



# **Proyecto Regional de Manejo Integrado de Ecosistemas por Pueblos Indígenas y Comunidades en Centroamerica**

## **Evaluación Ambiental**

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**ENVIRONMENTAL MANAGEMENT FRAMEWORK**  
**REGIONAL PROJECT**  
**INDIGENOUS INTEGRATED ECOSYSTEM MANAGEMENT GEF**  
**CENTRAL AMERICA**

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**I. BACKGROUND**

During the preparation stage, a Strategic Environmental Assessment (SEA) was conducted to ensure that the environmental variable was incorporated into the Project. Although this is an important tool for providing a general framework for the policies, plans and programs related to the project, an operational instrument is needed that allows us to ensure adequate socio-environmental management during the implementation and development of the Project's activities.

Consequently, taking into account the Environmental Policies and Procedures of the Inter American Development Bank (IADB), and the recommendations of the World Bank's Quality Assurance Team (QAT) in the Project Concept Document (PCD), this document has been prepared in order: a) to define criteria for categorizing the subprojects to be financed by screening the activities and ecoregions where they will be implemented; b) to define the studies or instruments that each subproject requires in order to ensure its environmental sustainability and compliance with the Bank's safeguard policies; and c) to define procedures for the process of approving productive subprojects, identifying those responsible and their needs in terms of institutional strengthening in order to ensure adequate environmental management during implementation of the Project.

**II. THE PROJECT**

The Regional Project for Integrated Ecosystem Management (RPIEM) has been designed to promote the conservation of biodiversity, through the recovery, conservation and expansion of the use of traditional systems of ecosystem management in the indigenous territories of Central America.

The components to be financed with Project resources are as follows:

- Cultural and institutional strengthening and capacity building
- Promotion of sustainable cultural land use and traditional ecosystem management
- Development of culturally appropriate financial mechanisms for environmental sustainability in indigenous communities
- Participatory project monitoring and evaluation

Given that the Project has limited resources, six priority ecoregions located within the Mesoamerican Biological Corridor (MBC) have been defined, based on criteria related to the conservation of the region's biological diversity (including, biological importance, danger of deforestation, the endemism factor, and risk of degradation), and to the needs of the indigenous communities that inhabit them. The ecoregions identified are as follows:

**Table No 1**  
**Ecoregions of the Integrated Ecosystem Management Project**

Priority ecoregion	Area of the Ecoregion in km <sup>2</sup>
- Maya	53,667
- Dry Pacific	7,927
- Wet Atlantic	6,869
- Sumo-Miskitia	102,421
- Talamanca-Ngöbe	10,347
- Darién –Kuna Yala	8,668
<b>Total</b>	<b>189,899</b>

**Annex No. 1** presents a brief environmental description of each area that has been prioritized for the Project (Source: Consultant, Edgar Ortiz, September 2003)

### **III. ENVIRONMENTAL MANAGEMENT FRAMEWORK**

The establishment of an environmental management framework for the Project must take into account two key aspects that will ensure satisfactory environmental management during the different phases of the Project cycle: 1) definition of procedures and requirements for the environmental assessment of the subprojects; and 2) definition of responsibilities and requirements to ensure adequate institutional supervision of environmental management during the Project’s implementation.

#### **1. ENVIRONMENTAL ASSESSMENT OF THE SUBPROJECTS**

The Project has been classified as “Category B”, under the IADB and IBRD Environmental and Social Policies, particularly because the execution of productive community subprojects to be financed by the Project under component 3, which relates to the development of sustainable community initiatives using financial mechanisms (development of culturally appropriate financial mechanisms for environmental sustainability in indigenous communities), and which will be implemented in environmentally and socially vulnerable areas.

It is worth mentioning that, in general, these subprojects are environmentally friendly, and no significant environmental impacts are foreseen, given the characteristics and scale of the projects; additionally, measures of prevention, mitigation and/or compensation are easy to identify and implement. Nevertheless, as mentioned above, since the subprojects are situated in areas with a very vulnerable natural and social environment, an adequate conceptual framework must be designed to ensure acceptable environmental management of the Project. In this respect, the procedures and instruments needed to ensure adequate environmental management during execution of the subprojects must be defined.

The steps that have been defined, and that must be implemented as part of the environmental assessment process of the subprojects, are described below:

**First Step: Subproject classification based on the level of socio-environmental risk**

The scope and thoroughness of the environmental analysis of a subproject relates to the level of socio-environmental risk. To define this level of risk, a subproject must first be classified based on the type of actions to be carried out and on the sensitivity of the natural and cultural environment. The methodology used to classify the subprojects is described below:

Classification based on type of subproject:

The classification based on the type of subproject depends, in turn, on the project’s objective and on the type of activities to be implemented.

The following classification has been established, based on the project’s objective: A) Environmental services (ecotourism, water management, conservation areas, others); B) Sustainable production (agricultural and agribusiness activities using environmentally friendly methods); and C) Land use planning.

**Table No. 2**  
**Classification based on the goal of the subproject activities**

<b>A</b> <b>Environmental services</b>	<b>B</b> <b>Sustainable production</b>	<b>C</b> <b>Land use planning</b>
<ul style="list-style-type: none"> <li>- Ecotourism</li> <li>- Ethno-tourism</li> <li>- Water management</li> <li>- Conservation programs</li> <li>- Others</li> </ul>	<ul style="list-style-type: none"> <li>- Ecological agriculture</li> <li>- Ecological agribusiness</li> <li>- Raising livestock</li> <li>- Others</li> </ul>	<ul style="list-style-type: none"> <li>- Land use planning</li> <li>- Demarcation</li> <li>- Others</li> </ul>

Four classifications have been defined based on the type of activities to be implemented: a) linear infrastructure works to promote sustainable community development, where new constructions or the expansion of existing constructions are planned; b) linear infrastructure works to promote sustainable community development, where merely the rehabilitation or maintenance of existing structures is planned; c) individual construction works with a certain level of complexity, where earth movement is required or where the natural environment will be affected, but in a highly targeted manner; and d) minor construction works for the execution of productive community projects in areas that have previously been exploited by man. A list of potential subprojects to be financed with project resources appears below; they are divided up according to the above-mentioned classification. It should be noted that this list is for reference purposes only, because other types of subprojects may arise.

**Table No. 3**  
**Classification based on the type of construction works**

(a) Linear infrastructure	(b) Linear infrastructure	(c) Individual construction works	(d) Conservation and sustainable use projects
<ul style="list-style-type: none"> <li>- New construction or expansion of rural roads</li> <li>- New construction or expansion of ecological paths</li> <li>- Linear infrastructure works for water conduits</li> <li>- Flood control works</li> <li>- Irrigation and/or drainage works</li> <li>- Mini hydro-electric plants</li> <li>- Construction of new rural electricity transmission lines</li> </ul>	<ul style="list-style-type: none"> <li>- Rehabilitation and/or maintenance of rural roads</li> <li>- Rehabilitation and/or maintenance of ecological paths</li> <li>- Rehabilitation and/or maintenance of linear conduit works</li> <li>- Minor flood control works</li> <li>- Rehabilitation and/or maintenance of irrigation and drainage works</li> <li>- Rehabilitation of rural electricity transmission lines</li> </ul>	<ul style="list-style-type: none"> <li>- Construction of community centers</li> <li>- Construction of ecotourism lodges</li> <li>- Individual construction works for ecotourism</li> <li>- Solid waste management (sanitary landfills)</li> <li>- Productive community projects that require earth movements</li> <li>- Erosion control</li> <li>- Soil recovery</li> </ul>	<ul style="list-style-type: none"> <li>- Minor ecotourism constructions</li> <li>- Productive community projects that do not require major infrastructure works</li> <li>- Environmental projects, such as reforestation</li> <li>- Carbon sequestration</li> <li>- Certified wood products</li> <li>- Water infiltration</li> <li>- Bird-friendly crops</li> <li>- Conservation agriculture</li> <li>- Safeguard of the frontier between agriculture and forestry</li> <li>- Landscape maintenance</li> <li>- Maintenance of habitat for migratory birds</li> <li>- Maintenance of habitat for fauna</li> <li>- Production of certified wood</li> </ul>

By joining the two parameters described above, the subprojects or activities to be implemented within a subproject can be classified, and this will provide us with a first estimate of the level of socio-environmental risk, where projects classified as type 1 have high environmental impacts, while a type 4 subproject has a very low environmental impact.

**Matrix No. 1**  
**Classification of a subproject based on its goal and the type of construction works**

Type of construction works	Goal of the subproject		
	A	B	C
<b>a</b>	Type 1	Type 2	Type 2
<b>b</b>	Type 2	Type 2	Type 3
<b>c</b>	Type 2	Type 3	Type 4
<b>d</b>	Type 3	Type 4	Type 4

It should be pointed out that when a subproject includes several activities, which are found in more than one classification, the activity that can cause the greatest socio-environmental impact must be taken into consideration when classifying the subproject. Consequently, this classification must be carried out for each component so as to define the one with the highest socio-environmental risk in order to determine the final classification of the subproject.

Classification of a project based on the sensitivity of the environment

Once a subproject has been classified based on the type of project, the level of sensitivity of the natural and social environment where the subproject will be implemented is determined, in order to define the level of socio-environmental risk with greater precision.

To this end, a checklist has been designed (see the following table) in order to define the level of sensitivity of the natural, social and cultural environment, based on secondary information (reports, maps, etc.).

**Table No. 4**  
**Classification of a subproject based on the sensitivity of the environment**

SENSITIVITY OF THE ENVIRONMENT	DESCRIPTION	
<b>HIGH</b>	<ul style="list-style-type: none"> <li>- Area under a protection regime (National Parks, others)</li> <li>- High level of biodiversity (L. Holdridge, 1978)</li> <li>- High level of threat (accessibility, CIAT)</li> <li>- High level of endemism</li> <li>- High danger of environmental degradation (deforestation, hunting, etc.)</li> <li>- Mountainous zone with rugged terrain (&gt; 35% slopes)</li> <li>- Zones with high seismic risk</li> <li>- Zones vulnerable to natural phenomena such as floods</li> <li>- High potential for erosion</li> <li>- Wetlands and/or mangroves, permanently flooded zones</li> <li>- Primary forest</li> <li>- Exceptional ecosystems and habitat with endangered species</li> <li>- Headwaters</li> <li>- Sites with significant archeological and anthropological interest</li> </ul>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
<b>MODERATE</b>	<ul style="list-style-type: none"> <li>- Buffer zones for a protected area</li> <li>- Moderate to high level of biodiversity (L. Holdridge, 1978)</li> <li>- Moderate to high level of threat (accessibility, CIAT)</li> <li>- Moderate to high level of endemism</li> <li>- Undulating land (15 to 35% slope)</li> <li>- Moderate seismic risk</li> <li>- Moderate potential for erosion</li> <li>- Areas subject to sporadic flooding</li> <li>- Sites with moderate archeological and anthropological interest</li> </ul>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
<b>LOW</b>	<ul style="list-style-type: none"> <li>- Areas that have been exploited by man, outside areas declared to be national parks or buffer zones</li> <li>- Low to moderate level of biodiversity (L. Holdridge, 1978)</li> <li>- Low to moderate level of threat (accessibility, CIAT)</li> <li>- Low to moderate level of endemism</li> <li>- Low danger of environmental degradation (deforestation, hunting, etc.)</li> <li>- Undulating or flat land (&lt;15% slope)</li> <li>- Vegetation has been exploited</li> <li>- Non-flooding areas</li> <li>- Absence of sites with historical or patrimonial interest</li> <li>- Areas that have not been declared protected</li> <li>- Suburban areas with acceptable levels of facilities</li> <li>- Zones with a low level of social conflict</li> <li>- Zones used in a way that is an alternative to or consonant with the Project goals</li> </ul>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>

Note: The selection of the environment’s level of sensitivity will depend on the characteristics of the environment best adapted to the parameters described in the table.

Once the type of subproject and the level of sensitivity of the environment has been defined, the level of socio-environmental risk is determined; this can be Very High (level 1), High to Moderate (level 2), Moderate to Low (level 3), or Null (level 4). A matrix to obtain these results appears below:

**Matrix No. 2**  
**Level of socio-environmental risk**  
**based on the type of project and the sensitivity of the environment**

Type of project	Sensitivity of the environment		
	High	Moderate	Low
<b>Type 1</b>	Level 1	Level 2	Level 3
<b>Type 2</b>	Level 2	Level 3	Level 3
<b>Type 3</b>	Level 2	Level 3	Level 4
<b>Type 4</b>	Level 3	Level 4	Level 4

**Level 1 projects:** Subprojects with high environmental risk, because the area of influence has a high level of environmental sensitivity and the construction works to be executed are of a scope that may alter the natural environment, its biodiversity, and its cultural wealth. These effects may be irreversible.

**Level 2 projects:** Subprojects with high to moderate environmental risk, because the area of influence has moderate to high levels of environmental sensitivity; however, the construction works to be executed are of a limited scope. In this respect, the effects of this type of project can be managed and mitigated easily.

**Level 3 projects:** Subprojects with moderate to low environmental risk, because the project’s area of influence has a low level of environmental sensitivity, and the construction works to be executed are small-scale, so that they do not endanger the natural environment, its biodiversity, and its cultural wealth.

**Level 4 projects:** Subprojects where there will be no environmental risks from execution of the construction works.

Note: It should be indicated that Level 1 projects will not be financed with the Project’s resources, owing to their high socio-environmental risk.

**Second step: Definition of requirements for environmental management studies**

When a subproject’s level of socio-environmental risk has been defined, the management instruments or studies needed to ensure the environmental and social sustainability of the subprojects and compliance with the IADB and IBRD Environmental and Social Policies can be identified. In this respect, the studies required by each level of risk are described, together with

some instruments for socio-environmental management that should be taken into account during preparation of the necessary studies.

### **Studies or instruments required based on the level of socio-environmental risk**

A **level 2** subproject, that is one with high to moderate socio-environmental risk, will require a *Rapid Environmental Assessment (REA)* with its respective Environmental Management Plan and Monitoring Plan. It does not require a detailed Environmental Impact Assessment (EIA), because only minor construction works will be implemented, and, in most cases, these are designed to improve socio-environmental conditions and promote the sustainable use of natural resources. Generally, these projects are located within areas under protection regimes or in buffer zones with high to moderate environmental sensitivity. The terms of reference (TOR) for preparing this type of instrument are described in annex (see annex 2).

A **level 3** subproject, that is one with moderate to low socio-environmental risk, will require an *Environmental Report (ER)*, which, basically, must concentrate on proposing initiatives or measures to prevent, mitigate and/or compensate potential environmental impacts. Such projects are generally located in buffer zones for areas under a protection regime or other areas within the ecoregions that are identified as having a certain degree of biological and cultural importance. The TOR for preparing this type of instrument are described in annex (see annex 3).

A **level 4** subproject means that its execution will not result in significant negative environmental impacts, so that it should not affect the natural environment. This type of project does not require specific studies. However, should the design of these subprojects imply the execution of any construction works, the technical and environmental regulations and specifications developed for this type of project should be taken into consideration. These subprojects are generally located in areas that have been exploited by the population.

The above-mentioned technical specifications and studies should form part of the feasibility studies prepared for each subproject, so that the design of the construction works includes the respective measures and actions needed to prevent, mitigate and/or compensate negative effects.

It should be noted that, if a project is implemented within a protected area and if this area does not have its respective management plan, or if the plan has not been updated in line with the new perspective on conservation and sustainable use of the Project's resources, before preparing an environmental study, the protected area's management plan must be elaborated or updated, to include the construction works to be implemented under the proposed subproject among the activities set out in the plan. The authority in charge of the protected area will be responsible for this updating.

Insofar as possible, the REA document for level 2 projects should not exceed 40 pages, while the ER document for level 3 projects should not exceed 20 pages; both documents should be prepared by environmental experts, and is the responsibility of the project's sponsor.

### **Instruments supporting environmental assessment**

#### a) Preliminary Environmental Assessment "Checklist"

As part of the environmental assessment process, field visits must be made to the proposed project in order to make a preliminary analysis and establish the level of socio-environmental risk. In this regard, a field checklist has been designed to facilitate the rapid and effective screening of the area where the subproject would be implemented (see annex 4).

b) Secondary information for environmental assessment

The Integrated Ecosystem Management Project has an excellent systematized database (Geographic Information System), composed of a series of maps that are extremely useful for classifying the subprojects and for decision making. The sources of information include:

- Map of Indigenous Populations in Central America
- Map of location of indigenous communities with whom CICA and CICAFOC are working
- Map of Protected Natural Areas in Central America
- Map of Risk Zones in Central America
- Map of the Mesoamerican Biological Corridor
- Map of Zones of Endemism in Central America
- Map Central American Ecoregions

c) IADB and IBRD Environmental & Social Policies

The following are a series of IADB and IBRD Policies, designed to ensure the social and environmental sustainability of projects. The table presents the policies that are triggered in this type of project:

**Table No. 5**  
**World Bank policies generally used by highway projects**

World Bank policies	Scenarios and requirements
Environmental assessment	All projects must comply the IADB and IBRD environmental policy. The requirements are adapted to the level of environmental risk.
Natural habitats	Projects near to or through protected areas, or with critical natural habitat in the area of influence that may be affected by changes in land use. Compensation measures would be required if natural habitats are affected.
Forestry management	Projects for reforestation or sustainable use of forests require the design of adequate management plans that ensure their sustainability.
Indigenous peoples	Projects that affect or benefit indigenous peoples require indigenous development plans, consultations with the community, and participation and coordination mechanisms.
Physical cultural patrimony	Special care must be taken during construction work to ensure that damage is not caused to archeological remains and historical monuments. Research, rescue, and procedures for accidental discoveries are the most common requirements, particularly in regions with a high probability of making discoveries.

Public information	In general, programs of consultation with the public are required in all projects, especially those that require complete environmental impact studies (Category A), resettlement plans, and indigenous plans. In this case, although no project in this category is planned, the respective consultation and community participation mechanisms must be prepared.
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**Third step: Compliance with the Environmental Authority**

Each of the subprojects must have the respective authorization or permission issued by the corresponding Environmental Authority. In this respect, the instruments to be used during the execution of the Project must be agreed on with these institutions in order to ensure coordination, and also compliance with environmental legislation.

Central American environmental legislation must be analyzed in order to establish minimum environmental standards for the Project based on this information; these standards must be uniform for all the ecoregions and comply with the legislation of each country.

**Fourth step: Follow-up and monitoring**

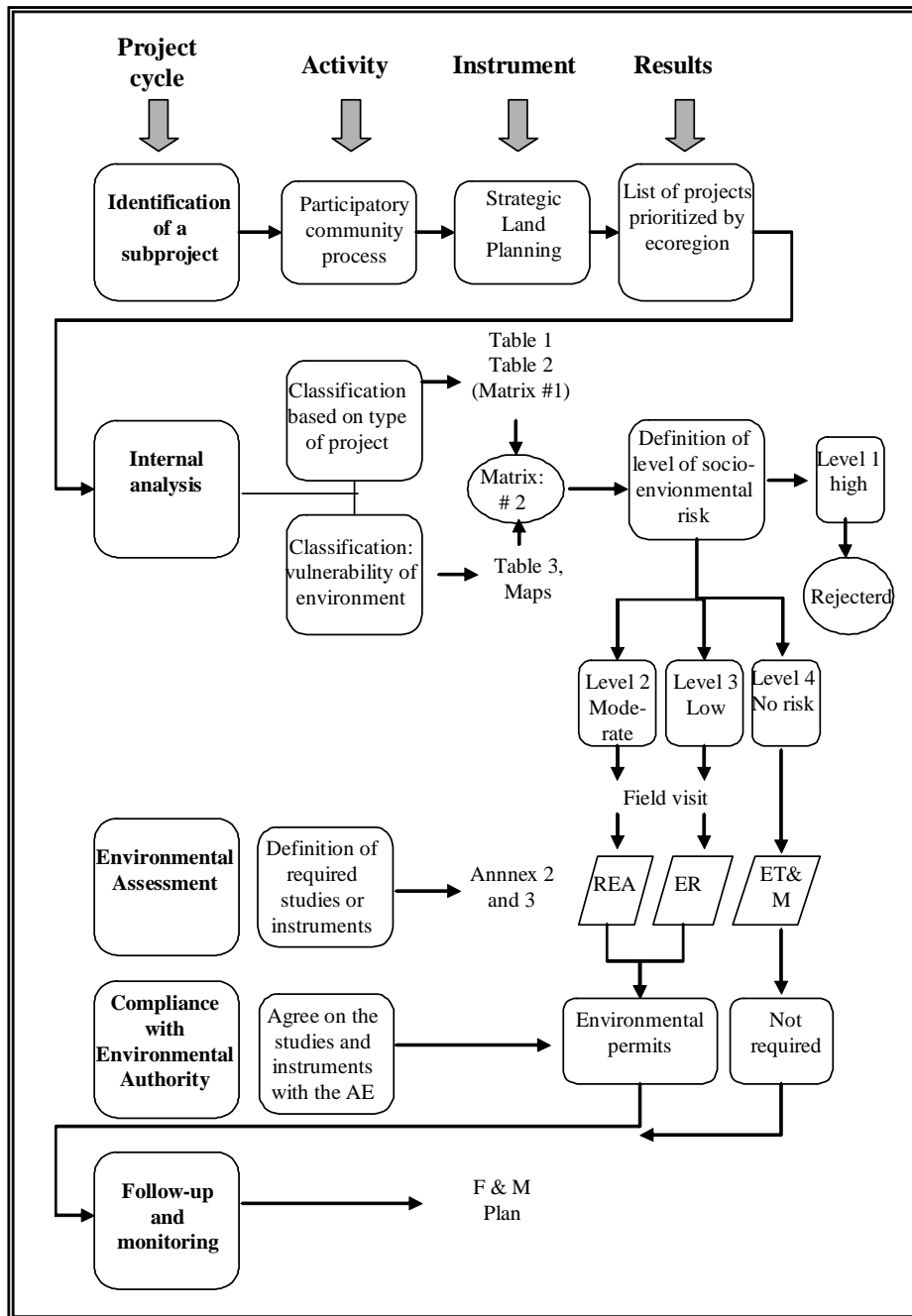
There must be an adequate Project Follow-up and Monitoring Plan to ensure implementation of the Management Plans and the respective technical specifications of each subproject.

The Liaison Organizations in charge of executing the subprojects in their respective ecoregion are responsible for follow-up and monitoring

**SUMMARY OF THE PROCEDURE FOR THE SOCIO-ENVIRONMENTAL ASSESSMENT OF SUBPROJECTS AND ITS REQUIREMENTS**

The following is a flow chart that outlines and summarizes the management procedures that must be carried out during the process of making the environmental assessment of the subprojects proposed in the Project, and requirements throughout the project cycle.

**Table 6**  
**Flow chart of procedures for the socio-environmental assessment of the subprojects**



## 2. INSTITUTIONAL ASPECTS

### Institutional framework and organizations responsible for execution of the third component of the Project

The organizations responsible for the execution of the Project are: the Indigenous Coordination Committee; the Project Coordination Unit; the Liaison Organizations; and the Financial Intermediation Mechanism.

- **The Indigenous Coordination Committee – Wayib**, is the Project's decision-making body; and is responsible for the review and approval of the execution master plan and the annual operational plans prepared by the Project Coordination Unit (PCU).
- **The Project Coordination Unit – PCU**, is the unit created under the responsibility of Wayib to implement project activities. It is composed of a regional central office and by national technical units responsible for the prior evaluation and the follow-up of the subprojects to be implemented by the communities. In the area of technical assistance, the PCU will be supported by different institutions, such as: universities, NGOs, producer associations, research centers, and suppliers of private services; they will provide expertise and technical services, and be incorporated into the project in relation to specific micro-regions and communities in the Mesoamerican Biological Corridor. Regular consultations and monitoring events will be coordinated and organized by ACICAFOC and CICA. The role of CCAD will be to ensure efficient communication and also to represent and coordinate the focal points.
- **The Liaison Organizations – LO**, are those organizations that, following a rigorous selection process, have been chosen to implement the Project in each of the priority ecoregions that have been identified. These organizations are the link between the beneficiary communities and the Project Coordination Unit, and they form part of the latter.
- **Financial Intermediation Unit – FIU**: this is the mechanism for the administration of the Project's financial resources. Its functions include facilitating and simplifying the administrative and financial processes that ensure the financial effectiveness of the Project.

### Operational Regulations for the execution of subprojects

Operational Regulations have been drawn up, which clearly define the procedures for financing subprojects, to provide a tool for Project operators. The Regulations establish general and specific eligibility criteria, and also the norms and procedures for executing subprojects on the conservation and sustainable use of resources, including the functions and obligations of the different actors involved in their execution.

Some important aspects included in the Regulations are the establishment of eligibility criteria for the subprojects (targeting indigenous communities, focus on demand and on efficient resource management); eligibility criteria of the beneficiaries (typologies based on the level of organization and preparation to assume the challenge (Type I refers to geographically isolated organizations or communities with very little organization, while Type IV are consolidated organizations with an autonomous or semi-autonomous business department); and eligibility criteria for the implementing agencies (grass-roots communities, second-tier organizations, associations, etc.).

It should be noted that this document must be incorporated into these Regulations so as to have a single instrument that defines procedures and requirements during implementation of the Project.

### **Institutional support for the execution of subprojects**

The Project includes support for the elaboration of studies with pre-investment resources, to ensure that the subprojects have adequate technical support. Regarding the environmental aspects, these resources will be used for preparing the required environmental assessments based on the level of socio-environmental risk of each subproject.

In order to request this type of resource, there is a “Matrix for the Review of Subprojects” (see [annex 5](#)); it is included in the Operational Regulations and establishes the requirements to qualify for and obtain pre-investment resources to elaborate studies. The classification of the subproject based on the socio-environmental risk developed in this document has been incorporated in this matrix so that this element is taken into account in the preliminary review of subprojects.

Resources for technical assistance and training for the communities promoting the subprojects has also been included in the project, based on the types of financing granted for the projected activities in each investment proposal. The aim of this training is to offer the beneficiaries basic skills in different areas, including socio-environmental management, during the execution, operation and maintenance of the subprojects.

### **Institutional environmental management during the subproject cycle**

Based on the project cycle, the way in which environmental aspects intervene will now be described, in order to identify those responsible and the tasks they must perform in order to ensure adequate environmental management while the Project is being implemented.

#### **a. Identification of subprojects**

Based on the Strategic Land Planning which gives rise to the Land Management Plan, the communities must identify needs, problems and alternative solutions. As a result of this process, a pre-investment study is prepared, designed to identify initiatives for the conservation and sustainable use of biodiversity and the development of markets for environmental services.

During this first phase, potential environmental risks that could occur in the different alternatives should be flagged, so that those aspects are taken into account during the subsequent phase of the formulation of the subprojects.

#### **b. Formulation of subprojects**

During participatory workshops, the communities, with the support of local experts, prepare the subproject profile, which assesses financial, technical, environmental and social implications. Regarding the socio-environmental assessment, the subproject should be classified based on the level of socio-environmental risk, using the Preliminary Environmental Assessment Form that appears in this document (annex 4), and also the methodology described above, to ensure that the project profile includes the TOR of the required socio-environmental assessment, based on the level of socio-environmental risk of each subproject.

The Coordination Unit, through the Liaison Organizations, with the respective technical support, will be responsible for classifying the subprojects. The LO must ensure that all the proposals presented include this instrument. The said form must be incorporated into the Field Checklist for Preliminary Project Analysis included in the Operational Regulations.

### **c. Prior analysis and assessment of subprojects**

The analysis of a subproject is an important operational part of the financial support process and is carried out by experts designated by the Project Coordination Unit. The process for examining financing requests includes the following steps:

The Project Coordination Unit, through the Liaison Organizations, in coordination with the applicant communities, carries out a concise and rapid assessment of the pre-investment study presented, its feasibility and justification. To this end, it verifies the indicators and/or criteria for the classification of subprojects systematized in the *Project Review Matrix*, which has previously been used by the beneficiary communities and the experts assisting them.

Regarding the social and environmental aspects, the Coordination Unit must review either the Rapid Environmental Assessment or the Environmental Report; the instrument required is based on the level of socio-environmental risk. Should pre-investment resources be requested at this stage of the project, precisely for preparing one of these reports, the Liaison Organization must ensure that the proposed TOR are adjusted to the guidelines established in this document. It is possible that, at this stage, the LO will need to make a field visit to the project to form a better opinion of the relevant scope of these instruments.

As part of the environmental assessment, a review of the institutional capacity of the beneficiary organization should be made, in order to identify technical assistance requirements to ensure satisfactory management during the execution and subsequent operation of the subproject.

It is worth noting that a Social and Cultural Analysis has been defined in the Project's Operational Regulations, in order to assess the socio-cultural impacts of a subproject. This analysis should form part of the environmental assessment in order to deal with these two variables comprehensively.

### **d. Selection and approval of subprojects**

When the Coordination Unit is completing the process of selecting and approving a subproject, it should incorporate the environmental and social aspects into the analysis, so as to ensure that the project is sustainable. Each proposal will be required to have the respective instrument defined on the basis of the socio-environmental risk of each subproject in order to be approved by the Unit.

The allocation of resources for implementing the measures and actions of mitigation, prevention and/or compensation specifically identified for projects classified at Level 2 and Level 3 must be confirmed. Those responsible for executing the measures must be designated; in these cases, they will be the beneficiaries themselves.

Also, from a social point of view, it is necessary to ensure that the proposal falls within the program's guidelines in order to have access to the Project's resources.

The Liaison Organizations must have external support from environmental experts so as to be able to review these aspects before approval.

**e. Execution of subprojects.**

The beneficiary communities are responsible for executing the subprojects. Nevertheless, to ensure satisfactory socio-environmental management during construction work, the consultancy services of an environmental expert will be used when justified, to monitor compliance with the prevention, mitigation and/or compensation measures identified in the respective environmental assessment (REA o ER).

It is important to maintain adequate control of the execution of the environmental measures using a monitoring plan or an implementation schedule, which should be reported or sent to the Coordination Unit periodically to keep it informed of the project's progress in this regard.

The Project Coordination Unit, through the LO, may, at any time, verify the execution of the environmental and social measures of the subprojects.

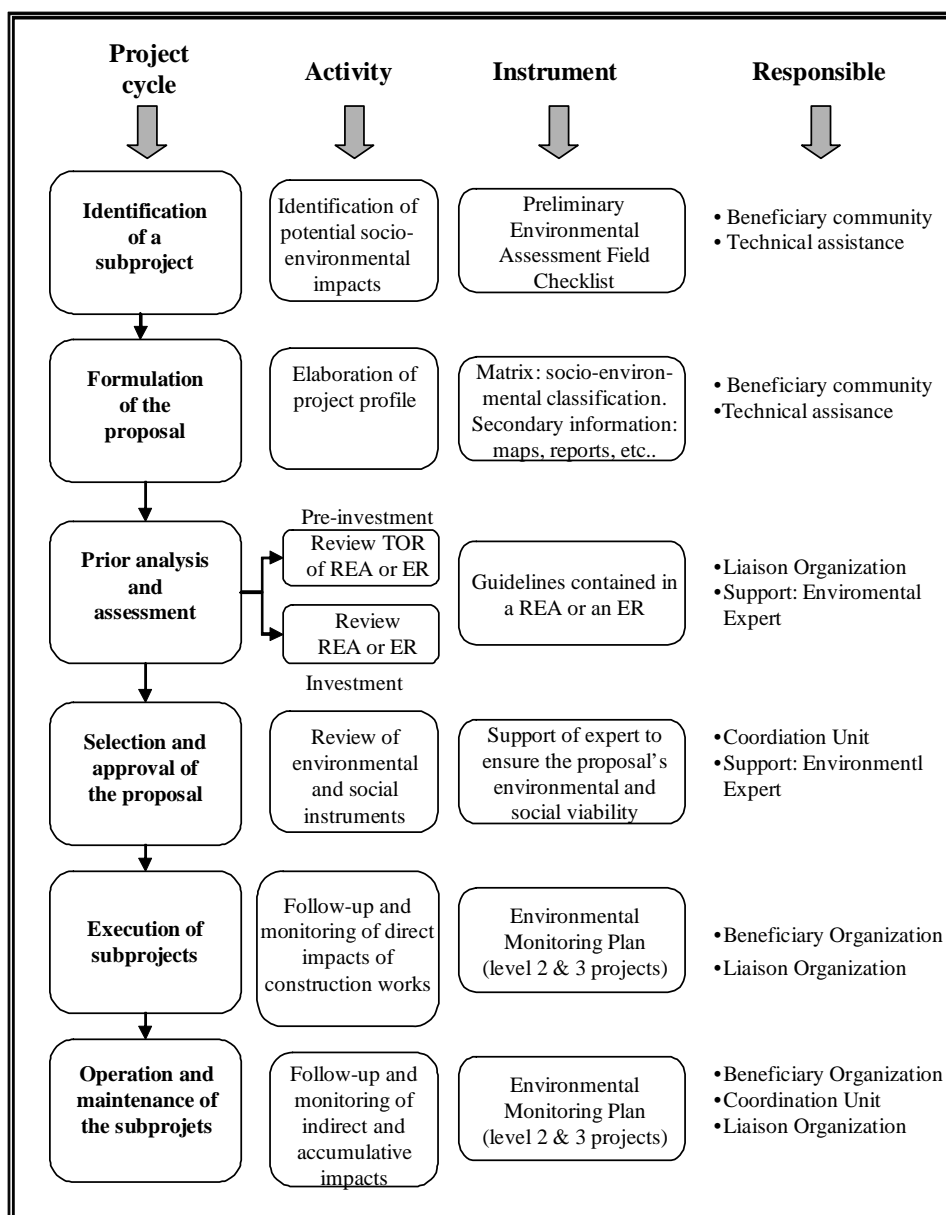
Once the execution of the construction works has been completed, a final report on socio-environmental management during project execution must be submitted to the LO, which will forward it to the Coordination Unit.

**f. Operation, maintenance and ex post facto evaluation**

The beneficiaries will assume the operation and maintenance of the construction works financed by the Project. However, the Project Coordination Unit, through the Liaison Organizations, may maintain a presence during this phase, in order to provide technical assistance resources, if needed to ensure an adequate functioning of the subproject.

It should be noted that the environmental impacts of this type of project occur mainly during the execution of the construction works; in other words, they are of a temporary nature. However, it is important to measure the indirect or accumulative impacts generated by the execution of the construction works over time. In this respect, the follow-up and monitoring of some environmental parameters must continue in order to prevent any potential impact on the natural environment during the operation of the subproject.

**Table 7**  
**Flow chart of the project cycle establishing institutional responsibilities for environmental management**



### **Institutional strengthening**

To ensure satisfactory socio-environmental management during the implementation of the Project, a series of activities addressed at strengthening the capabilities of the different agencies involved in the execution of the project must be implemented.

Among the most important agencies as regards environmental aspects are the Liaison Organizations, because they are in direct contact with the beneficiary organizations and the projects during the execution and subsequent monitoring. In this respect, it is very important that the LO have adequate training or professional support, as well as sufficient tools to monitor appropriate socio-environmental management during the cycle of a subproject. Since many of these organizations do not have environmental experts, it is recommended that a procedure should be put in place to train their members so that they can gradually assume those responsibilities.

Moreover, the beneficiaries themselves are often unaware of the socio-environmental risks that a project of this type can cause. In this respect, it is important to design a series of training workshops to teach basic elements of environmental management so that the beneficiaries become aware of them and can apply them during the execution and subsequent monitoring of the subprojects.

### **Organizational structure to handle environmental issues**

A brief series of proposals or recommendations is presented below regarding how each of the Project's agencies should be structured from an organizational point of view; these should be taken into account in the Project.

#### **a. Project Coordination Unit**

It is proposed that the Project Coordination Unit should have an Environmental Expert for the whole Project, to be responsible for designing the environmental management at all levels of the program. Among other activities, this person would coordinate with each Liaison Organization to ensure the environmental and social sustainability of the Project; coordinate with the different environmental authorities the use of tools for the proposed environmental management in order to obtain the respective permits; and design a strategy to promote the training component for the different actors and organizations involved in the project. He would also form part of the Subproject Evaluation Committee, to ensure that all proposals are viable from an environmental perspective.

#### **b. Liaison Organizations**

Some Liaison Organizations have sufficient experience on environmental issues, since their personnel include environmental experts. However, most of these organizations do not have this type of expert. In such cases, they require the external support of an environmental expert, who can provide advisory services during project execution and monitoring.

It is recommended that, in future, this responsibility should be assumed by the organizations themselves and, to this end, an adequate training program will be needed so that they gradually internalize the environmental issue. Given the dimension and characteristics of the subprojects to be implemented under the Project, a great deal of expertise is not required in order to assume those responsibilities; consequently, a rapid training program will be sufficient to strengthen the organizations in this respect.

Even though there is no environmental expert at the start of the Project, an official of each organization should be assigned this responsibility, in order to ensure that the instrument for environmental management is applied.

**c. Beneficiary Organizations**

As mentioned above, the beneficiaries themselves must gradually internalize several environmental concepts, since they will be responsible for the execution and operation of the subprojects. In this respect, a program should be designed for these beneficiary organizations as part of the training strategy; this will form part of the technical assistance provided by the Project during its execution.

ANNEX 1

Description of the Priority Areas of the Indigenous Integrated Ecosystem Management Project in Central America, according to ecoregion

Ecoregion	Countries	Indigenous peoples	Level of priority (LP) Deforestation danger (DD) Biological importance (BI)	Principal environmental problems <sup>1</sup>
<b>Tehuantepec</b> Area: 53,667 km <sup>2</sup>	Belize- Guatemala	Mopan, Maya, Mam K'iche, Kaqchikel Ixil, Itza Garifuna, Achi, Xinca Uspanteko Tz'utujil Tektiteko Sakapulteko Q'eqchi' Poqomchi' Poqoman	LP = 2,93 (high importance on a regional scale) DD = 0,430 (medium) BI = 0,518 (important on a regional scale)	Petroleum exploration Construction of roads for national security Expansion of livestock activities This ecoregion is the second in size and is predominantly inhabited by indigenous groups. It is characterized by its ethnic variety. It includes areas where agriculture, livestock and ecotourism activities are increasing. In Belize, slope agriculture is endangering the quality of the environment and the country's rich biological diversity.
<b>Dry Pacific</b> Area: 7,927 km <sup>2</sup>	El Salvador Honduras	Lenca Pipil Cacaopera	LP = 2,784 (high importance on a regional scale) DD = 0,428 (medium) BI = 0,517 (important on a regional scale)	Grazing Fires and burning Expansion of agriculture The expansion of agriculture and livestock activities, combined with a dry climate and the use of burning to clear the land is the greatest danger in this region.
<b>Talamanca-Ngöbe</b> Area: 10,347 km <sup>2</sup>	Panama Costa Rica	Cabecar Naso Teribe Terraba Ngobes Bugle Bribri Boruca	LP = 2,758 (high importance on a regional scale) DD = 0,423 (medium) BI = 0,515 (important on a regional scale)	Logging Burning and fires Expansion of agriculture This ecoregion has a high number of endemic animal species. The poverty of the indigenous communities leads to timber exploitation and expansion of agriculture on slopes.

<sup>1</sup> Source: *A Conservation Assessment of the Terrestrial Ecoregions of Latin America and the Caribbean*, The World Bank/The World Wildlife Fund, Washington, D.C., 1995.  
*Evaluación del Potencial de los Servicios Ambientales en Pueblos Indígenas*, RUTA, San José, Costa Rica, 2000.

**Proyecto de Manejo Integrado de Ecosistemas por Pueblos Indígenas y Comunidades**

<b>Ecoregion</b>	<b>Countries</b>	<b>Indigenous peoples</b>	<b>Level of priority (LP) Deforestation danger (DD) Biological importance (BI)</b>	<b>Principal environmental problems<sup>1</sup></b>
<b>Sumo-Misquita</b> Area: 102,421 km <sup>2</sup>	Honduras Nicaragua	Miskitos Sumo Garifuna Rama Pech	LP = 2,536 (important on a regional scale) DD = 0,378 (relatively stable) BI = 0,494 (relevant on a regional scale)	Forest fires Burning Industrial logging Wood gathering This is the largest ecoregion. It includes the largest concentration of Caribbean pine in the region. The isolation of the areas and the poverty of the indigenous communities are resulting in unsustainable logging activities.
<b>Darién-Kuna Yala</b> Area: 8,668 km <sup>2</sup>	Panama	Emberá Wounaan Kuna de Madungandi Kuna de Wargandi Kuna Yala	LP = 2,96 (very high importance on a regional scale) DD = 0,464 (very vulnerable) BI = 0,534 (important on a regional scale)	Mining, logging, and the expansion of small-scale agriculture. A region with many endemic species common to South and Central America. Poverty of the indigenous communities leading to over-hunting.
<b>Wet Atlantic</b> Area: 6,869 km <sup>2</sup>	Honduras	Garifuna Islanders Tolupenes	LP = 3,099 (very high importance on a regional scale) DD = 0,493 (very vulnerable) BI = 0,584 (very important on a regional scale)	Forest fires Burning Industrial logging Indigenous population under great pressure due to expansion of agricultural activities.

ANNEX 2

**TOR FOR ELABORATING THE STUDIES REQUIRED FOR A  
LEVEL 2 PROJECT (MODERATE TO HIGH SOCIO-ENVIRONMENTAL RISK)**

**LEVEL 2 SUBPROJECTS: RAPID ENVIRONMENTAL ASSESSMENT (RAE)**

- **Introduction, objectives and area of study**
- **Project description:** regarding the selected route, aspects such as the following should be included: geographical location, longitudinal profiles, surface of the corridor, identification of the basic components of the road, technologies, raw materials, machinery and equipment.
- **Description of the physical, biotic and social environment:** definition of the area of direct and indirect influence on the road. Description of the physical, biotic and social variables, stressing the most vulnerable or subject to most intervention. Physical: geology, geomorphology, soils, air quality, noise levels, climate, hydrography. Biotic: vegetation, fauna. Social: demography, economic activities, actual and regulated use, land ownership, presence of vulnerable groups, etc.
- **Environmental analysis of alternatives:** technical, environmental and comparative financial analysis of routes.
- **Identification and assessment of potential socio-environmental impacts:** identification of impacts prior to the project, potential positive and negative, direct and indirect impacts. Description of impacts as regards: intensity, magnitude, extension, duration and risk of occurrence. Where and when might the impacts occur. Differentiate special and temporal impacts.
- **Formulation and design of measures:** identification and type of measure. Impact to which it is addressed. Description of the measure at the level of basic engineering and definition of when and where to apply it. Links to other measures. Estimated cost. Agency responsible for implementation.
- **Social and Environmental Management Plan:** integration of measures in a plan that defines what, and how, when and where to apply them. Incorporation in the project schedule.
- **Follow-up and Monitoring Plan:** definition of the personnel required, their affiliation, functions, functions of the S.A., timetable, forms for monitoring report, monitoring methodology, sites, reporting schedule.

ANNEX 3

**TOR FOR ELABORATING THE STUDIES REQUIRED BY A  
LEVEL 3 PROJECT (MODERATE TO LOW SOCIO-ENVIRONMENTAL RISK)**

**LEVEL 3 SUBPROJECTS: ENVIRONMENTAL REPORT (ER)**

- **Description of the physical, biotic and social environment:** definition of the road's direct and indirect area of influence. Description of the physical, biotic and social variables, stressing the most vulnerable ones or those subject to most intervention. Physical: geology, geomorphology, soils, air quality, noise levels, climate, hydrography. Biotic: vegetation, fauna. Social: demography, economic activities, actual and regulated use, land ownership, presence of vulnerable groups, etc.
- **Identification of potential positive and negative impacts:** Those resulting from the execution of the construction works and those that, given their importance, may alter the actual use or activity of the land or vulnerable areas, from a socio-environmental perspective. Positive impacts or potential impacts that may occur during project execution should also be identified. Both direct and indirect impacts should be taken into account.
- **Analysis of the potential impacts in order to design measures and actions:** When the project's potential environmental and social risks have been identified, each one must be examined so as to be able to design specific measures or actions to prevent, mitigate and/or compensate the potential impacts. The instrument supporting the design of measures is the environmental guidelines for highway works, used by the Highways Unit.
- **Environmental Management Plan:** The strategy for executing the measures and actions identified must be submitted. This strategy should include the activities to be implemented, the budget for their execution, and the respective timetable. This budget should form part of the total budget of each project and be clearly established in the respective executive project. A plan for following up on and monitoring the execution of the social and environmental measures should be included.

ANNEX 4

PRELIMINARY ENVIRONMENTAL ASSESSMENT CHECKLIST  
INTEGRATED ECOREGION MANAGEMENT PROJECT

Name of Project or Program: \_\_\_\_\_

Organization responsible: \_\_\_\_\_

Country: \_\_\_\_\_

Name of evaluator: \_\_\_\_\_

Date : \_\_\_\_\_

1. Project characteristics	
Name of project: _____	Project objectives - _____ - _____ - _____
Name of ecoregion: _____	

2. Classification of project based on type of project																									
<p><b>- Objective of subproject:</b></p> <p>A. Environmental services</p> <p>B. Sustainable production</p> <p>C. Land use planning</p>	<b>Matriz No. 1</b>																								
	<table border="1"> <thead> <tr> <th rowspan="2">Type of works</th> <th colspan="3">Objective of subproject</th> </tr> <tr> <th>A</th> <th>B</th> <th>C</th> </tr> </thead> <tbody> <tr> <td>a</td> <td>Type 1</td> <td>Type 1</td> <td>Type 2</td> </tr> <tr> <td>b</td> <td>Type 1</td> <td>Type 2</td> <td>Tipó 2</td> </tr> <tr> <td>c</td> <td>Type 2</td> <td>Type 2</td> <td>Type 3</td> </tr> <tr> <td>d</td> <td>Type 2</td> <td>Type 3</td> <td>Type 3</td> </tr> </tbody> </table>			Type of works	Objective of subproject			A	B	C	a	Type 1	Type 1	Type 2	b	Type 1	Type 2	Tipó 2	c	Type 2	Type 2	Type 3	d	Type 2	Type 3
Type of works	Objective of subproject																								
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a	Type 1	Type 1	Type 2																						
b	Type 1	Type 2	Tipó 2																						
c	Type 2	Type 2	Type 3																						
d	Type 2	Type 3	Type 3																						
<p><b>- Type of construction works:</b></p> <p>a. New construction, linear infrastructure</p> <p>b. Rehabilitation or maintenance, linear infrastructure</p> <p>c. Individual construction works</p> <p>d. Construction works for conservation and sustainable use of natural resources projects</p>																									

3. Classification of project based on sensitivity of the environment		
High	Moderate	Low
<input type="checkbox"/> Area under a protection regime (National Parks, others) <input type="checkbox"/> High level of biodiversity (Holdridge, 78) <input type="checkbox"/> High level of threat (accessibility, CIAT) <input type="checkbox"/> High level of endemism <input type="checkbox"/> High danger of environmental degradation (deforestation, hunting, etc.) <input type="checkbox"/> Mountainous zone with rugged terrain (> 35% slopes) <input type="checkbox"/> Zones with high seismic risk <input type="checkbox"/> Zones vulnerable to natural phenomena such as floods <input type="checkbox"/> High potential for erosion <input type="checkbox"/> Wetlands and/or mangroves, permanently flooded zones <input type="checkbox"/> Primary forest <input type="checkbox"/> Exceptional ecosystems and habitat with endangered species <input type="checkbox"/> Headwaters <input type="checkbox"/> Sites with significant archeological and anthropological interest	<input type="checkbox"/> Buffer zones for a protected area <input type="checkbox"/> Moderate to high level of biodiversity (Holdridge, 78) <input type="checkbox"/> Moderate to high level of threat (accessibility, CIAT) <input type="checkbox"/> Moderate to high level of endemism <input type="checkbox"/> Moderate danger of environmental degradation (deforestation, hunting, etc.) <input type="checkbox"/> Undulating land (15 to 35% slope) <input type="checkbox"/> Moderate seismic risk <input type="checkbox"/> Moderate potential for erosion <input type="checkbox"/> Areas subject to sporadic flooding <input type="checkbox"/> Sites with moderate archeological and anthropological interest	<input type="checkbox"/> Areas that have been exploited by man, outside areas declared to be national parks or buffer zones <input type="checkbox"/> Low to moderate level of biodiversity (Holdridge, 78) <input type="checkbox"/> Low to moderate level of threat (accessibility, CIAT) <input type="checkbox"/> Low to moderate level of endemism <input type="checkbox"/> Low danger of environmental degradation (deforestation, hunting, etc.) <input type="checkbox"/> Undulating or flat land (<15% slope) <input type="checkbox"/> Vegetation has been used/tapped (¿?) <input type="checkbox"/> Non-flooding areas <input type="checkbox"/> Absence of sites with historical or patrimonial interest <input type="checkbox"/> Areas that have not been declared protected <input type="checkbox"/> Suburban areas with acceptable levels of facilities <input type="checkbox"/> Zones with a low level of social conflict <input type="checkbox"/> Zones used in a way that is an alternative to or consonant with the Project goals

4. Level of socio-environmental risk – Category of subproject				
<p><b>Level 1:</b> Subprojects with a <u>very high level of environmental risk</u>. The effects could be irreversible. This type of subproject will not be financed.</p> <p><b>Level 2:</b> Subprojects with a <u>high to moderate environmental risk</u>. The area of influence is vulnerable; however, the planned construction works are not large.</p> <p><b>Level 3:</b> Subprojects with a <u>moderate to low environmental risk</u>. The area of influence is not vulnerable and the planned construction works are small.</p> <p><b>Level 4:</b> Subprojects, where execution of the construction works <u>does not present environmental risks</u>.</p>	<b>Matrix No. 2</b>			
	<b>Sensitivity of the environment</b>			
	<b>A</b>	<b>B</b>	<b>C</b>	
	<b>Type 1</b>	<b>Level 1</b>	<b>Level 2</b>	<b>Level 3</b>
	<b>Type 2</b>	<b>Level 2</b>	<b>Level 3</b>	<b>Level 3</b>
<b>Type 3</b>	<b>Level 2</b>	<b>Level 3</b>	<b>Level 4</b>	
<b>Type 4</b>	<b>Nivel 3</b>	<b>Level 4</b>	<b>Level 4</b>	

5. Need for studies	
<b>Level 1 category:</b>	The project is rejected owing to the high socio-environmental risk that execution of the proposed subproject represents
<b>Level 2 category:</b>	Requires a Rapid Environmental Assessment (see annex 2)
<b>Level 3 category:</b>	Requires an Environmental Report (see annex 3)
<b>Level 4 category:</b>	Does not require specific environmental studies; however, existing environmental technical specifications and regulations must be applied in the design to ensure that environmental variables are incorporated

6. Comments

ANNEX 5

MATRIX FOR SUBPROJECT REVIEW

CRITERIA FOR CLASSIFYING SUBPROJECTS	YES	NO
1. Does the subproject fall within the Project's area of intervention?		
2. Does the target community comply with the eligibility criteria?		
3. Does the subproject presented represent an investment priority that has been identified in the Land Management Plan?		
4. Is the subproject under consideration truly an investment proposal that falls within the sphere of the conservation and sustainable use of resources?		
5. Has the subproject presented been prepared, examined and approved by the community, with the support of local experts?		
6. Is the amount of investment in the subproject less than US\$30,000?  Amount of the investment in Project resources = US\$		
7. Does the local counterpart comply with the conditions established in the Co-financing Matrix?  Local counterpart/ Total investment = %		
8. The subproject's classification based on the socio-environmental risk is:  <input type="checkbox"/> Level 1: Very high <input type="checkbox"/> Level 2: Moderate to high <input type="checkbox"/> Level 3: Moderate to low <input type="checkbox"/> Level 4: Low or null		
9. Do the activities of the subproject strengthen the cultural identity and social cohesion of the community?  Social and cultural category of the subproject: A ----- B ----- C-----		
10. Does the internal rate of return exceed 8 %? IRR = %		
11. Is the net current value greater than zero? NCV / (12 x No. of families benefiting) = US \$		

Signed:

Expert, Project Coordination Unit