of local government such as auxiliary mayors, councils of elders, and *parcialidades* (patrilineal groups) are important in this context. It merits emphasizing that these entities constitute the link with the municipal and state authorities.

Natural resources and protected areas. In the Western Altiplano of Guatemala there are significant remnants of communal lands and forest which have ecological, economic and sociocultural importance not only for local populations but also regionally and globally. Considering that in most of the municipal and communal forests traditional management practiced by local populations is prevalent, it is important that the fundamental role the indigenous communities have in the use, management and conservation of natural resources also be considered. In this sense, the communal forests have been an unrecognized model of protected areas, established by the communities. These forests are closely linked to environmental services for carbon sequestration, production and conservation of water, prevention of erosion, and conservation of biodiversity, among other things. Among the environmental services, conservation of sources of water is, at the present time, the most valued in all the places visited, and the one about which the communities express their central concerns.

Indigenous productivity and economy. The agrarian systems of production found in the Altiplano are primarily of the infra-subsistence and subsistence type. Their basic characteristic is that the harvest is destined to cover part of the family's required food needs, though in many cases it is insufficient. Agriculture of the surplus and commercial type is insignificant, and is currently concentrated in the production of coffee. Notwithstanding their reduced area and limited agricultural productive capacity, the microfarms of the Altiplano have a strategic importance in national food production. Nearly 60% of the national production of maize and potatoes, and 30% of the production of small animals comes from this zone. The major limits to agricultural production are inadequate land, scarcity of irrigation, lack of road access, lack of connection with markets, and lack of economic resources. The growth of regional population accelerates the reduction of agricultural lands into micro units and reduces possibilities for investment in perennial crops or ground cover.

The majority of farm producers in the Altiplano combine agriculture with other subsistence strategies, among which may be mentioned: craft production and commerce (Sololá, Totonicapán); migratory labor (Cuchumatanes, El Quiché and San Marcos); local wage labor; and, at a low level, animal husbandry. It is also noteworthy that many Altiplano farmers cultivate lands rented along the south coast of the country. Craft production, regional commerce, and forestry activities have been and can be adequate incentives to avoid sole dependence on farming. As the entire Social (and Ethnographic) Assessment demonstrated, this diversification has permitted the reduction of social pressure on natural resources. This could be of special importance for and directed especially to infra-subsistence and subsistence producers.

Organizational Management: Organizational management of production in order to strengthen and improve the productive chains, including improved commercialization, may present options for thousands of Altiplano producers, especially for producers of surplus.

Identity and participation. The participation of indigenous communities in the project should be managed as a process that leads to local "empowerment" with respect to diverse initiatives for conservation and development. Spaces for self-management on the part of the participating communities should be facilitated, so that they take ownership of and follow-up on the activities of the project. This will be possible if the project bases itself on the local systems of organization that already exists in the region, and if the project promotes the initiatives that these local organizations have already begun to implement. Protection of water sources, for example, has

been an issue around which numerous rural Altiplano communities have been integrated.

Strategy for Indigenous Participation

General participation strategy. In order to effect indigenous development within the framework of the project, a process of integrating indigenous community organizations (whether formal and/or traditional) at the local, municipal and regional levels will be required (see Annex 14). It is necessary that the project reach out to include (i) at all levels, whether municipal or regional, associates of the project who are able to communicate with indigenous peoples in their own respective languages, respecting in all cases the spiritual aspects and specific modes of consultation with indigenous peoples; (ii) at the local level, strengthening of grassroots organizations (auxiliary mayors and community directors) in such a manner that each community is enabled to represent the interests of the members of the community in a positive way. In this sense, efforts should be made to obtain legal personality (*personaría jurídica*) for these organizations, and in all cases, even when legal personality cannot be obtained, the community assemblies should be recognized and legitimated as representative bodies of their respective communities; (iii) at the municipal level, and in each municipality where the project will be implemented, strengthening (or established by linking existing entities) a local forum (*Instancia Local)* with participation from the municipal corporation, UTM (municipal technical unit – if it exists), local bodies of the civil society linked to "wise use of resources" (*parcialidades*, traditional religious fraternities, councils of elders, *principales*, shamans, and auxiliary mayors who represent indigenous villages and communities), producers groups, and NGOs with a local presence; and (iv) at the regional level, the project should work with an intermunicipal body (e.g., an Association of Mayors from within the project's sphere of influence). This body should provide a representative to the project's Regional Steering Committee. The central purpose of these two levels of permanent participation is to guarantee transparency and partnership in the implementation of the project by consensus at the municipal as well as at the regional level. In all forums, bilingual communication should be provided for.

Intercultural social communication. Indigenous populations will be kept fully informed of project activities and be assured of opportunities to fully participate in the project in their own languages. This requires identifying the relevant actors, elaborating culturally appropriate didactic materials, and implementing a information campaign covering all aspects of the project. Because this must be initiated at project start-up, the project preparation team has acquired additional preparation funds to design culturally appropriate communications methods and media and to translate technical and institutional strengthening materials and extension methodologies into culturally appropriate forms in the regions main Mayan languages. This will include materials targeted specifically towards women.

Institutional strengthening for sustainable production and the conservation of natural resources. This addresses local interests and demands and is based on local institutionality in such a manner that it strengthens the involvement of communities in the tasks of conservation. This requires an effort to promote local participation in all the activities of the project. It is necessary to take into account the typology of producers and the typology of organizations, which are presented in the Social Assessment, because different activities must be designed for each of the different types. Rural participatory diagnostics and the development of local capacities, especially in the field of project administration and management, will be undertaken. Major importance will be given to strengthening local institutionality and revitalizing traditional organizations, because the appropriation of processes of development and the conservation of natural resources depends on them.

At the municipal level, the governance structure of the project with *Instancias Locales*, RADEAs, and the Regional Steering Committee will be structured to provide for strong representation by indigenous people and women. Meetings of the *Instancias Locales* will, to the extent possible, be bilingual in Spanish and the local Mayan dialect or language. Assistance will be provided to the *Instancias Locales*, to the UTMs, and to the formation of an Association of Mayors. To facilitate all of the above, the project will assist communities and

other beneficiary groups to acquire legal personality. [If possible, a legal framework should be created, based on existing legal standards, to facilitate obtaining complete and explicit recognition of indigenous communities as entities with their own legal personalities.] Project training programs for municipal Promoters and local leaders (as in the *Instancias Locales*) would include gender- sensitivity and gender- equity training. Such training would be incorporated into other project- financed training, as appropriate.

At the national and regional levels, the project will improve the capacity of the staff of GOG agencies participating in project implementation to support locally defined and managed development and conservation initiatives and to work with indigenous people and particularly with indigenous women. The NGOs, private firms, universities and other entities enrolled in the Registry of Qualified Service Providers (see Annex 2) will also be provided with the same types of capacitation. The project will encourage contracting of women and individuals with local language capability for positions as Promoters, PCU staff, and Grant Technical Unit (GTU) and Biodiversity Component Technical Unit (BCTU) staff.

Women's participation: The PCU Gender Coordinator and GTU will develop information and simple manuals and technical materials on business and investment opportunities, in response to demands and needs voiced by women. Institutional strengthening programs and projects will give special emphasis to developing and strengthening women's groups and assisting them in preparing subprojects for grant financing as well as to women's participation in other local organizations. The project preparation team has acquired additional funds to enhance the project's ability to serve women. Special studies will assess constraints to participation by women, Mayan groups and other disadvantaged people and identify corrective actions to facilitate their inclusion and participation.

Conservation of community biodiversity. As part of Project Component 2, priority will be given to those communities in the seven sites selected for biodiversity conservation. Activities related to the conservation of biodiversity in indigenous communities include rural participatory evaluation, co-design of management plans, and regularization of boundaries. As part of the community conservation strategy, priority also will be given to activities related to the payment of environmental services. The project would work through traditional organizations and institutions, to the extent possible. It would seek to strengthen (at least to respect) existing and traditional tenure and resources management systems, and would disseminate appropriate indigenous knowledge and resource management practices.

Implementation Schedule: Because long-term sustainability is a central goal, the project should take into account the seasonal schedules (including migratory work and peak labor times in agriculture cycles) in the planning of activities. A typology of local institutions has been constructed (CODERSA 2000), and project activities (including institutional strengthening as well as subproject technical innovations) are designed to take into account the levels of capacity and the decision-making frameworks and timeframes used in indigenous organizations.

Monitoring and Evaluation: As described in Section E.6, Annex 2, and Annex 17, project monitoring and evaluation systems would provide routine, detailed information on a series of indicators of indigenous peoples' and women's participation and benefit from project activities. If participation or benefit falls significantly below targets, the Project Annual Reviews would recommend corrective actions. Indigenous peoples will participate in the design of indicators and in impact monitoring.

Cost Estimates and Financing Plan: Because the Project is itself an Indigenous Peoples Development Plan, the costs and financing plan of the activities directed towards indigenous peoples are equivalent to the costs and financing of the project.

Yearly Program of Activities by Component

YEAR 1	YEAR 2	YEAR 3	YEAR 4	YEAR 5
Component 1: Sustainable Livelihoods *(US$ 40.60)* Identify relevant stakeholders and organizational typology in each municipality Provide support to traditional organizations Strengthening/ Formation of local forum /*Instancia Loca*l Local participatory diagnostics Design and implement communications strategy and promote project Strengthen organizational capacity Elaborate municipal sustainable development agendas Elaborate subproject proposals Execute subprojects Elaborate local-level standards & indicators for M & E of community/organized group projects Form Mayors Association	Implement communications strategy and promote Project Strengthen organizational and human capacity Legalize local organizations Elaborate subproject proposals Execute subprojects Exchange experiences Strengthen local conflict resolution institutions Elaborate and execute municipal development agendas Monitoring	Implement communications strategy and promote Project Strengthen organizational and human capacity Legalize local organizations Exchange or experiences Elaborate subproject proposals Execute subprojects Strengthen local conflict resolution institutions Elaborate and execute municipal development agendas Monitoring	Implement communications strategy and promote Project Strengthen organizational and human capacity Legalize local organizations Exchange experiences Elaborate subproject proposals Execute subprojects Strengthen local conflict resolution institutions Execute municipal development agendas Monitoring	Implement communications strategy Strengthen organizational and human capacity Exchange experiences Elaborate subproject proposals Execute subprojects Monitoring and evaluation Strengthen local conflict resolution institutions Execute municipal development agendas
Component 2: Biodiversity Conservation *(US$ 5.82)* Participatory diagnosis of selected sites Elaborate plans for management conservation of lands and resources Specific social-environmental studies	Strengthen local participation in the conservation of biodiversity of selected sites Specific social-environmental studies	Strengthen local participation in the conservation of biodiversity of the sites Specific social-environmental studies	Strengthen local participation in conservation of biodiversity of selected sites Specific social-environmental studies	Strengthen local participation in conservation of biodiversity of selected sites Specific social-environmental studies
Component 3: Environmental Services Market *(US$ 1.33)* Workshops on environmental service strategy design with broad range of stakeholders	Workshops on environmental service strategy design with broad range of stakeholders	Workshops on environmental service strategy design with broad range of stakeholders	Implement pilot projects for payment to communities for environmental services	Evaluate pilot projects

Component 4. Project Management *(US$ 3.09)* Integration of the Regional Steering Committee Systemization of accumulated experience by the project	Systemization of experiences accumulated by the project	Systemization of experiences accumulated by the project Stakeholder workshops for Mid-term Review	Systemization of experiences accumulated by the project	Systemization of experiences accumulated by the project Stakeholder workshops for project evaluation

Additional
Annex 12

Environmental Analysis and Environmental Management Plan Summary

The Guatemala Integrated Natural Resources Management Project for the Western Highlands Project (Manejo Integral de los Recursos Naturales del Altiplano Occidental - MIRNA) seeks to achieve a number of complementary objectives, including: (i) addressing rural poverty in its region of highest incidence, the western highlands (Altiplano); and (ii) addressing and redressing the processes which have led and continue to lead to the degradation and decline in viability of the natural resource base. This is the resource base upon which rural people depend for a living (agricultural land/soils, water, pastures, forests, biodiversity, fuelwood, etc.) and which also provides essential raw materials (lumber, non-timber forest products, etc.) and local environmental services (watershed protection, slope stabilization, flood control, and spiritual and recreational values) along with more global environmental services and values (sequestration of carbon, retention of clear water sources, globally important biodiversity, etc.).

Guatemala's Western Altiplano retains the country's highest density of rural population within a mountainous region containing some of the highest levels of biological endemism and relict biodiversity and agro-biodiversity in Central America. The region was once densely forested with pine and broadleaf forests, most of which have been cleared for small-farm agriculture and grazing, exposing steep slopes to the dangers of erosion and slumping. Agricultural practices are largely traditional and of low productivity and diversity, with access to adequate land, markets for products, financing for inputs, and improvements in technology and knowledge being some of the main constraints. Rapidly expanding population in the region and growing rural impoverishment do not promise much relief for the natural resource base, and ways to preempt the total collapse of the natural systems need urgently to be experimented with and promoted.

The project proposes to achieve a measurable improvement in the management of these natural resources providing incentives for local natural resources users to change from unsustainable to more sustainable natural resources uses and management practices. It will do so by linking the provision of financing for improved local environmental planning, agricultural productivity, diversification and market development to improved land and resource conservation. The project will also finance the identification and protection of high-value biodiversity within existing and new protected areas in the region, and the strengthening and improving the capacity of local, regional and national institutions in the protection and stewardship of these protected areas and their biological contents and values. In addition, the project will provide the financial resources and expertise to help Guatemala establish a system of valuing and marketing (locally, regionally, nationally and internationally) the environmental services provided by well-managed ecosystems in the region. (Project details are provided in Annex 1 and 2).

Environmental Issues and Problems in the Project Area: During preparation the client prepared an Environmental Issues report for the region (Analisis Ambiental General del Altiplano Occidental de Guatemala y del Proyecto MIRNA), a copy of which is included in the project files. The report lists the main interrelated environmental issues and problems in the region (land tenure and rights, soil erosion, forest cover losses, water availability and contamination, solid wastes, and pollution), and recommends. measures to address these within the project. The main problems are summarized as being:

- *High population* density with the region concentrating some 35% of the national population on some 18% of the land which is poorly/inequitably distributed and much of which is held in small (and often agriculturally non-viable) parcels called minifundios. This causes constant pressure upon the land and other natural resources. It is the region within which violent conflict has raged over some 40 years and to which many formerly displaced persons are returning, exacerbating the pressure on land as well as urban facilities and public resources (some 70% of the people returning since the war ended are settling in

Huehuetenango and Quiche);

- *Land tenure* is a serious and chronic source of conflict, as are use rights and access to natural resources. Most commonly, land is held in small farms and in communal and municipal forests. The lack of secure land titles for smallholders and stable tenure rights to communal land rights hamper efforts to improve natural resources stewardship and conservation;
- *Small scale agriculture on steep slopes* in light and friable soils causes chronic erosion and slumping and calls for soils conservation and watershed protection measures;
- *Expansion of agriculture and pasture into ever more marginal lands* threatens remaining forests and exposes new land to degradation and erosion;
- *Generalized misuse and overuse of agricultural chemical inputs* such as fertilizers, herbicides and pesticides. These run off into the streams and river courses and cause local and downstream pollution, resulting in human health problems. The issue is becoming more and more acute as market-oriented vegetable gardening and farming becomes more widespread in the region;
- *Lack of adequate disposal of solid and liquid wastes* is seriously contaminating water sources with effects upon human health.

Positive Environmental Impacts of the Project: Overall MIRNA is an environmental project with GEF investments oriented entirely to conservation of global biodiversity but also with IBRD and Government of Guatemala resources targeted to realization of environmental goals. The entire project description can thus be referred to for a review of the expected positive environmental and social impacts of the project. We would highlight among these:

- Support for environmental and natural resources planning
- Improvements in agricultural and livestock management practices
- Support for protected areas and biodiversity conservation
- Promotion of environmental services
- Promotion of natural resource management targeted to indigenous people
- Gender focus of project

Potential Adverse Environmental Impacts: As mentioned above, the project is designed to improve rural livelihoods through fostering sustainable environmentally friendly activities and through improved management and conservation of the natural resource base. As such, criteria and screening mechanisms will be set in place to select against activities and investments which may go counter to these aims.

National Environmental Legislation: Under national legislation all (private and public) works and projects must undergo an environmental assessment and clearance in accordance with Article 8 of the corresponding Legislative Decrees (DL 68-86 and amended by DL1-93 - *Proteccion y Mejoramiento del Medio Ambiente*). Article 8 also holds that the official who omits or overlooks the EA requirement will be personally held co-liable for noncompliance and will be fined. In addition to these rules, Article 20 of the Protected Areas Law (Ley de Areas Protegidas, DL 4-89 and its subsequent amendments) regulates activities within protected areas (concessions; infrastructure; productive activities; tourism facilities), all of which are subject to an environmental impact assessment (EIA) and must be compatible with the respective area's Management Plan. The EIA is submitted to CONAP by the proponent which in turn submits it (with an opinion) to the national environmental commission (CONAMA) for review and approval.

In regard to management of natural forests within protected areas (depending on the management category of the area), CONAP calls for an EIA, in addition to the management plan, for eventual review and approval by CONAMA. CONAP has its own forest management manual with clearly established rules, standards and procedures. By contrast, INAB, which is responsible for regulating and licensing the use and management of forests outside of protected areas, does not require EIAs to accompany forest management plans.

All of the above notwithstanding, most EIAs in Guatemala are largely pro-forma exercises, since the national

environmental agencies (CONAMA; CONAP) lack the technical human resources and capacity to verify compliance. This project has the potential to produce clear environmental standards and regulations for activities such as road construction, tourism facilities housing within protected areas.

Environmental Review of Project Activities by Component: While all project activities are aimed at enhancing environmental quality, the productive and resource management subprojects tobe financed within Component 1 are most subject to potential environmental damage. Component 2 will create new and strengthen existing protected areas and biodiversity, within the national regulations cited above. Component 3 is entirely environmentally positive.

Component 1 (Sustainable Livelihoods) is designed to raise the environmental standards and quality, as well as productivity and efficiency, of natural resource-based activities in the project area, including improved agricultural production and practices, improved livestock management practices, and improved forest management practices, as well as soils and water conservation practices, community and municipal natural forest and natural areas protection. Local planning and expert technical assistance will be supported by the project, so that local project beneficiaries/proponents can and will prepare acceptable environment-enhancing subprojects. These subprojects will be prepared and submitted according to guidelines for financing and design criteria, including the environmental criteria, set out in the Operational Manual.

Subprojects will be screened according to these criteria and, should environmental issues arise, they will be addressed within the subprojects' design. Based upon the screening, subprojects will be required (and assisted) to include environmental mitigation measures, including plans to reduce or replace the use of toxic agricultural inputs; change or modify cultivation practices; change or modify grazing sites and practices; change or modify forest, soils and water uses; change or modify disposal practices for wastes and toxic materials; and/or change or modify the degree and nature of forest exploitation. These mitigation plans within the subprojects will be reviewed first by the local technical promoter, then by the local review committee (Instancia Local) before being submitted to the PCU for higher level technical feasibility and environmental review and approval.

No project financing will be approved for the purchase of highly toxic agricultural inputs, clearing of forested land, intensifying farming on steep slopes and forested land, inappropriate (such as clear cut felling) and excessive (with degrading results) exploitation of forests or which would lead to contamination of water courses and/or inappropriate disposal of solid and liquid wastes (as from coffee processing plants). The client-prepared environmental analysis proffers lists of the kinds of problems which might be confronted and recommends appropriate mitigating measures to be applied in the project.

They are described in much greater detail in the Project Implementation Plan (PIP) currently under preparation by the client and will be specified in the Project Operations Manual to be prepared and approved by the Bank as a condition of project effectiveness.

Component 2 (Biodiversity Conservation) is designed to identify and put under some form of protection high value biodiversity in the project area. It will finance the improved management of existing protected areas within the National System of Protected Areas (SIGAP) and establish new ones. It will strengthen CONAP's capacity at the central, regional and local levels to fulfill its mandate. Installation of new protected areas will be done in accord with current environmental legislation and regulations (note that this will not include resettlement of people – see the section on Involuntary Resettlement below). Support for productive activities by people within and around the protected areas will be subject to the same rules established for Component 1 demand-driven subprojects, but will be more stringently supervised and monitored by CONAP and local community and municipal groups and entities. Environmental education and dissemination of environmental information will be supported by the project, and a special effort and investment is being made to make such information available in culturally appropriate forms and local indigenous languages. The environmental communications strategy will include mass media communications (in the national and local languages), community environmental programs to stimulate awareness and increase local knowledge about environmental

issues, biodiversity and protected areas, as well as strengthen the environmental curriculum within the public school system.

Compliance with World Bank Safeguard Policies: The Guatemala Integrated Natural Resources Management Project for the Western Altiplano (MIRNA) has been designed to fully comply with the spirit and letter of relevant World Bank Safeguard Policies, as summarized below.

Environmental Assessment (OP 4.01). This project is classified as Category B, requiring some type of Environmental Analysis (EA) but not a full-scale Environmental Impact Assessment (EIA). In addition, a more detailed environmental analysis study, *Analisis Ambiental del Altiplano Occidental de Guatemala y del Proyecto MIRNA* (prepared by Consultores para el Desarrollo Rural Sostenible – CODERSA) was submitted to the Bank in October, 2000. In accordance with the Bank's Information Disclosure Policy (BP 17.50), copies of this report (in Spanish) are available for public viewing at the MIRNA office in Guatemala City (13 Calle 3-40, Edificio Atlantis, Nivel 14, Zona 10, Guatemala) and a copy is in the Bank's project files. The key findings and useful recommendations from this report are reflected in the project design and summarized in this Annex.

Consultation on the project has taken place at many levels and times throughout the preparation process (reports on all consultations, including dates, summaries and attendance lists are avaialble in the Project files). In addition, a full-fledged Social Assessment was carried out over the six departments of the western Atliplano and a subsequent stakeholder (mayors, auxiliary mayors, community representatives, and local-level NGOs representatives) consultation held in Quetzaltenango (September 2000) validated the results of the study and provided additional opportunities for consultation. A three-day national stakeholders workshop was held in the city of Antigua in September 2000. Additional stakeholder consultations were held in San Marcos, El Quiche, and Huehuetenango (November 2000). Special consultations were held in regard to Component 2 concerning the biodiversity and parks management activities of the project (Panajachel: November 2000).

Suggestions and information garnered from these workshops and consultations, and especially those emerging from the Social Assessment, have been included in the project design. Additional studies (see List of documents in the project file) have yielded important information. The Policy and Institutional Analysis study is of particular significance, as it reveals that Guatemala has in balance a very satisfactory set of policies in regard to natural resources management, while having almost no capacity to see them implemented. This provides a strong justification for the institutional strengthening activities proposed in the project.

The subproject environmental screening measures and processes which will be detailed in the Operations Manual and implemented under the project for both Components 1 and 2 fully comply with the requirements of OP 4.01 for the minor impacts that might be expected under this project.

Natural Habitat Policy (OP 4.04). The project (through its GEF-financed Component 2) is designed to maximize protection of existing remaining natural habitats and increase the amount and representativity of all such habitats within the national protected areas system (SIGAP). Component 1, where rural sustainable livelihoods will be enhanced, has criteria which strictly prohibit project financing from encouraging further incursions into and conversion of natural habitats, including forests, upland meadows and dry forests and wetlands. Checklists and screening mechanisms governing the selection of demand-driven local subprojects will filter out any proposals that could be harmful to such natural habitats. Community-managed forests and private conservation efforts will be encouraged and supported, financially and with expert technical assistance and information. Information on all the relict natural habitats within the western Altiplano will be generated, stored within the monitoring data base (GIS) and divulged through the environmental information and public education programs (in local Indigenous languages and dialects, wherever possible).

Forestry (OP 4.36). The project will adhere to the spirit and letter of the prescriptions contained within this important Bank policy, insofar as it will: (i) seek above all to stimulate concern for and support forest

management processes and practices which would retain as much natural forest as is possible in areas where such forests still exist and are viable; (ii) seek to improve the environmental aspects and reduce waste and unsustainable practices within current forest use and management practices; (iii) stimulate the revegetation of degraded lands and watersheds with natural and planted forests, wherever conditions allow for this to occur in a sustainable and efficient manner; (iv) monitor all existing forest cover within the project area (baseline) and any future changes in this cover, promptly addressing the incentives and causes which lead to forest conversion and degradation; v) work with municipal governments and communities in improving the management of existing and encouraging expansion of forests, wherever such expansion is viable and sustainable (e.g., for the generation of chargeable environmental services); and vi) protect samples of rare and threatened forest types within protected areas and parks and in general address all manner of threats to existing forests (fire, poor grazing practices, unsustainable extraction of forest materials) through improved management capacity building at the regional (INAB), municipal and community levels.

Pest Management (OP 4.09). The project does trigger this important Bank OP, in that almost all farmers and gardeners in the project area use chemical inputs, such as chemical fertilizers and highly toxic pest and weed controls (as well as their traditional organic inputs swept from the forest floor) to produce locally-grown crops, including vegetables, corn and beans (*milpa*), coffee, and other products for home consumption and local and regional (and occasional export) markets. The incidence of malpractice in regard to the application of these inputs is very high (as is highlighted in CODERSA's: "Analisis Ambiental del Altiplano" cited above). The project's aim is to raise agricultural productivity within the project area while also substituting for natural resources-degrading practices and turning back their effects (erosion, contamination, mining of fertility, and relacement of forest with agricultural and livestock production). This process will take time, and no changes can be expected to occur overnight. Thus, while the project will contribute to an overall reduction in the volume and nature (toxicity) of the pest and weed controls, it will do so gradually by substituting less toxic substances for the more toxic ones, large and inappropriate applications for more appropriate quantities (also of artificial fertilizers), and in general, promoting sustainable practices (e.g., integrated pest management) over environmentally unsustainable practices. Strong gains will be made in these objectives through the environmental education and information programs and the local-level extension and advisory services. In no case will the project procure directly or indirectly any of the pest management substances which the Bank’s OP advises against. These lists will be included as part of the process of subproject evaluation.

Indigenous Peoples (OD 4.20). Some 90-95% of rural people in the project area belong to one or another Mayan indigenous ethnic subgroup. The Social Assessment highlighted this fact and made it quite clear that the project itself could thus be regarded as an Indigenous Peoples Development Project. however, to further ensure compliance with the spirit of OD 4.20, the Project team has drafted a stand-alone IPDP with a number of measures to ensure that the project will work within traditional Mayan cultural and natural resources and land use practices to achieve improvements in income and in natural resource conservation.

Cultural Property (OPN 11.03 and draft OP 4.11). The project team does not consider this OP/OPN as relevant to the project.

Involuntary Resettlement (OD 4.30 and draft OP 4.12). While the project design makes it quite clear that no Bank or GEF funds will be directed toward involuntary resettlement (out of national protected areas, for instance), the project design team has prepared a Process Framework document which summarizes current Guatemalan law regarding the rights of populations in and around protected areas and the powers of and conditions under which the state might resettle such populations. A copy of the Process Framework document (in Spanish) will be available in the Bank's InfoShop after project appraisal.

Additional
Annex 13

SUMMARY INSTITUTIONAL ANALYSIS

This annex summarizes key findings and recommendations from three reports commissioned to examine aspects of the policy and institutional framework in Guatemala vis a vis the project: *Analysis of Macroeconomic and Social Policies* (Curtis, 2000); *Análisis del Marco de Políticas en al Area de Recursos Naturales Renovables* (Cabezas, 2000); and *Análisis del Marco Institutional Nacional y Municipal para el Manejo Integrado de Recursos Naturales en el Altiplano Occidental* (GSD Consultants).

Key findings: There exists a complete and logically consistent set of natural resource policies that is consistent with identified objectives of the project. Current public policies do foster an atmosphere that permits decision-makers to make rational economic choices that can lead to sustainable economic growth and resource conservation. A market-oriented model with an open trade regime has been put into place over the past decade. Evidence suggests that policy makers now increasingly view companion environmental and natural resource policies as a necessity for a modern Guatemala:

- Environmental and natural resources initiatives are increasingly viewed as a necessity for a modern Guatemala and less of a negative counter to economic growth.
- Policies that require and encourage decentralization of government decision-making, and wide popular participation in government matters, are not yet impacting on resource management agencies. At best, regional and departmental cooperation is sought, but budget authority and senior personnel remain in Guatemala City.
- Implementation strategies of resources policies should be examined. It is clear that they should be more inclusive, seeking cooperation across public sector agencies and with the private sector.
- Municipal governments have the constitutional authority, and appear to offer a long-term foundation for resource management, but have demonstrated little technical competence.
- Traditional land management systems, remnants of Mayan systems in the pre-colonial period, offer advantages over pure market dominated systems, especially when social and economic policy objectives are present. They appear to link long-term environmental, social, and resource management objectives to produce day to day guidelines for economic decision-making. They should the focus of policy implementation options for the project.
- Current policy calls for the creation of a system to secure property rights for investors and facilitate land markets, but historic attempts to put into place such systems have been thwarted by political interests that prefer tenure ambiguity.

Government Policy and Actors

The Peace Accords recognized the critical role of GOG economic and growth policies and include fiscal targets and a commitment by the national government to mount major public investment programs in conflicted areas. Support for democratic actions and wider participation in political decision-making is part of a broader changing political environment. The set of agreements point to a focused program to dissolve the dual nature of Guatemala society, where benefits from economic growth have been systematically kept from the indigenous population, descendents of the original Mayan people.

Government Policies: GOG agencies and policies relevant to natural resources management are described in the main text in Section C. The policies and institutional structure is directed towards a long-term view, breaking from past initiatives that tended to identify short-term production targets or identify special populations or target commodities for support. A sustainable theme underlies these plans and policies that are directed toward development of *commercially* viable and sustainable agricultural enterprises. There are no discernible fault lines in this policy set. The challenge is in implementation.

The GOG is using a market oriented growth model as a guide for economic development and growth by no means a purist approach, and political decisions continue to protect certain segments of the economy or attempt to reward favored political groups. There have been and will continue to be exceptions to strict implementation of economic policies, dictated by transient political crises.

Table 1: Policy Matrix

Policy	Policy Goal	Policy Tools & Instruments	Target Populations	Results
Social (Peace Accords)	Stop the war. Reduce or eliminate dual nature of Society	Constitutional modifications by vote; Laws; Public Policy changes; recognition of Mayan cultural institutions	Indigenous population concentrated primarily in highlands regions	Constitutional modifications rejected by popular vote; changes in public investments program
Fiscal (Part of Peace Accords)	Raise revenue for non-inflationary public investment program. Create stable non-inflationary climate	Increased tax collection; increased allocation for public infrastructure in highlands	Indigenous population & investors primarily in highlands; tax payers	Tax targets not met; postponed to 2004 by current government
Monetary	Reduce inflationary pressures; stimulate private investment; reduce political influence on key economic variables	Central Bank Operations. Regulations governing private bank reserve requirements	Savers, Lenders, Borrowers	Interest rates set by market with indirect influence from Central Bank; inflation reduced
Trade	Stimulate export economy; direct economic activity toward comparative and competitive advantage	Central Bank interventions in foreign exchange market	Investors, traders (exporters and importers), consumers	Exchange rate has remained relatively stable
Environment	Encourage sustainable use of natural patrimony	Persuasion	Public Agencies; private behavior	Creation of Ministry of Env. and Natural Resources

Modernize Government	Adjust public institution operations to new outward looking policy framework. Reduce government expenditure	Change operational authority and mode of public institutions; reduce public sector budgets	Target Groups. Public sector agencies	Reduction in public employee levels; initial moves to decentralize and change mode of services resulted in reduced services
Decentralize decision-making	Increase public participation; promote transparency of government decisions	Mandated 10 % of government revenues as municipality block grants	Municipal government	Three years of operation with limited success

Other Public and Interested Institutions: In 1999, the Social Investment Fund (FIS) funded over US$20 million in projects in the Western Altiplano, and the National Fund for Peace (FONAPAZ) provided another US$ 25 million, while the Solidarity Fund for Community Development (FSDC) reported investments of US$21.9 million. Infrastructure projects dominate the portfolios, accounting for 93%, with water and sanitation accounting for 28% and transportation infrastructure for 65%. This reflects the need for economic infrastructure in this region and follows the prescriptions of the Peace Accords. At present, it seems, the more tangible, short-term payoff are supported over projects addressing sustainable issues of resource use.

The Bank supported Land Fund operates nation-wide, but is limited to working in areas where there are no conflicts over land ownership, a difficult constraint to overcome in the Western Highlands. Environmental policy monitoring is charged to two government entities: the Office of the Environment of the National Attorney General Office and the Prosecutors Office of the Ministry of Public Affairs both with minimal staffing and budget. The coffee industry's FUNRURAL and AGEXPRONT, specializing in production and processing of non-traditional agricultural exports are two key private sector agriculture organizations. Organizations directed at municipalities include the GOG agency Instituto de Fomento Municipal, (INFOM, which provides loans to municipal governments and manages potable water and sanitation projects), the National Association of Municipalities, and the Association of Indigenous Mayors and Officials.

Decentralization: Departments are charged, in some instances, with coordination of national policy but it is rare for budget authority to accompany such instructions. Decentralization efforts are perhaps most productive in terms of the allocation of 10% of the National Budget as block grants to municipalities and least effective in the Ministry of Agriculture, Livestock and Food /MAGA's severe reduction in budget and personnel allotments: 1998 staffing cuts in staff, reduced the number of personnel to 26 per cent of 1997 levels, and this has not substantially changed under the current GOG. INAB and CONAP have received slightly increased budget and staff allocations, and while INAB has assigned significant staff resources to the Altiplano, CONAP(with a much smaller staff base) has not. Policy implementation strategies tend to be agency-specific although some attempts to pull in non-governmental agents (for-profit as well as not-for-profit) have been seen. While the strategy calls for these types of agencies to play a stronger role, they have not done so yet. Policy implementation in the Altiplano, is generally weak. Implementation strategies need more attention, especially in moving decision-making closer to the communities affected.

Municipalities: Municipal governments are assigned strong constitutional role over land use but the authority and policy oversight responsibilities are not exercised. Technical competence of municipal governments is weak. At the same time, stronger municipal governments offer a long-term foundation for natural resource stewardship. Community level action is crucial to engage the people who use the forests,

and the connection is more likely to be lasting and effective from a municipal capital rather than from Guatemala City.

The Constitution empowers municipalities to "select officials, raise and spend funds, provide public services, and regulate land use (zoning)." Since 1986, 10% of the National Budget is granted to municipal governments with few strings attached. In 1998, almost $50 million as transferred to the municipal governments in the 6 departments of the Western Altiplano. The municipality is also empowered to raise funds from a variety of fees and taxes and can borrow funds from government entities or private banks.

Land use is a constitutional prerogative of municipal governments and although hampered by a weak land registry system, this role, especially in oversight of natural resource policies, is recognized in laws. All private and untitled land is under the jurisdiction of municipalities, and in many cases, municipal (communal) forests still exist. Forestry Law calls on municipalities to provide oversight for execution of the Forestry Law by policies adherence to regulations for the PINFOR program of INAB. In practice, this authority and oversight responsibility is rarely exercised. Other issues are given higher priority and the technical capacity of municipal governments is weak.

The elected municipal mayor works through elected or appointed auxiliary mayors (*alcalde auxiliar*) who in turn work with community associations or committees. In the nine focal municipalities within San Marcos, there are 389 auxiliary mayors (many communities select more than one) and over 1000 community committees or associations working on projects such as potable water, health, education, and agro-forestry.

The administrative capacity of municipalities has been categorized as "simple" or "complete." A complete label describes municipalities where larger and equipped bureaucracies perform a broader range of administrative actions. A simple designation means that only the basic administrative functions and services are offered. Basic civil documents are produced and public services such as water and basic police services provided but little more, and few administrative positions below Municipal Secretary and Treasurer are filled. Decision-making tends to be concentrated in the Mayor and transmitted verbally to subordinates. Of the 40 municipalities selected for the project, 36 are classified as "simple."

Ideally, implementation decisions of national policies and programs would reflect the views of people in the municipalities. However, technical competence is heavily tilted towards Guatemala City, and in this imbalance the view from the capital often determines how a program is shaped locally. Specialists in forest management, for example, may force a bias toward timber extraction when the local population sees the forest as a source of other benefits. Arguments to counter technical biases of central bureaucrats are beyond the technical competence of municipal authorities. The result, most often, has been conflict between local and national objectives without opportunities to build a common base of understanding and support. As a result, conflict resolution is critical for success of natural resource policies.

Agriculture and Natural Resources Management

General Conditions for Natural Resource Investments: The last decade has produced deep and far-reaching changes in macroeconomic policies. The set of economic policies now in place are consistent with global trends and place Guatemalans in a position to develop and exploit comparative economic advantages. Benefits have been realized in the rapid and sustained growth of non-traditional exports in merchandise and agriculture. The Western Altiplano has not participated in this new source of employment and income; extension of the opportunities to this region needs to be explored. The public investment programs in physical infrastructure, education, and health will improve the competitive position of Altiplano residents.

Domestic inflation and growing public debt led to changed monetary and exchange rate policies; subsidies to domestic industries and protective trade policies have been eliminated or are severely reduced. Resource based industries, whether plantation agriculture, forestry, mining, or other extractive operations, have a long time horizon between investments and revenues from the marketplace. Management of the resource base for the long-term, in a "sustainable" manner, posits a time horizon measured in decades, not fiscal years. The "conditions" for sustainable management of resource-based industries would include the following: (i) stable political conditions; (ii) secure ownership institutions of assets, especially land; (iii) predictable tax conditions; (iv) relative low and stable interest rates; (v) stable exchange rate; and (vi) economic access to markets, international and domestic. Current policies posit favorable conditions for resource intensive productive activities, but two of the six conditions present problems: secure land titles and market access.

Poverty reduction: Global markets offer the best hope for expanded non-agricultural employment for most of highland citizens. Out-migration and non-farm jobs are part of family survival strategies. The long-term health of the watersheds depends on reducing human demands on fragile slopes. Inducing non-agricultural investments in the region could well provide greater income and conservation benefits than attempts to introduce higher yielding, at higher investment costs, agricultural production technologies on fragile slopes. Attempts to increase yields of annual traditional crops, through improved cultural practices and expensive off-farm inputs on steep hillsides does not appear to offer much opportunity for significant income gains. Investments in perennial crops to replace traditional annual crops can produce higher family income if market connections can be made; facilitated by secure land tenure and a source of investment capital

Land titling: Traditional communal land ownership appears to encourage a long-term view of land use, emphasizing multiple use of forests and avoiding short-term exploitation. Existing land tenure polices ignore this powerful option for private and public management of forests. Land titling was and is avoided because (a) the land was acquired illegally, (b) to avoid taxes, or (c) boundaries cannot be verified. In Guatemala, one of the unwritten policies that supported the dual society was a land tenure system that facilitated the transfer of lands to the ladino population and out of communities of indigenous Mayans descendents. While current government policy calls for a land registry system to assure title security (for investments), traditional communal land ownership is avoided, and traditional communal ownership claims by Mayan communities have been discouraged or ignored. (Note that the project will not directly address land titling issues.)

Traditional and communal land management practices: These practices are directed towards a more distant time horizon that emphasizes multiple use of the forest resources. The strength of this focus comes from its close ties to cultural beliefs and norms; and sanctions are enforced locally. A "land trust" system remains in In the department of Totonicapán, most communities follow the traditional Mayan system of holding lands in common and assigning rights to members of the community. This department boasts of the highest proportion of forested land and the highest population density in Guatemala. Traditional

community-based decision models on land use appears to be more consistent with contemporary environmental objectives than pure reliance on markets to value the multiple products coming from forests. Where remnants of traditional systems have persisted, forests remain.

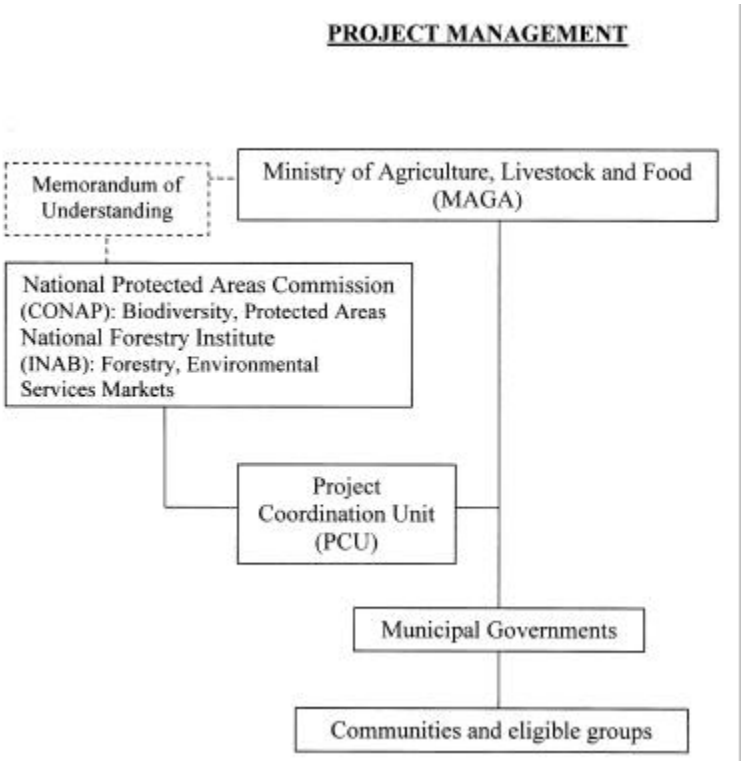
Additional
Annex 14

Institutional and Implementation Arrangements

Implementing Agency

The project implementing agency is the Ministry of Agriculture, Livestock, and Food (MAGA). Two other GOG national level agencies, the National Protected Areas Council (CONAP) and the National Forestry Institute (INAB), will also participate in project implementation and supervision. CONAP will assume responsibility for activities related to biodiversity and protected areas, and INAB will do so for activities related to forestry and environmental services. A Memorandum of Understanding (MOU) will be signed among the three agencies detailing their mutually agreed roles and responsibilities.

As this proposal was being completed, a new Ministry of Environment and Natural Resources (MARN) was created to which CONAP and INAB will be attached sometime early in 2001. MARN will have an overall coordinating role for the natural resources sector. Given the autonomous nature of these agencies, this change is not expected to cause any major changes in the project or in the institutional and implementation arrangements. During appraisal, the project team will discuss and validate with the newly appointed Minister of Environment and Natural Resources and the Minister of MAGA the implementation arrangements described below for institutional oversight and coordination. A draft MOU will be reviewed during appraisal for inclusion in negotiations.

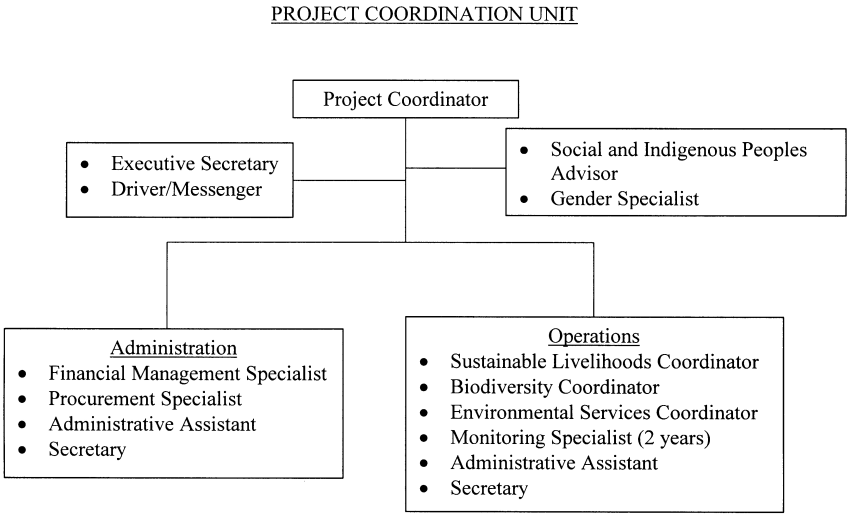


Inter-Institutional Coordination and Project Oversight

The project will avail itself of the national level Natural Resources Committee which has functioned to coordinate the activities, programs and policies of MAGA, INAB, CONAP, CONAMA (National Council for the Environment), and the Guatemala Tropical Forestry Action Plan Office (PAF-Guatemala). With the creation of the new Ministry of Environment and Natural Resources (MARN), CONAMA is being dissolved and MARN will become a member, if not head, of the Committee. It is expected that the Natural Resources Committee will: (i) provide for inter-agency coordination and supervision of the policies being implemented through project activities; (ii) make recommendations for policy formulation and instrumentation studies to be financed by the project; (iii) review and comment on progress, supervision, mid-term and final evaluation reports. At the regional-level (Western Altiplano) a "Regional Steering Committee," with majority representation from civil society and the private sector (association of mayors, consejo de ancianos, women's organization, private sector agricultural firms, universities, NGOs) along with representation from MAGA, CONAP and INAB, will provide limited project implementation policy guidance to the Project Coordination Unit. The role of the Regional Steering Committee will primarily be to: (i) enhance the role and voice of non-government stakeholders in directing project interventions and project oversight; through (ii) reviewing and recommending changes in project operational manuals and plans in order to better respond to regional priorities with project investments in institutional strengthening, grant subprojects, conservation initiatives, and environmental services pilots in the project area; while (iii) assisting to coordinate the project with other initiatives in the region.

Project Coordination and Management

A Project Coordination Unit (PCU) will be established within MAGA and located in the Western Altiplano (Quetzaltenango) to provide for overall coordination of component activities and carry out project management functions. PCU staff will include a Project Coordinator, three Component Coordinators, two advisors (Social and Indigenous, and Gender), a Procurement Officer, a Financial Manager, a Monitoring Specialist for the first two years of the project, and required Assistants and Secretaries. Specifically, the PCU will be responsible for implementation, coordination and promotion, preparation of annual work programs, budgets, procurement and financial management, general supervision, and monitoring and evaluation. The PCU will also have some limited but important technical and implementation responsibilities, in terms of administering and supervising contracts for the implementation of support services, intercultural communication, and other cross-cutting institutional strengthening activities.



Financial Management. The PCU will be responsible for accounting and financial management of project resources, including signing contracts, authorizing payments, disbursing funds, consolidating project accounts and information, budgeting, preparing financial reports, and establishing internal controls. As per the Action Plan detailed in Annex 6, a Financial Manager with appropriate qualifications will be appointed for the Project with responsibility for following financial management, accounting, reporting and funds administration functions, as per IBRD guidelines. Further to the Action Plan, the PCU will install an integrated financial system to monitor financial transactions and component activities of the project. The integrated financial system will include planning, internal controls, accounting, project monitoring and financial reporting, and will be certified by the IBRD as a condition of Project Effectiveness.

The PCU shall prepare and submit to the Bank quarterly project management reports (PMRs) linking project expenditures to key monitoring indicators of activities carried out during each quarter. The formats and basis to produce those reports would be in accordance with the Bank Financial Management Manual and LACI procedures. In addition to project management reports, external audits of project financial statements will be required on an annual basis. Accounting and auditing practices, standards and controls, reporting format and content defined in the Project Operational Manual will meet international standards and be consistent with the Bank's Financial Accounting, Reporting and Auditing Handbook (FARAH).

Disbursements. See Annex 6.

Project Planning. The PCU will be responsible for preparing Annual Operating Plans (POAs), to be agreed upon with the IBRD, which will include specific objectives, a description of activities, expected outputs, monitoring indicators, detailed budget estimates and a procurement plan for the year. All activities involving MAGA, CONAP or INAB staff (or as institutions) will be planned jointly so as to integrate project responsibilities into the institutions and staff annual work programs.

Project Monitoring and Evaluation. The PCU will be responsible for ensuring that project results and impacts are monitored throughout the life of the project (see Annex 17). Detailed project performance monitoring indicators and a draft Monitoring and Evaluation proposal have been presented in the draft PIP and will be reviewed at appraisal and finalized prior to Project Negotiations. Project monitoring information will be drawn from the individual implementing entities and consolidated within the PCU. The PCU will submit to the Bank bi-annual progress reports tracking POA performance targets, which progress will be gauged against objectives and monitoring targets. This information will provide the basis for the interagency Natural Resources Committee and the World Bank supervision missions to identify and

address areas of implementation weakness. These measures for improvement would be reflected in the updated work program, or POA, for the subsequent 6 month implementation period and the forthcoming year's project budget.

A Mid-Term Review would be carried out to provide an in-depth evaluation of project performance and outcomes based on the agreed targets presented in Annex 1. These reviews would include representatives of the GOG, the private sector and civil society and would lead to recommendations for specific measures to improve project implementation by incorporating lessons learned.

Operational Manual. The functions and responsibilities of the PCU and project management will be governed by the Project Operational Manual, which would include detailed guidelines for the preparation of the POA, staffing and assignments with specific responsibilities, supervision, flow of funds, special accounts, budgeting, auditing and reporting as well as procurement and disbursement procedures. The Operational Manual would be updated according to project circumstances and project strategies, implementation experience and project objectives, and activities set forth in the PAD and Project Legal Agreement. Finalization of the Project Operational Manual will be a condition of Project Effectiveness.

Implementing Institutions & Arrangements

Execution of all project activities, with the exception of the Component 1 (Sustainable Livelihood) Municipal Grants under the Local Institutional Strengthening Subcomponent and Subproject Grants subcomponent, would be carried out directly through the PCU in concert with the GOG implementing agencies. Activities related to strengthening of public sector agencies will be programmed and executed through the agencies' internal annual planning and budgeting processes with the PCU handling contracting arrangements (for training, technical assistance, studies, etc.). Programmatic activities related to capacity building of non-government actors at the local and regional-levels would be competitively contracted by the PCU (e.g., support services, intercultural communication, and other cross-cutting institutional strengthening activities). Terms-of-reference for the contracting would be finalized with the participation of the relevant government and non-government actors (i.e., those which would be subject to assistance under the contracts). Individual activities (studies, ad hoc technical assistance, audits, development of project monitoring software, etc.) would be contracted by the PCU.

Local Institutional Strengthening and Subproject Grants Program. The bulk of project funds will finance municipal grants for local institutional strengthening and demand-driven subprojects. The former is a technical assistance grant and the latter is a targeted, demand-driven rural investment facility (DRIF) for natural resources management. The technical execution of these actions would be contracted to a qualified organization/or firm to establish a Grants Technical Unit (GTU) in the Western Altiplano with (at minimum) offices in the *cabacera* of each project department. The organization/or firm would be selected based on its experience working with poor, especially indigenous, communities in natural resources, agriculture and rural development and with intermediary organizations such as NGOs. The GTU's primary responsibility will be to deliver to MAGA grant subprojects eligible for financing and supervise their execution. The GTU will review subproject grant proposals and confirm that they comply with the Project's Operational Manuals and Legal Agreement regarding beneficiary group eligibility, environmental standards, and procurement and accounting procedures. The GTU will also determine the eligibility of proposed technical assistance providers, maintaining a roster of qualified service providers, and perform a screening to determine if the proposed subprojects meet technical, economic and social feasibility standards and would contribute to project development objectives of sustainably increasing income and improving natural resource management and biodiversity conservation. The contracted organization/or firm will also supervise approved subprojects and maintain administrative, management and monitoring systems in coordination with the *Instancias Locales* and municipal Promoters (see below). The GTU will maintain a disbursement and accounting system that tracks project success and disburses based on individual grant

performance.

In each project municipality a municipal-level body, representing key stakeholders, will be established by strengthening an existing entity or forum. This entity or *Instancia Local*, made up of representatives from the municipal corporation, local civil society entities involved in "good use" of natural resources (*parcialidades, cofradias, consejos de ancianos, principales* and *chimanes*), and aauxiliary mayors will, among others, serve as the coordinating body and counterpart for program activities. The *Instancia Local* will promote project activities, including the sustainable livelihood program, coordinate local institutional capacity development and preparation of a Municipal Sustainable Development Agenda, and facilitate preparation of subproject proposals. The *Instancias Locales* will also prioritize and select subprojects, within the pre-established grant ceilings for each municipality, to be technically evaluated for content and eligibility by the GTU.

A municipal Promoter will be hired for each *Instancia Local* to help mobilize community groups and organizations and develop proposals for conservation and sustainable income-generating subprojects. The municipal Promoter will participate with the GTU in the technical and eligibility evaluation of grant proposals.

Subproject proposals will be generated by eligible, local and municipal entities. Annex 2a. provides detailed information on eligible groups and the subproject cycle.

For most subprojects, the client organizations would contract subproject implementation and technical support services from universities, NGOs, technical assistance and extension firms, agribusiness and other private firms, research institutes, or others enrolled in the Registry of Qualified Service Providers (see Annex 2). Client organizations can implement subprojects directly, if they have demonstrated capacity and are enrolled in the Registry. The GTU will determine the eligibility of proposed technical assistance providers according to the Subprojects Operational Manual and maintain the Registry.

The Subprojects Operational Manual will include standard documentation and describe detailed procedures for contracting (See Annex 6), accounting and reporting, disbursement and monitoring and evaluation. The Subprojects Operational Manual will also provide procedures for monitoring problem subprojects, steps to resolve problems, and procedures for prompt cancellation if problems persist. Standard grant agreements acceptable to the Bank and included in the Subprojects Operational Manual will be used to transfer grant funds to the beneficiaries under conditions that would ensure adequate implementation.

Trust Account Adminstrator. Project funds will be disbursed through a private Trust Account Administrator (TAA), to be selected on a competitive basis. The primary functions of the TAA will be to administer project resources and release/transfer funds upon the instruction of the PCU Coordinator to facilitate the resources for the activities to be implemented under the annual operation plan (see Annex 6). Entities in Guatemala, acceptable to the World Bank, will be selected, and a short-list with a minimum of three will be invited to provide proposals for account administration. Potential entities would include UNDP, IICA, and private banks (such as BANCAFE). (The World Bank is currently reviewing the capacity of private banks to carry provide such assistance to World Bank-financed projects, and the results will be used in developing the short-list.) The TAA will open an account in a commercial bank found acceptable to the Bank (or, in the case of UNDP being selected, the fund flow would be through UNDP in New York).

Table 1. Principal Actors

Actor	Level	Quantity	Institutional Link	Description
Community and Municipal				
Informal community-level organizations	Interest groups	>650 (estimated)	Group/ Community	Informal: grassroots organizations, traditional authorities, producer groups, etc.
Community-level forums and pro-development committees	Aldea/ Poblado	>1,300 (estimated)	Community	Community general assemblies and committees organized around specific interests (e.g., water supply, electricity)
Formal community-level organizations	Interest groups	>65 (estimated)	Group	Formal: Associations, Cooperatives, Federations
Auxiliary Mayors	Aldea/ Municipal	>1,000 (estimated)	Community, Municipality	Auxiliary mayors representing the municipal mayor in the aldeas, jointly selected by mayor and community, in general are the traditional authorities (ancianos)
Municipal promoter (to be hired)	Municipal	40	Municipality	Municipal employee, co-financed by project, selected by "Instancia Local".
Municipal Government	Municipal	40	Municipal	Mayor, Municipal Corporation
"Instancia Local" (to be established by strengthening existing local entity)	Municipal	40	Civil Society & Local Government	Flexibly defined forum/council, made up of representatives from the municipal corporation, and local civil society entities involved in "good use" of natural resources (parcialidades, cofradías, consejos de ancianos, principales and chimanes, and alcaldes auxiliares) and rural development (producer and microenterprise) organizations.
Local, Departmental, Regional, National				
NGOs, Universities, Programs, Projects	Local to National	NA	N/A	Existing entities and the projects and programs they execute (e.g., NGOs, non-profits, technical assistance firms, church groups, universities, FUNRURAL, AGEXPRONT, PROBOSQUES, etc.)
Decentralized offices of counterpart agencies (MAGA, INAB, CONAP)	Departmental and/or Sub-regional	MAGA: 3 offices CONAP: 2 offices INAB: 2 offices	Parent Agency	Regional (CONAMA), Subregional (CONAP, INAB) and Departmental (MAGA) coordination offices whose roles include: · MAGA: coordinate development activities & projects, planning, technical services and organizational assistance to private sector, strategic information and evaluation/monitoring; · CONAP: technical assistance for administration of protected areas; · INAB: coordinate forestry incentives (PINFOR) and organizational strengthening (BOSCOM) activities and projects, planning, technical services and assistance to private sector, strategic information and evaluation/monitoring.
Network For Sustainable Agricultural Development (RADEAS)	Departmental	6 Depart-mental	Producer groups	Intermediary between community producer organizations and MAGA for strategy development and prioritization of public services to producer groups. Made up of representatives of producer groups.
Natural Resources Committee	National	1	MAGA, MARN, CONAP, INAB, PAF-G	National-level coordinating body for execution of natural resources policies.

Regional Steering Committee (to be established)	Regional	1	Principal stakeholder groups	Advisory Board made up of representatives from the GOG (MAGA, CONAP, INAB), civil society (regional Mayors Association, a Mayan development NGO, a Mayan women's association, the RADEAS, and a major development NGO working in the region) and a representative of the private sector
Project Coordinating Unit (PCU) (to be established)	Regional	1	MAGA/ CONAP	Unit located in Quetzaltenango and attached to MAGA's Foreign Assistance Division, which would be responsible for project coordination and financing.

Table 2. Principal Actors' Roles by Component

Actor	Sustainable Livelihood	Biodiversity Conservation	Environmental Services	Project Management
Informal community-level organizations	· Participate in planning · Formulate and execute projects			Evaluate and report on performance of service providers
Community-level forums and pro-development committees	· Forum for promotion, facilitation, leadership in local planning · Forum for consensus building and conflict resolution · Prioritization · Channel priorities to municipal-level			Comment on status of execution of local projects and processes
Formal community-level organizations	· Participate in planning · Formulate and execute projects			Evaluate and report on performance of service providers
Alcaldes Auxiliares	· Coordination with municipal authorities · Representation of community priorities at municipal level · Promote, facilitate and participate · Channel information between community and municipality			Report on status of execution of local projects
Municipal Promoter: Instancia Local	· Secretary of *Instancia Local* · Promotion · Dissemination · Coordination · Facilitation · Supervision · Reporting			Orientation of local actors on project goals and instruments; Channel information between municipality and PCU; Supervision and reporting on status of execution
Municipal Government	· Coordinate and facilitate establishment of "Instancia Local" · Participate in and support development of municipal development agenda (MDA) · Officialize and adopt MDA · Promote execution of MDA · Formulate and execute projects			Evaluate and report on performance of service providers (for municipal projects)
"Instancia Local"	· Responsible for conducting process and execution of MDA: promotion, coordination, convening, facilitation, conflict resolution, prioritization, and supervision · Select and supervise Promoter · Assign Institutional Strengthening funds for local project preparation · Prioritize, select and provide oversight for local projects			Report on status of execution of local projects
NGOs, Universities, Programs, Projects	· Assist eligible beneficiaries to access project support, especially marginalized and vulnerable groups · Provide technical, organizational, financial and administrative services to eligible beneficiaries · Promote project objectives and appropriate use of resources · Promote and execute cross-cutting programs with groups of eligible beneficiaries			Evaluate and report on performance of projects and activities in which are participating.

Decentralized offices of GOG agencies (MAGA, INAB, CONAP)	· Participate at municipal-level, especially in MDA development and identification, preparation of municipal projects · Orient "Instancia Local" and service providers on sectoral policies and priorities · Promotion · Application of regulatory framework (especially environmental norms and regulations) · Technical inputs · Information dissemination			Orientation of local actors on project goals and instruments; Channels information between agency, municipality and PCU; Supervision and reporting on status of execution at municipal-level
Project Coordinating Unit (PCU)	· Implementation, coordination, and promotion · Development and updating of project operational manuals and regulations · Preparation of implementation plans, annual work programs, and budgets · Supervision, monitoring and evaluation · Meeting World Bank reporting requirements and maintaining liaison with the Bank · Coordination of financing for project activities, including the subproject grants · Procurement · Establishment and maintenance of a Registry of Qualified Service Providers · Contracting and supervision of technical assistance required for project administration, monitoring and evaluation · Preparation of national inputs for project mid-term review and project completion reports · Execution of policy, institutional, economic or social studies required to ensure quality of project execution and sustainability of interventions · Contracting and supervision of Component 1 and 2 Technical Units · Contracting and supervision of consultancies for cross-cutting institutional strengthening and training activities, Rural Information Services, and Strategic Regional Subprojects · Channel funds, through annual planning process, to GOG agencies for internal strengthening activities.			
Network For Sustainable Agricultural Development (RADEAS)	· Establish priorities for departmental, cross-cutting programs in training, extension, technical assistance, marketing and commercialization and research · Prioritize and select Strategic Regional Subprojects			Provide stakeholder group feedback on regional program implementation
Regional Steering Committee	· Establish policies & macro-priorities for subproject financing · Ex post review of subproject packages · Recommend changes in project operational manuals & regulation	Forum for consensus building on conservation priorities	Forum for consensus building, orientation and promotion of environmental services policies and pilots	Participate in project supervision, mid-term and final evaluation; Review and comment on progress reports
Natural Resources Committee	· Supervision and orientation of project *viz.* implementation of national policies · Recommend changes in project operational manuals & regulations · Recommend priority studies for policy formulation and instrumentation · Interagency coordination · Coordination with other projects/programs.			Participate in project supervision, mid-term and final evaluation; Review and comment on progress reports

Table 3. Project Implementation Responsibilities

Actions/Activities	Mode of Execution	Other Cooperating Institutions	Responsibility For Direct Supervision
Component I. Sustainable Livelihood Development			
1a. Local Capacity Building (a) Municipal-level	(a) Grants to Municipalities and contracts with service providers.	(a) INFOM, ANAM, AGAAI, Juntas Departmentales de Alcaldes	(a) PCU
(b) Decentralized and deconcentrated GOG counterparts	(b) Contracts with service providers, programmed through institution's Annual Work Program	(b) Training providers	(b) GOG counterpart agencies
1b. Sustainable Natural Resources Management Subprojects (a) Management of subproject grants program	(a) Technical execution of program contracted to Grants Technical Unit	(a) MAGA, INAB, CONAP	(a) PCU
(b) Execution of subproject grants	(b) Directly by grant recipient or by contracted service provider	(b) NGOs, existing projects/ programs	(b) GTU
1c. Support Services	Contracts with service providers.	Service and technical assistance providers (Universities, AGEXPRONT, regional NGOs, etc. and GOG counterpart agencies	PCU
Component 2. Biodiversity Conservation			
2a. Protection of Areas of Global Importance	Contracts with service provider.	Conservation NGOs and projects, CONTIERRA	PCU and CONAP
2b. Intercultural Communication	Contract for program execution	Universities, indigenous NGOs, Ministry of Education	PCU and CONAP
2c. Biodiversity Monitoring	Contract for program execution	Conservation NGOs, Universities	PCU and CONAP
Component 3. Environmental Services Markets			
3a. National Environmental Services Strategy	Contract for program execution	MARN, Conservation NGOs, Universities	PCU, INAB and Natural Resources Committee
3b. Capacity Development	Contracts with service provider		PCU and INAB
3c. Environmental Services Pilot Projects	Directly by grant recipient or by contracted service provider	MARN, Conservation NGOs, Universities	PCU and INAB
Component 4. Program Management			
4a. Administration (a) Project Administration	(a) Direct by PCU and technical assistance contracts		(a) PCU
(b) Financial administration	(b) Contracted to Trust Account Administrator		(b) PCU
4b. Monitoring and Evaluation	Direct by PCU and technical assistance contracts		PCU

Additional
Annex 15

Social Assessment Summary

This document summarizes the main findings and recommendations of the Social Assessment carried out during project preparation. Because some 90-95% of the population of the project target area is indigenous, the project is designed as an Indigenous Peoples Development Plan as defined by the policies and operational directives of the World Bank. Nevertheless, a separate IPDP was prepared along with a Gender Participation Plan to support the involvement of women, Mayans and *ladino* people in the project area. These are available in the project files (see Annex 11).

This Social Assessment had the following objectives: (a) evaluate the existing patterns of natural resources and land ownership, management, access, and use practiced by different ethnic groups and in different agro-ecological regions of the Western Altiplano; (b) identify stakeholders and beneficiaries using a gendered perspective and identify the most appropriate means by which they should be involved in project preparation, implementation and evaluation, and to obtain their inputs for project scope and design; (c) identify potentially negative impacts of proposed activities on vulnerable groups in the population including indigenous people, low-income producers, and women and to design measures to prevent or mitigate these impacts; and (d) identify opportunities to build the capacity of municipal governments, Mayan indigenous producers' organizations and NGOs.

Methodology: The Social Assessment consisted of: (a) an analysis of stakeholders and potential beneficiaries in the project area engaged in agriculture, natural resources management (mainly communal forests) and environmental ptotection; (b) regional consultations, workshops, and focus group meetings with stakeholders and potential beneficiaries in the project area carried out by a multidiciplinary team which included internationally eminent professionals, national experts, and local community social and environmental field workers; (c) extensive interviews of municipal government representatives, community leaders and local NGOs; (d) extensive analysis of secondary literature on the social impacts of the legal and regulatory framework including land tenure issues; (e) meetings held with national and local Mayan organizations and with representatives of non-indigenous communities and municipal leaders; and (f) specific legal analysis related to resettlement issues in regard to residents in and around protected areas.

The initial step was to construct a socio-ethnographic matrix as the basis for selecting an adequate sample of communities. The communities exemplify the full range of ecological, socio-cultural and legal factors and processes affecting natural resource management and productive activities in the Altiplano. The indicators used in the construction of the socio-ethnographic matrix were based on ethnicity and language (predominantly Mayan languages); watersheds; administrative units; life zones and productive strategies used in the different life zones; land tenure; level of conflict; and relationship with the protected areas proposed by the SIGAP (Guatemalan Protected Area System). The socio-ethnographic team reviewed government, World Bank and academic studies, including ethnographic and statistical works. In addition, special attention was given the World Bank's study "Guatemala: Priorities in Natural Resource Management: Start-Up Phase Literature Review/Diagnosis" (Warne, 2/99).

Based on the above, several survey instruments were designed together with World Bank staff: (a) Community Diagnostic Instrument: data were collected through group discussions and with focus groups whenever possible; (b) Natural Resources: group discussion methods were used to collect data on natural resources available to communities; (c) Local Authorities: a semi-structured interview guide was prepared for discussions with mayors or with municipal secretaries about natural resource use and conservation, common property management, etc.; (d) Organizations: a semi-structured interview guide was prepared to collect data from government organizations and non-government organizations (NGOs) working in specific regions or municipalities; (e)

Gender: open-ended and relevant questions were used within all other methods to focus on gender relations; and (f) Cross-cutting Studies: special studies were carried out on aspects of gender and institutional relations. (The experts in charge of these special studies also participated in the design and analysis of the studies mentioned above.)

Results: The following summarize features critical to understanding the socio-cultural, economic and environmental dynamics of the Western Altiplano.

Historical Context: The basic socio-economic structure of the region is the historical outcome of two critical periods: 1) deliberate state policies of the Liberal Period (1870 to 1944), for the development of labor supply for agro-export plantations, which have had continuing impacts on agrarian structure and labor relations; and 2) the armed internal conflict (1962 to 1996) during which the population of the region suffered harsh repression.

Complexity and Diversity: The Western Altiplano is a region of mountainous relief, characterized in ecological terms by extremely fragile ecosystems, in social terms by being primarily indigenous (90-95% in the project target area; however, the degree to which people maintain Mayan customs, culture and identity varies), densely populated with extremely small landholdings, and in economic terms by the predominance of subsistence production. In general, there is a correlation between Mayan identity and deep poverty (93% of the entire indigenous population of Guatemala is classified as living in poverty). The Western Altiplano is a complex region because of its inter-ethnic relations, networks of regional commerce, internal and external migratory processes, manifestations of local power and customary law, territorial conflicts, and the impact of globalization on acculturation and local economies. The linguistic and social-cultural diversity match the ecological and productive diversity: 13 Mayan languages (in addition to Spanish) are spoken by the people in the region. Despite the attempts of the state to homogenize and marginalize the Maya of the Altiplano, local regions retain their cultural heterogeneity.

Socio-cultural identity: Socio-cultural identity is based on membership in a given local community, and the community is identified with a given municipality. There is a profound connection among people, community and territory (settlement, fields, woods and water sources). The Mayan cosmovision explicitly and closely links people with natural resources and provides an important contextual point of departure for work in natural resources management. In general, production and natural resource management are not seen as separate activities. Decisions tend to be made by consensus (in general assemblies), led by local authorities (often deputy mayors in law but elders in custom). Thus, the community is seen as the locus of organizational strength.

Expressed Development Needs: Beyond needs for gainful employment, people are most concerned about growing water shortages. There is also concern about forests that supply firewood, timber, water supply, etc. (Here the evidence is clear: community-managed forests are better protected than other forests.)

Rupture of the Social Fabric: Three decades of violence and tactics designed to weaken local leadership and social and productive institutional structures and create mistrust within communities have severely stressed the social fabric of the communities that are central to Western Altiplano rural life. The current generation can count on far fewer traditional resources than its predecessors. At the same time, communities and local formal and non-formal institutions remain the central axle of decision-making, development, and conservation for rural people. These factors combine to make active participation and community-driven development the key to local development.

Importance of Community-driven Development: Institutionalized discrimination against the indigenous population, the recent violence, and paternalistic development practices have left many indigenous people wary of top-down projects. To gain access to resources, local people tend to appease NGOs. This, along with mistrust of outsiders, NGOs, and the government and a history of failed projects make active participation and community-driven development yet more important.

Recommendations: The ecological, agricultural, social, linguistic and cultural diversity of the Western

Altiplano make generalizations difficult and dangerously unproductive. Thus, the central recommendation of the Social Assessment is that addressing this complexity and diversity (which must be accepted as a given, not denied) requires a strong emphasis on inclusiveness, participation, and flexible local processes in planning, community-driven development and project activity implementation and on strengthening local institutions in their ability to plan and manage conservation and development actions. (It should also be stated here that many of the recommendations of the Social Assessment have been taken into account in Project design; some, however, fall beyond the purview of this project and will need to be referred to other more appropriate agencies.)

Target Group: Predominantly Mayan Rural Population: The central participant/beneficiary groups would be poor rural men and women (peasants) at the community, *parcialidad*, village, and municipality levels who are organized around production and/or conservation goals. Given the social organization and institutional topography of the region, target groups would include women-headed families (many of them war widows); existing community organizations, particularly traditional ones (rather than committees artificially established to serve donor agencies), organized around agricultural production or natural resource management themes; and municipalities. In addition, small-scale cottage and rural industrial production units (e.g., textiles, artisan and craft goods, and furniture) should be targeted.

Women: The decades of violence and outmigration of men to elsewhere in Guatemala and to the United States, have left behind a large number of women-headed households. Though women play important roles in agriculture, commerce, firewood collection, forest stewardship and on some committees (although in some cases their participation may be a façade to facilitate access to NGO benefits), there are few productive projects for women in the region. This project must take a proactive role in facilitating women's participation in the implementation and benefits of project activities. At the same time, the project must assure that provisions are made to prevent overburdening women's work days, and alternatives and support (e.g., community childcare) must be made available to facilitate their participation.

Culturally-Appropriate Communication: Project information and activities should be in the local Mayan languages as well as Spanish, designed in culturally appropriate forms, and be easily accessible to non-literate people (as high as 50% of the population of the area, predominantly women, is illiterate).

Institutional strengthening, participation and local power: Given the immense socio-cultural variety in the project's focal region, the lingering impacts of decades of violence, and the project's stress on community- and demand-driven development, the mechanisms through which the project will work must be specifically tailored to each municipal context and to the particularities of local counterparts, through participatory planning and implementation. In doing so, the Project will also be complying with OD 4.20 of the World Bank which calls for "the informed participation of indigenous peoples and communities in decision making throughout the planning, implementation and evaluation of a project" (paragraphs 8 and 14). To assure that activities within the project are appropriate for the local context, are locally chosen (demand-driven), and answer to locally-identified real needs, participatory diagnostics must be carried out. These should analyze formal and informal institutional structures and relations (including municipal government and community-level pro-development, resource management, spiritual, women's and elders' committees and associations) in each municipality supported by the project. They should result in selecting and constituting an appropriate *Instancia Local* (municipal-level forum for local natural resource and environmental planning and decision-making). This forum should be made up of representatives of the above groups, and should promote the identification and preparation and screen locally-generated subprojects for financing under the project.

Representatives selected by communities and municipalities should be actively involved in working on project design, implementation and evaluation (local evaluation indicators should be employed). Where possible, consensual decisions (the traditional decision-making method) should be encouraged. (This requires that the project be willing to invest more time and resources in up-front planning than is usually the case.)

Existing Local Institutions: Wherever possible, the project should work with already existing traditional

organizations, rather than creating new ones. This is consistent with commitments made in the Peace Accord on Socio-economic Issues and the Agrarian Situation (ASESA No. 37). It is also important because creating new organizations may divide a community to the detriment of unified local development and conservation efforts. For the success of project activities and long-term sustainability (stability of natural resource management regimes and strengthening of local capacity to develop and implement new projects and acquire additional funding) and of positive social impacts, existing structures should be strengthened. These might include councils of elders, auxiliary mayors' corporations, and local entities that manage natural resources as well as development forums that exist within the municipal code. Particularly in cases where there exists a clear communal tradition of management of natural resources such as forests, water and land, the project should strengthen the local institutions responsible and create the necessary space to make possible increased community participation in municipal government. Associations of auxiliary mayors and other existing formal and informal authorities should be provided with assistance as well.

Legal Status of Local Organizations: Since under current legislation, the indigenous community (as such) is not recognized in law, the project should assist beneficiary groups to obtain legal status (*personaría jurídica*). Legal status for indigenous communities and rural organizations would facilitate the capture of funds, allow for signing of contracts, give access to a range of state and other resources, and, in general, increase capacity for self-management. Particular attention should be given to legalizing groups organized by women (in cooperation with Departmental Women's Forums; also see ASESA No. 33).

Coordination: The project should assist in coordination across geographic boundaries, landscapes and administrative (governmental) units to create synergies and enhance subproject impacts. It should help support the regional Association of Mayors to facilitate information exchanges and stimulate greater regional participation. Because the Project will operate within the boundaries of the Mesoamerican Biological Corridor (and in compliance with the International Labor Organization's Treaty 169, article 32), regional cooperation among the indigenous people should be fostered (with Mexico, for instance). The project should also ensure that it works with other development and conservation efforts in the region. Technical and support services should be provided by NGOs, private firms and others with compatible development philosophies and practices.

Sustainable Livelihood Strategies: Since some 95% of rural families in the region intensively farm plots of less then 7 ha and nearly half of those are less than 0.7 hectares (predominantly gardens of corn and beans), they have developed diverse survival strategies. These include permanent and seasonal migrant labor, commerce, production of craft goods, cottage industries and small-scale factories (textiles and furniture), tourism, and capture of remittances from the United States. The project should support improved productivity and profitability of diversified strategies.

Clean Technology Agriculture: Production and marketing of agricultural products should be supported through (i) rescuing and promoting those traditional agro-ecological systems of production which use organic inputs and which have the potential to be articulated with demands for certified products that are of increasing global importance; (ii) promoting improved clean production and transformation technologies; and (iii) local and regional marketing initiatives.

Non-agriculturally based income generation: In order to reduce the pressure on natural resources, the project should also support non-agriculturally based income generation activities. Recommendations for types of products and businesses are detailed in the Social Assessment. Throughout, opportunities should be provided for organizing and training women's groups for specific work. These should take into account technical improvements, access to credit, small business management training and marketing of artesanry produced by women, and easing of women's current work loads. These should provide women with improved possibilities of competing in national and international markets with a variety of farm and off-farm products. Pilot projects for marketing organic coffee and other high-value crops should be fostered, while minimizing reliance on external intermediaries. Mechanisms to value and to compensate for the use of environmental services (in particular

water consumed by agro-export companies and other plantations on Guatemala's south coast) should be created. In addition, collective indigenous intellectual property (particularly those related to crops and medicinal plants) as an important part of the nation's patrimony should be protected.

Conservation and Use of Natural Resources: In the Western Altiplano, successful conservation efforts will have to be based on secure, clear and explicit local control, especially when involving indigenous communal lands. Local institutions that manage resource access must be central to project conservation activities.

Tenancy: The Social Assessment recommends that, where feasible, the Project support regularization/legalization of communal lands (common property), including municipal lands, which have a clear community tenancy tradition (which is called for in OD 4.20 paragraph 15.c.: "... The [World] Bank will extend to the borrower the assessment and assistance needed to assure legal recognition of indigenous populations' traditional land tenancy systems" and in clause IV-F-5 of the Peace Accord on the Identity and Rights of Indigenous Peoples [ASIDPI]). Standardizing the titling and registering of communal lands should lessen incentives for privatizing natural resources, which removes land and its benefits from community control. Women-headed households will need special bilingual legal assistance to obtain legal title to the lands they farm. Deere and León (1999) affirm that land ownership (including in those cases in which peasant women are not primarily agriculturists) has great importance for status and welfare, and becomes a platform for "empowerment."

Management of Resource Access Conflicts: Participatory mapping should be employed to define agreed-upon boundaries of multiple-use and conservation areas and boundaries between neighboring communities and to define current use of natural resources. This should be done in cooperation with PROTIERRA (a GoG agency for cadastral work and registries). To resolve land use, tenancy, natural resource and socio-environmental conflicts, the good services of local institutions based on Mayan norms (making use of the existing wealth of indigenous common law) should be drawn upon, while maintaining contact with CONTIERRA (GoG agency for land conflict resolution). Because this approach would have legitimacy among the parties to a dispute, it would help assure compliance with agreements reached.

Resettlement and Protected Areas: The current configuration of remaining areas of forests as well as water sources in the Western Altiplano correlate with many of the historical protective actions and areas belonging to indigenous communities, rather than with state policy. Hence, not only should such traditional regimes be supported, but any involuntary resettlement or eviction of local populations will be strictly avoided. The norms established in the Bank's OD 4.30 (which are more restrictive than CONAP's resolution No. 030-99 on Policies for Human Settlements in Protected Areas or ASESA 34.f-k and ASIDPI IV F6) should be strictly followed. Local conservation practices should be fostered and respected in delimiting conservation and protected areas. Community members should fully participate in the preparation of management plans, which in turn will be established to include local priorities and solutions (PAHAP II5. and III:11). The concept of "Community Management Entities" (UTM, PAHAP, Annex 4) should be adapted to serve traditional Maya localities. This corresponds to ASIDPI IV-F-6/2, which stipulates that the government should "recognize and guarantee the right of communities to participate in the use, administration and conservation of existing natural resources on their lands." The project should support the state's obligation to seek and "to obtain the favorable opinion of indigenous communities prior to carrying out any project involving use of natural resources" (ASIDPI IV-F-6/3) and "... to adopt, in cooperation with communities, the necessary means to protect and conserve the natural environment" (ASIDPI IV-F-6/4).

Further Recommended Actions: In order to be best prepared for project implementation, the Social Assessment recommends that the following additional information be gathered and synthesized. The first two items have been completed, and the following three are in progress.

- Develop a typology and profile of municipal corporations and their committees and of common local formal and informal institutions. Provide a description of the range of levels of organization, capacity and legitimacy that each has within the community and the types of support that would enable it to better fulfill the roles expected of it by civil society.
- Develop a typology and profile of producer groups in each municipality to help define work plans and programs for each target group, as well as the level of intervention on the part of the project.
- Carry out a deeper study of the bases for household subsistence, as a great range of alternative options for "survival strategies" which may be observed in the Western Altiplano. This will help formulate plans for technical assistance and training, which can be an important aspect of supporting local development while reducing pressures on natural resources.
- Carry out a more detailed study of gender aspects of local organizations, production systems, and resource management practices to more fully target project activities to women, men, and families.
- Develop a detailed communications strategy and materials for culturally appropriate communication and education for all major language groups within the context of the project.

Additional
Annex 16

Comments of the STAP Reviewer

The following are the comments of Dr. John Rappole, reviewer from the Scientific and Technical Advisory Panel (STAP). The response and comments of the project team are in italics. Where it is indicated that the project team is in agreement with the comments, the Project Appraisal Document has been appropriately modified.

1. Global Priority of the Proposal in the Area of Biodiversity Protection - Protection of biological diversity is the goal on which the GEF portion of the Guatemala Western Altiplano Natural Resources Management Project is focused. The term "biodiversity" is a mathematical construct that combines estimates of the numbers of species found in a site or region with estimates of population size to produce a single number that can be used to compare different areas. There are three important aspects of the term as it is used in most conservation programs. First, the term generally is used to refer to the number of species that inhabit a region (strictly speaking - biological richness) because at most sites there are no data on populations, and, in any case, the key concern addressed by a focus on biodiversity is species loss. Secondly, some species are more important than others. It is possible, and in fact commonplace, to change the habitat on a site from entirely forest to a mixture of forest, pasture, and crop land, with little or no measurable effect on biodiversity because species lost by forest destruction are replaced by open country species; but the forest species often are those that are threatened with extirpation while the populations of open country species are expanding. Thus, greater value is placed on protection of the disappearing species than on maintenance of biodiversity, *per se*. Third, "Biodiversity is not distributed randomly or uniformly across the landscape," (Noss et al. 1997:107), which means that priorities have to be set based on knowledge of species distribution.

The Project Appraisal Document (PAD) notes that the western Altiplano of Guatemala has important biodiversity values, stating, "The region's seven Holdridge life zones contain the richest plant diversity in the country and are centers of origin of cultivated plants of global value (e.g., maize)," (PAD 2000:7). The document also notes that a planning exercise led by The Nature Conservancy identified seven areas of biodiversity importance in the western Altiplano. This information is insufficient to establish the western Altiplano's bonafides in terms of global biodiversity importance.

Obviously, the western Altiplano of Guatemala does, indeed, represent a region of high global priority in terms of many important aspects of biodiversity. For instance, a workshop organized by the World Wildlife Fund's Biodiversity Support Program (1995:xxi) identified two major forest habitats of regional importance that are vulnerable or endangered within the project area (Tropical Dry and Tropical Moist Montane). This same document provides evidence of Regionally Significant or Outstanding biological value in terms of plants, mammals, birds, insects, reptiles, amphibians, and fish (Appendix A). However, by not documenting these aspects in the body of the PAD, the question arises as to whether or not the actual activities planned will benefit the key aspects of biodiversity represented within the region. The findings of The Nature Conservancy effort, along with other relevant materials, should be presented in much greater detail in the PAD in order to justify the western Altiplano's significance from a biodiversity perspective.

As a consequence of these comments, Annex 19 has been added to the Project Document, with more extensive information on the biological prioritization exercise and better explanation of the global biological importance of the Western Altiplano.

2. Cost-effectiveness of the Proposal in Achieving Biodiversity Conservation

a. Government commitment in terms of funds and human resources - Government commitment to the overall goals of the IBRD loan seems strong. However, commitment to the GEF aspects is less clear. Principal oversight and implementation responsibility for the project rests with the Ministry of Agriculture, Livestock, and Food (MAGA), whose goals with respect to this project, obviously center on rural development. The institutions with responsibility for protecting biodiversity [the National Council for Protected Areas **(**CONAP), and the Guatemalan Protected Areas System (SIGAP)] will be represented on the project coordination team, but neither appears to have the capability to serve as effective supporters, promoters, or guardians of biodiversity values for the program. As noted in the PAD (p.24), CONAP does not have the political independence or infrastructure to administer a major regional grant such as the GEF, and SIGAP is, "...a highly diverse and decentralized institutional system, requiring significant efforts to coordinate." (PAD, p. 7).

These are indeed challenges and risks. CONAP is however more than a part of the coordination team, rather it will have principal authoritity for the oversight of the GEF-financed components. They will also be strengthened under the project to reform programs, procedures and operations as well as receive operational support (Annex 2). The creation of a new Ministry of the Environment in late 2000 (after the writing of the Project Document) is another indication that the Government of Guatemala does take seriously environmental issues.

b. Existing infrastructure for conservation planning - Some funds evidently were provided for preliminary planning by the GEF specifically for this program. Nevertheless, the existing infrastructure for conservation planning is weak, although knowledge necessary for doing planning exists within the country's universities, NGOs, and government agencies - especially if some assistance from international agencies is provided. There is presently no Guatemalan input evident in the PAD on the country's biodiversity as a whole, or that contained within the western Altiplano. Planning involving knowledgeable Guatemalan and international experts, agencies, and NGOs should serve as the preliminary basis for a GEF program in the country, and evidence of that planning should be presented in the body of the PAD.

This information is now clearly presented in Annex 19.

c. Existing infrastructure for conservation implementation - As noted above (2a), the PAD documents that infrastructure for conservation implementation is not well-developed at present in the country.

d. Enforcement - The PAD notes that 15 protected areas exist "on paper," totaling 175,000 ha in the western Altiplano, but that, "...little investment has been made to secure their conservation, and boundaries of many have not yet been demarcated." (PAD, p. 4). General mention is made of improving this system in the PAD, but no detailed plans are provided to guarantee significant efforts at enforcement.

Subcomponent 2 (a) Protection of Sites of Global Importance, will invest more than $4 million (subcomponent totals were not available to the Reviewer), largely in direct investments in new or existing protected area of highest importance. About double that amount will be invested in conservation subprojects under Component 1 (b), all of which will aim to protect biodiversity in key areas. The focus of the project will be less on enforcement than on working collaboratively with local communities to reinforce a traditionally effective conservation ethos and practices.

e. Mechanisms for public involvement and support in achieving management goals - Public involvement is the strength of this proposal. A great deal of effort has gone into identifying the project clients and their needs. The central question is whether or not the public involvement in rural development

outlined in the PAD can be reconciled with the biodiversity goals of the project by the structures presented.

f. Professional monitoring and advising for fund management - The processes for fund management, disbursement, and oversight seem well thought out.

3. Adequacy of the Project Design

a. Prioritization and planning - Threats to biodiversity have reached crisis proportions in many parts of the world, including Guatemala, and the opportunities to use significant funds to attack these problems are too precious to miss. Thus biodiversity programs require significant triage in order to have some hope of success because the needs far exceed the funding. The PAD mentions that prioritization was carried out during project preparation in a participatory exercise led by The Nature Conservancy, but almost no information from this effort is provided in the PAD other than to mention that seven areas were identified as priorities for conservation. Furthermore, these priorities are not even mentioned within Subproject 1, where plans are discussed to disburse 4 million U.S. dollars in grants to local individuals and groups divided among 40 different municipalities. This democratic approach makes perfect sense for rural development, but is not appropriate for addressing the biodiversity problems of the region, which are not likely to be evenly dispersed. As noted by Noss et al. (1997:107), conservation planning requires identification of "hotspots" or areas where conservation values are especially high and deserving of protection. Following through on this process of hotspot identification is critical for the western Altiplano where much of the landscape has been thoroughly degraded and has little biodiversity value.

This is a valuable point and an approach that the project is promoting. The document has been revised to make this clearer.

b. Specific procedures

1) Component 1. The Conservation Subprojects grants program. This program is described in detail in Annex 1 of the PAD (p.61) wherein it is explained that grants will be given to local individuals and groups for projects that, "...explicitly encourage environmental conservation in and around protected areas, communally managed lands and other areas that still retain biodiversity values." There are two significant problems with this aspect of the program. First, while there evidently has been some effort at regional biodiversity assessment, little of which is presented in the PAD, there is no evidence of a plan provided for identifying or prioritizing biodiversity values with regard to the 40 municipalities in which the grants will be given. Therefore, there is no way to judge the ability of the *Instancias Locales* to assess the relative value of one project over another from a biodiversity perspective. Second, as documented by the World Bank study summarized by Wells and Brandon (1992), there are very few data anywhere to indicate benefits to critical aspects of biodiversity from development projects of any kind. They note that the best examples of projects attempting to promote both development and conservation do show economic benefits to the local people, "But in virtually all projects, the critical linkage between development and conservation is either missing or obscure." (Wells and Brandon 1992:x). In short, there is no evidence either in the project design or in previous experience elsewhere to indicate that GEF biodiversity goals are likely to be promoted by this aspect of the project.

As argued in Annex 19, the unique social and ethnic make-up of the Altiplano, and a very dense population density, simply make it unavoidable to prioritize working with people rather than on a more focused conservation approach (which may certainly be a better approach in some other areas of the world). Unlike campesino populations in other parts of Central America, indigenous populations in the Altiplano also have a proven record of conservation-friendly traditions, when these are allowed to flourish. We acknowledge the risks in the project's approach but believe it would be even riskier to attempt any effort at conservation that does not start and end with local populations.

2) Component 2. Biodiversity Conservation. A planning exercise identified seven areas in the western Altiplano possessing significant biodiversity values, and this component will finance protection of these sites, intercultural communications, and monitoring and evaluation of biodiversity conservation (PAD, p. 66). Funding will include 3.5 million U.S. dollars in the form of a GEF grant. The activities described in this component are too vague and generalized to assess whether or not they are likely to produce positive biodiversity results. In addition, the probability that biodiversity benefits will result is further obscured by the fact that relevant data on the occurrence and distribution of key biodiversity facets in the region are not presented in the PAD. These data need to be included because they provide the critical justification for GEF involvement in the project. The data needed are as follows: listing and mapping of the seven biodiversity hotspots for the western Altiplano, the critical biodiversity values associated with these hotspots, current name and location (map) of protected areas in the western Altiplano, their size, habitats included within them, their administration, and location of proposed protected areas. Details of biodiversity in the region are critical to evaluating whether or not the 8 million U.S. dollars from GEF are likely to achieve GEF biodiversity goals. Furthermore, the construction of infrastructure within CONAP and SIGAP needs to be explained in much greater detail. Biodiversity protection depends primarily upon establishment and administration of protected lands in critical areas. This aspect of the proposal needs to be greatly strengthened.

The new Annex 19 attempts to address some of these suggestions. Maps will be prepared in the final version of the project document. It will not be possible however to provide as much detail as might be wished regarding the exact nature of investments in protected areas given that the bulk of the investments will be demand-driven (albeit, eligibility a function of being located in "supply-driven" zones of biological priority).

3) Environmental Services Market - It is not clear how the 0.1 million U.S. dollars from GEF will be used in this component.

It is now more clearly noted in Annex 2 that the GEF funds of $100,000 will be used to support the incorporation of biodiversity services in the National Strategy for Environmental Services (Component 3a).

4) Project Management - It is not clear how the 0.4 million U.S. dollars from GEF will be used in this component.

It is now more clearly noted in Annex 2 that the GEF funds of $400,000 will be used partially for administration expenses and partially for the project monitoring and evaluation activities. Representing administrative expenses of about 6%, it is clear that the administration of GEF funds will be "subsidized" by national funds.

c. Lines of authority - There are three concerns with regard to lines of authority governing use of GEF funds within the project. First, designation of MAGA as the principal government agency in charge of the project raises questions regarding priorities governing the use of GEF funds. MAGA's principal concern is rural development, and no matter how benign such development is, this priority creates a conflict of interest when it comes to protection of biodiversity. Second, the vagueness of the specific involvement of CONAP and SIGAP within the PCU structure. Involvement of these institutions in the decision-making process when it comes to control of GEF funds needs to be very clear. Third, the PAD states that, "Potential subprojects will be identified and designed based on the ideas and demands of eligible local organizations. They will be selected (based on priorities in the *Agenda Municipal*) by the *Instancias Locales* (municipal-level bodies representing key stakeholders from the municipal corporation, *alcaldes*

auxiliares, and local civil society)." (PAD, p. 61). The question is how local people can be expected to recognize biodiversity aspects of global significance, and how can they be expected to lend any weight to such concerns given that 32 % are illiterate and 75% of them are below the poverty line? (PAD, Annex 10).

The first two concerns are valid observations and these risks will be looked at more carefully during Appraisal. On the latter, note that GEF funds will only a priori be available in areas already selected as being of the highest global importance for biodiversity.

d. Monitoring and evaluation - No objective measures of monitoring or evaluation are presented for biodiversity aspects of the project and none could be without a detailed environmental assessment in place prior to project implementation.

Acknowledged; this will be looked at more closely in Appraisal.

e. Community involvement - Community involvement in the development aspects of the project appears to be exemplary. However, for community involvement to work for protection of biodiversity, there needs to be a dialogue between the community and those whose responsibility is to protect the sites. As currently designed, the project does not provide for establishment of local refuge management teams with responsibility for protection and management of refuges established to protect biodiversity. Obviously, such teams are critical if there is to be a dialogue in which the interests of biodiversity protection are to be represented.

f. Research - No specific provision is made to support research on biodiversity within the Altiplano. There are reasons, however, why some funding for research should be provided: 1) Establishment of protected areas often is insufficient to reverse deterioration and disappearance of the ecological values that make a site important. Research can identify the needs and corrective measures for those values deemed most critical; 2) Students who will become the country's leading scientists, environmental activists, teachers, and conservation managers get their training, and build their own values, doing research on biodiversity topics in protected areas; 3) Research support is a low-risk, high-return investment. The amount of funds required to support a project on a protected area amount to only a few thousand dollars a year, while the returns in terms of useful information and student training are considerable.

Component 2(a) includes a set of activities entitled "Special Studies on Biodiversity and Social-Environmental Interactions" which are intended to support some research.

4. Feasibility of Implementation - Implementation of the rural development aspects of the project appears to be quite feasible. However, implementation of biodiversity protection aspects of the project are problematic. There are three main reasons: a) lack of a clear understanding of the critical biodiversity elements within the Altiplano; b) lack of a plan that focuses most GEF funds on protecting those elements; c) lack of infrastructure that facilitates protection of biodiversity.

These points have been addressed above.

5. Summary - The GEF aspects of this project should be separated from the IBRD loan and presented in a different proposal. The reason for this separation is that both rural development and biodiversity protection have need for the same set of resources, and their goals are quite different. Separating the two allows for the goals of each to be clearly expressed, and sets the stage for resolution of differences where they come into conflict, rather than tacit subversion of one to the other. A re-designed GEF proposal

should include a clear justification of the critical global and regional biodiversity values represented in the western Altiplano and a detailed environmental assessment of the region showing what has been protected, what needs to be protected, and explaining how the proposal will achieve specific protection objectives. As stated in the PAD, "The greatest gains in conservation in the Altiplano can be obtained through *in situ* conservation of biodiversity under a strengthened SIGAP." (PAD, p. 7). I agree, but the current design of the proposal does not appear to promote this goal.

A stand-alone GEF project is not desirable because of higher administrative costs and missed opportunities to leverage funds (both from the point of view of loan funds and GEF funds). The project team acknowledges the inherent risks but strongly believes the only approach that will likely protect biodiversity in the long term in the Altiplano is precisely tackling head-on this issue by seeking out complementarities and synergies (between conservation and sustainable use of biodiversity) in one single project and creating a single development/conservation agenda for the W. Altiplano. This observation mirrors an evolving portfolio of the World Bank which proactively seeks way to leverage Bank financing within a framework of mainstreaming biodiversity into rural development agendas.

6. References

Biodiversity Support Program, Conservation International, The Nature Conservancy, Wildlife Conservation Society, World Resources Institute, and World Wildlife Fund. 1995. A regional analysis of geographic priorities for biodiversity conservation in Latin America and the Caribbean. Biodiversity Support Program, Washington, D.C.

Dinerstein, E., et al. 1995. A conservation assessment of the terrestrial ecoregions of Latin America and the Caribbean. The World Bank, Washington, D. C.

Dirzo, R. 1992. *Diversidad florística y estado de conservación de las selvas tropicales de México.* (J. Sarukhan and R. Dirzo, Eds.) *México ante los retos de la biodiversidad. CONABIO, México.*

Hammond, A. L. 1992. World resources, 1992-1993. Oxford University Press, Oxford.

Howell, S., and S. Webb. 1995. The birds of Mexico and northern Central America. Oxford University Press, Oxford, England.

I.C.B.P. 1992. Putting biodiversity on the map: priority areas for global conservation. International Council for Bird Preservation, Cambridge, England.

Noss, R.F., M. A. O'Connell, and D. Murphy. 1997. The science of conservation planning. Island Press, Washington, D.C.

Ramos, M. A. 1988. Biodiversity in Mexico. Interim Report. World Wildlife Fund, Washington, D.C.

Rappole, J. H., E. S. Morton, T. E. Lovejoy, III, and J. R. Ruos. 1983. Nearctic avian migrants in the Neotropics. U. S. Fish & Wildlife Service, Washington, D. C.

Reeder, C., and J. Reeder. 1978. Shenandoah heritage: the story of the people before the park. The Potomac Appalachian Trail Club, Washington, D. C.

U.S.A.I.D. 1995. A regional analysis of geographic priorities for biodiversity conservation in Latin America and the Caribbean. United States Agency for International Development (USAID), Washington, D. C.

Wells, M., and K. Brandon. 1992. Linking protected area management with local communities. The World Bank, Washington, D. C.

7. Signature

I certify that the above statements represent my views on the global significance, science, and technical merits of the Project Appraisal Document entitled, "**Guatemala Western Altiplano Natural Resources Management Project**."

Signed: _____ Date: 31 December 2000

John H. Rappole

Additional
Annex 17

Monitoring and Evaluation Plan

This project is piloting innovative activities. Systematic and accurate monitoring, reporting and assessment of the efficacy of these initiatives will be necessary to measure project impacts and support the replication of these innovations on a larger scale if they are successful and/or to design targeted improvements.

The Project Coordinating Unit based in MAGA and located in Quetzaltenango would have primary responsibility for supervision, monitoring and evaluation. A Monitoring and Evaluation Specialist in the PCU will coordinate all project monitoring and evaluation activities. The Specialist will have a Masters degree in economics or agricultural economics and relevant field experience with rural socio-economic studies and farm/small enterprise budgets. Fluency in at least one Mayan language would be an advantage.

The Project Management Information System will be based on routine reports from component activities. The Subprojects Grants Technical Unit will compile monitoring and progress information from all of the subprojects and other activities within its mandate. All institutional strengthening, conservation, productivity, and strategic regional subprojects will include simplified baseline data, performance and impact indicators and targets, and plans for monitoring and evaluation (some of the measurements will be carried out by beneficiaries). Implementing agencies (local organizations or service providers) will be responsible for reporting on subprojects. The Component Coordinators and technical executing agencies would assure compliance with reporting requirements.

The Monitoring and Evaluation Specialist will maintain a consolidated database on project performance and impact indicators and provide quarterly reports to project management outlining progress and problem areas. Field promoters and technical executing agencies, following guidelines from the PCU, will evaluate subproject implementation and rate projects in semi-annual reports with ratings of Highly Satisfactory, Satisfactory, Marginal, Unsatisfactory, and Highly Unsatisfactory.

The Project will finance selected studies to complement routine monitoring information by providing quantitative and qualitative assessment of project outputs and outcomes. One such study will be designed to provide guidance on improving program efficiency and effectiveness, such as methodologies for monitoring environmental impacts, impact of resource tenure systems, participation of women, constraints to technology adoption, and would include a focus on impacts on different vulnerable groups (women, different indigenous peoples, returned displaced people, ex-combatants, the poor) and studies of effectiveness of extension approaches, participation mechanisms, and local organizational capacities. Another will focus on the relationship between the economic and social outcomes of the project and the changes in the state of natural resources. A limited number of other smaller studies will be defined to address issues raised through supervision and monitoring results.

The PCU will prepare and distribute internal quarterly reports measuring progress against indicators and will prepare annual Project Implementation Reports. Based on each annual report, the PCU will prepare an Annual Operating Plan and Implementation Schedule that will be discussed and agreed with the Bank. The quarterly reports will be provided to the World Bank and will serve as the basis for project supervision missions and measurement of progress against the implementation indicators agreed to in the Annual Operating Plan. Annual Project Implementation Reports//Program Performance Reviews will assess project operations, procedures, and functioning of the PCU. The third year would be a Mid-Term Review and the fifth year would be the Program Completion Report. The Annual Project Implementation Report and Annual Operating Plan and Implementation Schedule will include the following information.

Annual Project Implementation Report

A. General Status of the Project: (1) Highlights; (2) Adherence to annual operating plan and implementation schedule; (3) Development impact to date; (4) Detailed status of each component; and (5) Status of recommended actions from the previous report
B. Project Administration: (1) Fund flows and Government budget; (2) Disbursements; (3) Procurement experience in relation to procurement plan; (4) Financial reporting
C. Organization and Management: (1) Monitoring and evaluation; and (2) Coordination among agencies involved in the project
D. Problems and Recommended Actions
E. Key Input, Output, Outcome, and Impact Tables
F. Financial Indicators Table
G. Disbursement Table
H. World Bank Loan Legal Covenants

Operating Plan and Implementation Schedule

A. Summary of Project Status: (1) Project Components; (2) Project Status; and (3) Adherence to Annual Operating Plan and Implementation Schedule
B. Objectives for the Year
C. Proposed Activities: (1) Objectives; (2) Inputs and outputs; (3) Indicators; (4) Schedule; (5) Costs; and (6) Consultant contract information (terms of reference, model contract, letter of invitation, and short list)
D. Summary Costs and Budgetary Allocation
E. Key Input, Output, Outcome, and Impact Table
F. Implementation Schedule
G. Procurement Plan

Project Monitoring. The project will measure seven types of outputs and impacts:

(i) organizational (improvements in levels and types of organizational, planning and administrative capacity of local organizations);

(ii) social (% indigenous people, women, and women heads of household participating as clients, promoters and service providers);

(iii) economic (increases in household income and in profit and/or factor productivity achieved through subprojects);

(iv) environmental outside of protected areas (improvement in water quality, reduction in local deforestation rates, ha under improved resources management);

(v) environmental in protected areas (upgraded management of SIGAP protected areas, ha brought into the SIGAP);

(vi) policy (stakeholder approval ratings of MAGA gender policy and environmental services markets strategy); and

(vii) success of subprojects and other activities (rated both by participant satisfaction levels and according to the objectives and monitoring indicators set up for each, increased environmental knowledge). Specific monitoring and evaluation performance indicators and targets will be defined prior to appraisal. Targets will be reviewed and revised, as appropriate, every two years.

Preliminary Performance Monitoring Indicators. To be strengthened at appraisal.

	Year 1	**Year 2**	**Year 3**	**Year 4**	**Year 5**
Component I. Sustainable Livelihoods					
A. Strengthening Local Capacity	15	21	4		
Instancias Locales formed, oriented, trained	15	21	4		
Municipal Strengthening grants	15	21	4		
Municipal level promoters, hired, and trained	15	21	4		
Municipal Agendas Prepared	15	21	4		
Training of organizations in proposal preparation	30	42	38	42	
Technical Assistance Project Formulation	50	150	250	190	
Legal registration of organizations	25	100	150	150	
Strengthening MAGA, INAB regional offices	6				
Equipment purchase (Municipal, GOG offices)	21	27	4		
Short term local training (GOG offices)	6	6			
Technical Assistance Planning (GOG offices)	6	6	6		
Technical Assistance Environmental Impact Assessments	6	6	6	6	
B. Subproject Grants Program					
Contracting GTU	1				
Finalization Reglamento del Programa	1				
Projects	50	125	275	190	
C. Support Services for Local Productivity					
Contracting Regional Program Promoter	1				
Participatory Design Special Support Programs	2	3	1		
Execution Technical Assistance Special Support Programs	2	2	3		

Component II. Biodiversity Conservation					
A. Comanagement of Protected Areas					
Development Long Term Management Plans		2	3	2	
Training	4	4	4	4	4
Short term technical assistance	2	7	7	7	7
Equipment purchase	1	1			
Special biodiversity studies		1			
B. National Capacity Building					
Establishment Environmental Management System		1			
Short term international GIS training	8		8		8
Technical AssistanceSurvey and Mapping Study	3	3	3	3	3
Equipment purchase	1	1	1		
Short term local training	1	1	1	1	1
Technical AssistancePlanning	1	1	1	1	1
Technical Assistance Environmental Impact Assessments		1	1	1	1
C. Biodiversity Conservation Promotion					
Mass Media Campaign	5	10	10	10	10
Media Coordinator Contract	1				
Media preparation	5	10	10	10	10
Media dissemination	5	10	10	10	10
Component III. Environmental Services Markets					
A. Develop National Policy and Strategy					
Technical Assistance Contracts	4	3	1		
Workshops	2	2	2	2	
Publications	2	2	2		

B. Institutional Strengthening					
Incountry training	5	5	5	5	
Case Studies	3	3	3		
Research studies		6	2		
C. Activity 3. Pilot Projects					
Feasibility studies				2	2
Planning studies	2	2	1	1	1
Pilot Project Grants				2	2
Component IV. Project Administration					
A. Project Management					
Contracting PCU personnel	1	1	1	1	1
Orientation PCU	3				
Training PCU Staff	2	2	2	2	2
Procurement office equipment	1				
Contracting Trust Account Administrator	1				
Financial Management System	1				
International short term technical assistance	4	4	4	4	4
Local short term technical assistance	8	10	15	15	15
B. Monitoring and Evaluation					
Management Information System	2	2	2	2	2
Project monitoring program			1		
Technical Assistance Project output studies	2	2	2	2	2
Technical Assistance Program Annual Review				20	20
Workshops	2	2	2	3	2
Midterm evaluation			1		
Technical Assistance Annual implementation plans	1	1	1	1	1

Technical Assistance Preparation of follow-up project					1
Technical Assistance Preparation of PCR					1

In addition to the project monitoring and evaluation activities described here, the project will, through Component 2, will improve CONAP's capacity and ability (through provision of advanced GIS and other tools) to map and monitor and evaluate biodiversity conservation and natural resource conditions. CONAP will design a specific biodiversity monitoring plan and indicators (see more details in Annex 2). The results from the biodiversity monitoring system will also help evaluate the project impacts as described here.

Additional
Annex 18

Incremental Costs and Global Environmental Benefits

Baseline Scenario

Although the biodiversity of the Altiplano of Guatemala is of global importance, as outlined in Annex 19, it has been reduced to a minimal area and a degree of fragmentation of remaining habitats that seriously puts into question the survival of much of this biodiversity over the next generation or two. Current agricultural practices, on which the bulk of the Aliplano's residents depend, are often unsustainable and are slowly contributing to the erosion of the biodiversity that remains.

At the same time, the rural population density is higher in the Altiplano than any other part of the country, and the greatest areas of poverty are focused here. An overwhelming priority of Guatemala must remain the economic development of this area and specifically the development of the area's agricultural potential. The vast majority of the Altiplano residents are poor Mayan indigenous peoples, and in the near future there are no reasonable alternatives to subsistence and near-subsistence agriculture as their means of survival.

A detailed assessment of probable public investment (defined here as government agency spending and expected investments under the MIRNA project including IBRD and Government of Guatemala counterpart funds) over the next five years was undertaken as part of project preparation, broken down into expected investments in Natural Resource Management (NRM) in the productive landscape, expected investments in conservation, and expected development of environmental services markets. These analyses of the Baseline Scenario are summarized here:

Integrated NRM in Productive Landscapes. The Ministry of Agriculture, Livestock, and Food (MAGA) is the main government agency responsible for productive investments in the agricultural sector. Its budget for the period 1995-2000 has averaged US$ 62.4 million for the entire country. Using 1999 pro-rated data for the departments included in the Altiplano, it is estimated that the average MAGA annual expenditure in the Altiplano will be therefore about US$ 20 million, i.e., some US$ 100 million over the five-year project's duration.

The National Forests Institute (INAB) is the agency in charge of developing and implementing Guatemala's forestry policy. Its budget for 1995-2000 has averaged US$ 6.3 million, of which it is estimated that only some 4% is spent in the project area. The baseline for INAB's projected expenditure in the Altiplano is therefore about US$ 1 million.

The planned IBRD investment in this sector under this project is on the order of about $37 million. In the absence of the GEF funding, these resources for Component 1 would in almost all certainty have been entirely dedicated to subproject investments much more skewed to traditional productive activities and there would have been little or no funding for the window of Conservation Subprojects.

The total baseline for integrated NRM activities is therefore estimated at about US$ 138 million which would have generated very few global benefits. Knowledge about farming and natural resources management practices that are beneficial to conservation and sustainable use of biodiversity and agrobiodiversity outside protected areas woudl not have been developed or financed.

Biodiversity Conservation in the SIGAP. Management of the National Protected Area system (SIGAP) is the responsibility of the National Council for Protected Areas (CONAP). The average annual budget of CONAP during the period 1995-2000 has been US$ 3.2 million. CONAP has currently limited presence in the Altiplano; based on 1999 information on distribution of staff costs, it is estimated that only some US$ 0.17 million per year may have been spent in the region. As a result, the non-project budget for SIGAP protection is

estimated at about US$ 0.8 million over the 5 years of the project. Baseline biodiversity conservation efforts would focus essentially on the maintenance of the status quo, i.e., only very basic levels of funding to maintain a nominal presence of the State in protected areas. In this scenario there will be virtually no funds for consolidation and expansion of the protected area system,

About $2.3 million of IBRD and GoG funds are included in the proposed project for Component 2. We do not include these in the baseline amount as these funds have been leveraged by the GEF funds themselves.

The amount for the baseline scenario for this component is therefore only $0.8 million. At best this would allow the tiny area currently in protected areas to be maintained as such but would not allow for the expansion of the protected area system, development of effective biological corridors, nor for the effective collaboration with local communities on issues of sustainable use and conservation of biodiversity. There would be no readily available monitoring tools for managing the various natural ecosystems in the Western Altiplano.

Environmental Services Markets. Despite considerable interest in Guatemala and more generally in Central America, experiences to date are scarce regarding development of the institutional and regulatory framework required to promote markets for environmental services. The government is currently pursuing a subsidy approach (as opposed to a market-based approach) to remunerate land users for providing environmental services. The Program for Forest Incentives (PINFOR) delivers direct payments to forest producers using earmarked fiscal resources. Using the program's budget for CY 2001 as a basis (Q3.5 million, about US$460,000) it is estimated that the government's non-project expenditure in this sector at the national level will be in the range of US$ 1.8 million during the project's duration, supplemented by US$1.3 million in IBRD funding under MIRNA.

The total Baseline Scenario amount for this component would therefore be in the order of $3.1 million. Under this scenario, current managers and beneficiaries of development programs would have no incentives to integrate biodiversity concerns because of the absence of policies or a framework that incorporates biodiversity into developing environmental services markets. The development of environmental services markets would focus most likely entirely on water and perhaps also on carbon markets (which would generate indirectly global benefits for biodiversity but would not necessarily ensure that globally important biodiversity would be specifically targeted).

Global Environmental Objective

The Global Environment objective of the project is to promote conservation and sustainable use of globally significant biodiversity through the implementation of a broad range of strategies in the Western Altiplano. These strategies focus on the incorporation of the concepts of sustainable use and conservation of biodiversity within productive landscapes, direct investments in conservation, and incorporation of biodiversity issues into emerging environmental services markets.

GEF ALTERNATIVE

With GEF assistance, the Government of Guatemala would be able to undertake an expanded program that would generate both baseline national benefits and a more ambitious set of global benefits. The GEF Alternative would reorient the baseline scenario described earlier (essentially a traditional approach to rural development with minimal investments in conservation and sustainable use of biodiversity) and augment it to become an expanded program for addressing the global biodiversity objectives outlined above. The GEF Alternative would be financed through the present proposed project which has been designed to take into account the capacity of the GoG and its partners to implement such an ambitious agenda.

Incremental Costs

The difference between the costs of the Baseline Scenario (US$ 144.5 million) and the GEF Alternative (US$ 151.2 million) is US$ 10.3 million (see table below). This represents the incremental cost for

achieving global environmental benefits through sustainable livelihood projects with biodiversity conservation objectives, protecting sites with globally significant biodiversity, and development of environmental service markets that integrate biodiversity conservation objectives. IBRD/GoG financing for amount of US$2.3 million will partially finance this increment as these funds will be used in Component 2, which would not have existed under the Baseline Scenario. Thus, US$8.0 million in GEF financing to finance the remaining portion of the incremental costs is proposed.

	Baseline	Alternative	Incremental
Integrated NRM in Productive Landscapes	$138	$142	$4.0
Non-Project Baseline	$101.4	---	---
Local Institutional Strengthening	$5.4	$5.4	$0
Sub-project Grants (including Conservation)	$25.2	$29.2	$4.0
Support Services	$6.0	$6.0	$0
Biodiversity Conservation in the SIGAP	$0.8	$6.1	$5.8*
Non-Project Baseline	$0.8	---	---
Sites of Global Importance	---	$5.0*	$5.0*
Inter-Cultural Communications	---	$0.3	$0.3
Biodiversity M & E	---	$0.5	$0.5
Environmental Services Markets	$3.0	$3.1	$0.1
Non-Project Baseline	$1.8	---	---
National Strategy	$0.1	$0.2	$0.1
Institutional Capacity	$0.3	$0.3	$0
Pilot Projects	$0.8	$0.8	$0
Project Management	$2.7	$3.1	$0.4
Project Administration	$1.8	$2.0	$0.2
Project M & E	$0.9	$1.1	$0.2
TOTAL	$144.5	$151.2	$10.3* ($8.0 GEF)

*Includes *$2.3 million of IBRD/GoG funds in the MIRNA project which are considered to have been leveraged by the GEF funds to finance global benefits.

Additional
Annex 19

Globally Important Biodiversity of the Western Altiplano

Introduction to Biodiversity of the Altiplano

The biological diversity of Guatemala is probably the highest of any country in Central America due to the remarkable physical contrasts in the country and its large size. Guatemala has the driest area in Central America (Valley of the Motagua) and extremely humid habitats with over 4000 mm of annual precipitation. The highest peak in Central America occurs in Guatemala (Tajumulco Volcano at 4211 m), towering over areas of paramo, otherwise found only in a tiny patch in Costa Rica.

Within Guatemala, many of the richest and most varied habitats are found in the Western Altiplano (approximately 1450 m to 4210 m) where one can still find well-preserved examples and extensive areas of natural highlands habitats. Among these habitats, we can include paramos, mixed forests, cloud forests, and dry forests as well as a good variety of freshwater habitats. A number of different analyses have confirmed the biological importance of the Western Altiplano.

Using the *WWF/World Bank ecoregions classification system* (1) the ecoregions of the Western Altiplano include the:

- Central American Pine-Oak Forests which occur throughout the highlands of Northern Central America but which are most extensive and best preserved in remote areas of the Guatemalan W. Altiplano (7.7% of Guatemalan area effectively protected according to a recent 1999 CONAMA study (4));
- The biodiversity rich Central American Montane Forests (including paramo habitats) which occur in small areas in El Salvador and Honduras but which are by far most extensive and typical of Guatemala (4.2% of Guatemalan area effectively protected);
- Central American Dry Forests which occur in the Altiplano in isolated lower valleys believed to be high in endemism (0% of Guatemalan area effectively protected); and
- Sierra Madre de Chiapas Moist Forests on the Pacific flank of the Altiplano, shared equally with Mexico (0.4% of Guatemalan area effectively protected).

Each ecoregion by definition encompasses a diverse fauna and flora which is unique in the world and the fact that several major ecoregions are best represented in Guatemala and are so little protected speaks loudly for their global importance.

At the e*cosystem level*, it is worth noting that a new map of the ecosystems of Central America (2) at 1;250,000, including about 250 ecosystem classes for the region, is about to be released in early 2001 by the World Bank and CCAD. Although the Western Altiplano section of the map has not yet been specifically analyzed, a preliminary analysis has confirmed an unusually rich number of ecosystems in this area, some of which are unique to the project area (INAB, pers. comm.).

Finally, as part of the preparation process for this project, the NGO The Nature Conservancy (TNC) carried out a *landscape-level analysis of biological importance*. More complete reports are available in the project files but basically this approach identifies landscape units of biological importance and prioritizes them in accordance with criteria such as presence of endemic species, biological richness, representativity of ecosystems, coverage in the SIGAP, and importance for biological corridors such as the Mesoamerican

Biological Corridor (MBC). In their approach, TNC also uses a number of social and institutional filters to further prioritize areas as well as the presence of other projects or institutions active in conservation.

TNC identified two large biogeographic areas as being of the greatest global importance in the Western Altiplano:

1) Volcanic Belt, from Tacaná Volano in Sibinal, San Marcos to Pacaya Volcano in Escuintla. This bioregion includes all volcanoes over 3000 m and their forested slopes and varying associated habitats. The high endemism of flora and fauna is due to the biogeographical isolation of the floristically rich intermediate altitude slopes of the volcanoes. Five distinct sub-regions have been identified: i) Volcanoes of San Marcos; ii) Volcanoes of Quetzaltenango; iii) Volcanoes of Atitlán; iv) Volcanoes of the Central Area; and v) Communal Forests of Totonicapán.

2) Sierra of the Cuchumutanes. This mountain range, geologically the most ancient in all of Central America occurs in the northern part of the Western Altiplano, extending through Quiché and Huehuetenango to the Mexican border. This is another area with high endemism, with even more endemic species than the Volcanic Belt, perhaps due to its ancient history which has allowed much speciation in its rich mix of habitats. The Sierra includes dry forests, mixed pine-oak forests, high-altitude conifer forests, cloud forests, humid forests, paramos, alpine meadows, and a mix of unusual and important wetlands such as flooded meadows, gallery forests, and the lagunas of Maxb'al and Yolnajab'. TNC divides the area into the following four distinct areas: i) North Cuchumatanes; ii) Eastern Cuchumatanes and Sierra de Chamá; iii) Lowlands of Ixcán; and iv) Cuchumatanes Plateau.

The TNC study identified also specific municipalities and sites of the highest biological priority (see below).

It can also be noted that the Guatemalan highlands are a globally important area of agrobiodiversity being part of the center of distribution of corn, squash, beans, amaranth, and others. Although relatively little is known of agrobiologically important species, it is clear that many areas of the Altiplano harbor areas with important genetic reserves of many globally important species (3). By preserving natural habitats in these areas, known and yet-to-be-discovered genetic hotspots for these species will also be conserved.

Protected Area System Coverage

In recognition of its biological richness, the country has placed almost 28% of the territory under some level of formal protection, with a total of 99 protected areas (4). Protected areas in Guatemala all form part of the Guatemalan Protected Area System (SIGAP; *Sistema Guatemalteca de Areas Protegidas*). However, the SIGAP is very skewed and more than 60% of it is dedicated to protecting two types of subtropical rainforest concentrated in the northern Department of Petén. Many protected areas are still “ paper parks”, since only 56% of total protected territory is actively (albeit, not necessarily effectively) managed (5). In addition, only 30% of the total area under protected status has the use category of strict protection, the rest being under various forms of multiple use.

Castro and Secaira (1999) carried out a more in-depth analysis of the protected areas, using only 55 protected areas, after excluding buffer zones (generally highly modifed already), and excluding parks that have never been delimited. The Departments of Sololá and Totonicapán have extensive areas protected but the other four departments of the W. Altiplano are among the least protected in all of Guatemala: Quiché and Quetzaltenango with about 5% of their territory protected and San Marcos and Huehuetenango each

with effectively 0% protected.

Overall, the CONAMA study concludes there are five areas in Guatemala particularly in need of urgent conservation action:

- The Cuchumatanes, from lower part of Nentón to E. Quiché
- Mangroves of the Pacific and Atlantic Side
- Dry areas of the Valley of Motagua in Zacapa and el Progreso
- Volcanic slopes of W Guatemala and higher montane areas of the Altiplano
- Marine and coastal ecosystems.

It is striking that conservation of two of these highest priority areas are contemplated in the present project.

Conservation Opportunities in the Altiplano and Project Approach

Formal incorporation of areas into the Guatemalan SIGAP is an important long-term approach to conservation of biodiversity in the Guatemalan Altiplano and one that will be supported under this project. However, the Western Altiplano differs strikingly from practically all other areas in Central America for a number of reasons: high population density, extremely long history of human occupation, almost exclusively indigenous occupation, very high levels of poverty as well as violence and social and political conflicts (note that the region is still emerging from a civil war that claimed 200,000 lives in the Altiplano). Additionally, as a result of the Peace Accords, hundreds of thousands of Guatemalans are returning to traditional homelands or otherwise moving internally in Guatemala. These movements and displacements exacerbate land conflicts and place even greater pressures on natural habitats.

Many of these factors militate against a purely “traditional” approach to creation of protected areas. There are few areas in the Altiplano, if any, that are not occupied or at least that are not exploited by local communities in some fairly intensive way. This represents a potential threat to these areas’ biodiversity but at the same time, it must be noted that traditional stewardship and use patterns of indigenous communities in the Altiplano probably best explain the very existence of significant biodiversity in this area despite 500 years of intense occupation and use.

As a result, it is the Government of Guatemala’s position, endorsed by the project team, that the long-term conservation of biodiversity in the Western Altiplano depends on a variety of actions including:

- Consolidation and strengthening of protected areas where these are ecologically and socially viable;
- Consolidation of traditional resource management tools that are favorable to biodiversity conservation (most notably communal forests);
- Incorporation of biodiversity-favorable approaches in smallholder/traditional agricultural activities recognizing that most of the Altiplano is presently, and always will be, intensively used for human use; and
- Developing markets for environmental services that in the long run will lead to economic incentives for the protection of biologically important habitats.

These different approaches to biodiversity conservation in the Western Altiplano are those that are reflected in the project structure.

Geographically, the TNC preparatory studies for this project have highlighted which of the municipalities

in the Western Altiplano are the most important in terms of their global biological importance. These are the areas where all GEF investments will be made, both those in sites targeted under Component 2 for conservation investments and those areas where conservation sub-projects will be promoted in Component 1. They will also be areas where the greatest emphasis will be laid on working on sustainability and better natural resource management of productive activities under Component 1 (even though financed by IBRD and national resources).

The municipalities have been further grouped into four priority levels for the MIRNA project taking into account their biological importance and the feasiblity (social and institutional) of the project's involvement in them. These priorities will determine the sequence of investments in the project. Maps will be included in the final version of the project document. They are the following:

PRIORITY 1

Department of Huehuetenango

- Municipality of Nentón: dry forests, flooded meadow habitats, gallery forest, humid matorral, Laguna de Yolnajab'; no current conservation initiatives
- San Mateo Ixtatán: extensive forest cover, cloud forests, high-altitude conifer forests
- Barillas: Laguna de Maxbal and humid and cloud forests nearby; presence of CECI/AID committed to conservation initiatives
- Santa Eulalia: cloud forests of Yaxcalanté and Cerro Bobí
- San Pedro Soloma: cloud forests of Tzucancá; corridor with the forests of Nebaj

Department of El Quiché

- Nebaj: high-altitude forests of Cerro Sumal; mixed montane matorral and montane conifer forests of Chuatuj and Choritz; cloud forests; no conservation projects in the area
- Chajul: conifer and cloud forests of Bisis Cabá; Canyon of the Copón River; no conservation initiatives
- Cotal: cloud forests of Chipal, Chinimaquin and Las Hortensias
- Uspantán: cloud forests and humid forests of Chimel, etc., rain forest of the Sierra de Chamá
- Chicamán: cloud forests of the summit of Aamay
- Ixcán-Playa Grande: mountainous slopes San Antonio and the Rio Negro; very humid forests of Ixcán Grande

PRIORITY 2

Department of Huehuetenango

- San Miguel Acatán: High-altitude conifer forests
- San Rafael Independencia: High-altitude conifer forests
- San Juan Ixcoy: high-altitude conifer forests and páramo
- Concepción Huista: hight-altitude conifer forests and páramo
- Todos Santos Cuchumatán: High-altitude conifer forests, páramo, and Llanos of San Miguel
- Chiantla: high-altitude conifer forests, páramo, Laguna Magdalena
- San Juan Atitán: High-altitude conifer forests
- San Sebastián Huehue: páramo
- Aguacatán: Dry forests, conifer forests; corridor between the Cuchumatanes Plateau and Nebaj

Department of El Quiché

- Cunén: Cloud forests

PRIORITY 3

Department of Huehuetenango

- La Libertad: High-altitude conifer forests of the Cerro Peñas Blancas
- Cuilco: High-altitude conifer forests of the Cerro Peñas Blancas
- Tectitán: Mixed and conifer forests

Department of El Quiché

- Sacapulas: Dry forests of Sacapulas

PRIORITY 4

Department of San Marcos

- San Cristóbal Cucho: Municipal forests
- San Marcos: Muncipal forests
- San Pedro Sacatepéquez: Municipal forests of Cerro Serchil
- Tajumulco: Tajumulco Volcano and Cerro Tuiquinque
- Ixchiguán: Montane conifer forests
- Sibinal: Communal forests of Tacná Volcano, etc.
- Tacaná: Regional Municipal Park of Tewencarnero

Footnotes

1. Dinerstein, E., D. Olson, D. J. Graham, A. Webster, S. Primm, M. Bookbinder, and G. Ledec, 1995. A Conservation Assessment of the Terrestrial Ecoregions of Latin America and the Caribbean. The World Bank, Washington. D.C. Map revised by the WWF in September 1999.
2. CCAD, World Bank, WICE, and CATIE, 2001 (in preparation). Map of the Ecosystems of Central America. World Bank, Washington, D.C. To be made available in 46 map sheets at 1;250,000.
3. Ayala, H, 1999. Agrobiodiversidad de Guatemala, Riqueza Nativa. CONAMA, Estrategia Nacional de Biodiversidad.
4. Castro, F. and F. Secaira, 1999. Conocienda el Sistema Guatemalteco de Areas Protegidas – SIGAP. CONAMA, Estrategia Nacional de Biodiversidad.
5. Protected areas with active management are those that have a master plan, operational plans, technical and field staff, basic infrastructure and equipment, and legal physical delimitation.