DEVELOPMENT BANK OF LATIN AMERICA

SECTOR GUIDELINE

FOR CAF/GEF PROJECTS ON INTEGRATED WATER RESOURCES AND WETLANDS MANAGEMENT (IWRM)

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1. Introduction

As a result of population growth, urban expansion and economic growth; the global demand for water has increased significantly, making the issue of water a source of controversy throughout the world, especially in world's poorest developing countries; giving rise to numerous large social conflicts in defense of water reserves in fear of depletion and impaired quality; increasing demonstrations opposing the use of the resource in production projects, especially mining and electrical and, in some cases, for home use.

The proliferation of these social and environmental conflicts is now a national security issue that must be addressed as part of the governments' policy objectives and national strategies, and constitutes a vital priority among the actions required to achieve sustainable development. These include political, social, economic and environmental changes that improve the relationship between supply and demand and the multi-sectorial use of water resources in an environment of social harmony and peace.

In the last three decades the international community has intensified its interest in highlighting the importance of water resources for life on the planet, the importance of planning, management and efficient use of the resource, preserving its quality, protection of the resources associated with water, protection of the public against extreme weather events and climate change and preserving the aquatic ecosystem. This has led to internationally agreed-upon principles for integrated, multi-sectorial, equitable, participatory and sustainable management that should be understood in an integrated water resources management project (IWRMP) and a Social and Environmental Management Plan developed and implemented in an atmosphere of social harmony and peace.

This Guide was developed to have a structured mechanism to analyze the environmental and social issues of IWRMP and the management of wetlands, which involve work processes with their stakeholders as well as the identification of problems and potential legal disputes during the formulation, implementation and operation of the project, in order to address them promptly and ensure its sustainability.

This GAS guide should be applied to IWRM and management of wetlands projects during the formulation and implementation phase. As a result, this tool must then be formally approved by the highest hierarchical level of the institutions that seek access to the technical and financial cooperation of the CAF.

Its objective is:

a) To ensure that the social and environmental aspects are evaluated in the decision making process;

b) To reduce and manage risks of IWRM and management of wetlands projects
c) To provide mechanisms for consultation and the disclosure of information.

1.1 Applicability

This GAS guide should be applied to IWRM and management of wetlands projects during the formulation and implementation phase. As a result, this tool must then be formally approved by the highest hierarchical level of the institutions that seek access to the technical and financial cooperation of the CAF.

The IWRM and wetlands management projects should include an ex-post environmental assessment, i.e., that potential impacts should be identified from the formulation of the project, and many of the important measurements of environmental protection must be integrated into the IWRMP; countries' national environmental legislation should make it environmental certification compulsory as a prerequisite for the start of project implementation, i.e., no national, sectorial, regional or local authority may approve, authorize, permit, grant or enable its implementation unless they have prior environmental certification issued by the competent authority. Eventually, all environmental assessments should be prepared by environmental consultants duly registered as such, and the studies submitted to the environmental authority for evaluation and the corresponding environmental certification.

1.2 Profile of the Sector

1.2.1 Importance of the Sector

"It is expected that in the next thirty years the demand for potable water in the world will grow by 650%, while world population will grow 50%," said Claude Martin, director general of the World Fund for Nature at WWF International. Similarly, a report by the World Meteorological Organization (WMO) warns that currently there are 29 countries that suffer moderate-to-severe water shortage, and people living in areas with a high level of water shortage will go from 132 million today to 650-900 million in 2025.

Many of the challenges generally facing the water sector are related to the area of activity of other sectors (sanitation, agriculture, industry, energy, mining, etc.), and with financial, fiscal and environmental policies, the rights to water use and land ownership and use; and with governance and population growth.

The main problems related to the management and development of water resources are population growth and increased multi-sectorial economic activity increase demand and "water stress." This is compounded by climate change, the deterioration of water quality in natural sources and very little culture of payment of the actual value (of management, the water supply, the maintenance of public works and environmental management).

The main factors affecting these problems are: i) the absence of an IWRM strategy (multi-sectorial, participatory and integrated); ii) the weakness of the agency responsible for sustainable use of WR, with defined roles and responsibilities, trained staff and a

comprehensive and appropriate regulatory and institutional framework that can reduce and resolve growing water conflicts; iii) A culture of water that is accustomed to resource wastage and inefficiency in its allocation; iv) inadequate, fragmented and unreliable information contributes to uncertainty and mistakes in decision-making; v) an inadequate social management that contributes to the generation of conflicts; vi) poor conservation and protection of the resource in its natural sources, affecting the health, biodiversity and production activities; vii) the real value of water is not recognized and paid (to finance its management, development, protection and maintenance).

In order to support State policies to boost the economy of the countries of the region, the CAF is providing technical and financial support in development programs and projects, the rational use of water resources and wetlands; the implementation of State policies to improve WR management so that it is integrated, sustainable, efficient and equitable according to the needs of all users and the interest of the nation.

1.2.2 Methodological Approach

The fundamental principles of a strategy for multi-sectorial, efficient, effective, equitable and sustainable use of water that is friendly to the environment and society in general are: (i) integrated water management; (ii) valuation of water; (iii) prioritization of access to water; (iv) public participation in the management planning and monitoring; (v) legal certainty; (vi) respect for what is ancestral and original; (vii) sustainability; and (viii) stable single authority with economic and technical solvency.

IWRMPs should be designed with a holistic view, considering the hydrological cycle as a whole, interacting with other natural and socioeconomic systems. The IWRMP must be designed with a modern vision of management and should provide the bases to: (i) achieve, in social harmony and peace, greater capacity and efficiency in the management of water resources by the responsible national, regional and local institutions; (ii) generate action proposals and be able to make decisions based on participatory processes that are approved by consensus, sustainable and friendly to the environment; (iii) obtain the cooperation of the various water users in the management, operation and efficient, effective, sustainable and equitable use of all natural resources of the basin, especially water; and (iv) enhance the coordinated participation of public and private institutions, users and the general population in the implementation of structural and non-structural mechanisms for risk prevention and the mitigation of the impacts of floods and droughts.

The IWRMPs should be formulated taking into account requirements in quality, quantity and timeliness and sectorial priorities for use; it must consider the range of surface and ground water use, the preservation of natural sources and the protection of the ecosystem.

In the formulation, implementation, supervision and monitoring of watershed IWRMPs, participation must be assured of all institutions responsible for or interested in water management in the basin (regional and local authorities, public and private institutions and representatives of the various user sectors and civil society). The IWRMPs must be approved by consensus, ensuring equal opportunities for participation of men and women and respect

for the uses and customs of the campesino and native communities in the administration of water.

The watershed IWRMPs are a continuous function, which makes sense if it is interpreted as a process that is continually refined or updated with the most knowledge of water and its relationship with other natural resources, as well as the demands of the various user sectors in a society in constant growth, transformation and development.

The IWRMP of the basin should cover all the territory of the "Watershed or Water Regions" that are hydraulically integrated. It must be unique and integral, including most significant multi-sectorial uses. It must contain all the really available water use in all its states and forms, including the "virtual water," i.e., water entering the country or the basin as food, industrial products or energy; produced in other basins or abroad or vice versa (exported).

The IWRMP of the basin should transcend time, i.e., it should provide for satisfying the needs of future generations and so, it should be flexible enough to adapt to the many changes and objectives in a prospective model that are displayed in the short, medium and long term and according to the possibilities to achieve them. Therefore the IWRMP should intermediate include goals or milestones with compliance that must be monitored, and adjustment plans or corrective measures should be set to update or reorient it according to new economic and socio-cultural realities.

The IWRMP of the basin should always respond to a real analysis of new approaches to the reorganization of social structures and government as a result of the economic and socio-cultural transformation of the country and consistent with the guidelines of the National Development Policy.

The quality of the IWRMP of the basin and its acceptance by the population depend on the proper knowledge of the development needs and potentials of each region and basin in the country, and its dissemination and participation by the population in its formulation.

Recognizing that the water resource is a priority element and more susceptible to degradation and thus, to generate conflict among users due to shortages or contamination, actions to better meet the needs of the user population should be specified and corrective actions implemented to stop the degradation processes that they may be causing as part of the planning for the use and development of watersheds and water resources.

The IWRM is not only a process of improving the efficiency of the management of physical resources of the basin (land, water, flora and fauna); it is essentially a process of change in the attitude and vision of the actors toward the management of water (technical-regulatory authority, operators, users and auditors), based on the implementation of a program of training and dissemination. The IWRM looks for people to change their practices for ways that are more efficient and participatory in the area of management, in use of the resource and in financing.

The purpose of the environmental assessment is to describe, identify and evaluate potential significant environmental impacts that result from the implementation of the IWRM Plan for

the basin; relevant information to assess the environmental challenges and considerations regarding the IWRM Plan. This information will help ensure the appropriate integration of environmental concerns in decision-making and their implementation.

The Environmental Assessment (EA) will make early identification and analysis of potential risks of environmental impacts (synergistic, accumulative, etc.) generated by the projects and actions to be implemented under the IWRM Plan in the basin and identify and evaluate opportunities induced by the IWRM Plan in each of the basins to prevent, mitigate, control or compensate for environmental impacts identified in the EA. Finally, place them up for discussion before their implementation.

The Social Study (SS) is a management tool that should be taken into account in the formulation of the IWRMP and integrated into it, i.e., it should not be presented as an action plan that is separate or parallel to the IWRMP. As part of the SS, social-institutional operational recommendations should be made for basis so the IWRMP reaches its goal: "integrated and participatory water management" (i.e., involving key stakeholders in the management decision-making).

The study will include a detailed assessment of social diversity, including formal and informal organizations and institutions; indigenous peoples and gender that could affect the management of water and its use in the basins. It should propose measures to promote the participation of different social groups in decision-making related to the basin's management of water and the formulation of management plans.

This analysis is particularly useful for the creation of the new institutional framework for the basin's management of water, and the formulation of the IWRMP. It should contain proposals for the design and implementation of the IWRMP and effectively support beneficiaries; mitigate potential negative impacts on those affected; take advantage of the groups supporting the project and reduce the incidence of the groups that may oppose the project. The SS should establish mechanisms and strategies for the active participation of stakeholders in the implementation of the basin's comprehensive water management plans, while creating for this purpose institutions that involve all stakeholders (the basin's multi-sectorial committees with appropriate functions and composition).

2. Objectives

2.1 Overall Objective

This document contains the CAF Guide on the foundations, criteria and methodologies for the formulation, implementation and monitoring of the IWRMP on basin and wetland management in Latin America, based on technical, environmental and social criteria, with the participation of national, regional and local authorities, and public and private institutions involved in water management in the basin and the representatives of the various user sectors and civil society, in order to promote environmentally sustainable use of the basin's natural resources and economic growth with social equity of the inhabitants of the basin.

The objective of the Social-Environmental Guide is to make a management tool available that permits knowing the procedures, methodologies and tools to identify and evaluate potential significant social and environmental impacts resulting from the implementation of an IWRM or wetland management Plan in the basin, providing the sector's environmental authority and the CAF important information on the environmental and social challenges and considerations to be included in the GAS Plan and the action plan of the IWRMP and management of wetlands. This information will help ensure the appropriate integration of environmental and social concerns into the processes of decision making and implementation, in strict compliance with the provisions of national environmental legislation and the CAF Safeguard Policies.

2.2 Specific GAS Objectives

- Propose a tool that quickly identifies the most important legal and institutional aspects to be taken into account to comply with the legislation and procedures regarding the formulation of GAS plans.

- Identify and define, based on the development of a diagnosis of important environmental and social impacts and the environmental management procedures to be applied as part of the IWRMP and management of wetlands.

- Develop an easy, fast and efficient methodology for the categorization of the sub-projects on the basis of the level of environmental risk in order to identify the environmental studies required to meet both national environmental legislation and CAF Safeguard Policies.

- Design a set of management tools for internal use to be developed in order to ensure the incorporation of the environmental variables.

- Identify the procedures required to meet the demands of national environmental authorities, current regulations and CAF Safeguard Policies.

- Develop a Plan for Strengthening Environmental Management that identifies the activities that will be developed during its implementation.

2.3 GAS Framework

It must be reiterated that, despite having to conduct an *ex-ante*-type strategic environmental assessment, and even if the environmental effects of the projects are minimal, to obtain environmental certification of the projects and authorization of their implementation, one must submit an Environmental Impact Statement (EIS). The format of this type of study is presented in Annex 2.

2.4 Legal Aspects

The country's environmental and social legal framework (laws, decrees, resolutions, regulations and such) in which the project will develop must be taken into account in

formulating the project and reflected in the planned activities for each stage of its implementation (planning and design, construction, operation and maintenance, and abandonment). Similarly, the project should consider the social and environmental obligations relating to treaties, conventions and other international instruments which the country concerned is a signatory or has otherwise adhered to.

The current legal environmental regulations to be applied must be the basis for implementing the IWRM and wetlands management Plans. These legal instruments will seek social welfare, the conservation of biodiversity and the management of natural resources and the environment by regulating aspects related to water and citizen participation.

Moreover, the project must incorporate the engineering and equipment obligations contained in the technical standards that specifically apply to the particular project, especially when they are mandatory according to the respective legal framework.

3. Social and Environmental Evaluation

Despite the positive or neutral impact that characterizes IWRMP and wetlands management, they usually provide for the execution of the projects and modify the land use that could adversely affect the environment. Thus, to ensure that the implementation of the projects (hydraulic, drainage, erosion control, control of erosion in the upper basin, riverbank protection, etc.) and other Project actions will be subject to an adequate social and environmental assessment. They will not generate any seriously irreversible or permanent negative local environmental impact, and have included appropriate mitigation measures of negative impacts in their design. It is essential to conduct a detailed social and environmental study, including the diagnosis, social and environmental impact assessment, and to formulate a mitigation measures plan of corresponding negative impacts, all taking into account the CAF safeguard policies. The project should finally receive environmental certification as a result of this study.

It is important to clarify that the information and procedures in this guide do not replace or limit the application of existing policies and procedures on the subject in the countries of intervention, and that the social and environmental evaluation criteria and procedures consider in the CAF Safeguards Policy.

3.1 Risks of Social and Environmental Impact

The first step to begin the study of social and environmental evaluation is to identify the category of the project (I, II or III), based on the associated risks inherent in the type of intervention that will take place. In practice, the social and environmental risk associated with any project related to the project activities and the ecological and socio-cultural sensitivity of the place where the project operates. The project's potential impact can be categorized according to:

- The size (at local and regional level)
- The extension (direct or indirect impacts)
- The frequency of impacts (continuous or intermittent)

- The duration of the impact (short- or long-term), and
- The permanence (reversible or irreversible).

The intrinsic environmental risk associated with various types of project activities and their analysis for purposes of categorization of the project is detailed in Annex No.1.

The projects undertaken within water basins, in the short, medium and long term can have different degrees or levels of environmental risk due to the "type of project" and the level of "environmental sensitivity." In order to develop an adequate environmental management during the evaluation process and also to obtain environmental certification, it is necessary to categorize the projects on the basis of environmental risk, and according to this category, identify the studies required by the law of the country of the intervention and the social and environmental evaluation policy of the CAF.

The intrinsic environmental risk associated with various types of project activities, in this context, in order to define a methodology for environmental evaluation of the projects, permits the identification of the level of environmental risk of each and accordingly, conducting the environmental impact study and the corresponding social and environmental plan. The methodology of the analysis to categorize the Project is described in Annex 1.

3.2 Identification of the Current Environmental Situation

3.2.1 Environmental Baseline Study

This will describe and assess the current state of the environment in the basin. Changing trends of its various components will also be identified, especially those that are considered most important, and an estimate will be made of the state of the environment in the short, medium and long term under the assumption of not implementing the IWRM Plan (null or "trend" alternative).

A diagnosis is required of major environmental, socioeconomic, cultural and institutional features of the basins and of the trends that are affecting their development.

This diagnosis should cover the physical, socio-cultural, institutional, biotic and economic environment, as well as establish the bases for defining the criteria for environmental and social evaluation of the alternatives identified to improve water usage in the river basins.

The diagnosis will analyze the current situation and the predominant trends in the following and other topics:

- The demographic dynamics of the area.
- The major economic activities: employment levels; use of agricultural and forest lands, livestock; extractive activities; fisheries, transport etc.
- The status and pressures on areas of conservation and biodiversity, and on the major ecosystems of the area of influence of the IWRM Plan.

- Examine the impact and the synergies that other plans of the national government may have, such as programs for new road infrastructure, hydroelectric projects, mining and forestry concessions, proposals for protected areas (both environmental and sociocultural) and proposed expansion of the agricultural frontiers in the area of the water basins under study.

Cartographic data and sources should be used to identify the main features of the area, centers of activity and areas of vulnerability and potential. All the cartographic information should be integrated into a georeferenced geographic information system that that permits an integrated analysis.

The diagnosis will include an analysis of the management capacity of key public institutions responsible for environmental management and regulation in the area of influence of the IWRM Plan.

To develop the diagnosis, use should be made of:

- Information available in public sector offices, universities, international and multilateral organizations, regional and local governments, etc.
- Interviews with responsible private sector and science authorities.
- The observations and information obtained from a first round of consultations with stakeholders and interest groups contacted. The results of these consultations must be formally documented as part of the analysis of trends and perceptions of the problems of the area that will be captured in the EAS.

Taken together, the results of the diagnosis and consultations with "stakeholders" will serve, *inter alia*, to:

- Define the environmental and social problems of the region, including the area of direct and indirect influence of the IWRMP.
- Highlight the environmental, socioeconomic, cultural and institutional trends and opportunities that affect or will be affected due to the improvements that will be introduced in the basins.
- Define the environmental, socio-cultural, economic and institutional evaluation criteria of the proposed projects to improve the river basins.

3.2.2 Identification of Key Stakeholders

A success factor of an EAS is to involve stakeholders. This participation should be public and effective at key points in the process. Given that the water resource is under constant demand and meets environmental functions, participation is essential by users, planners, the environmental authority, decision-makers, regional and local governments of the water basins under study, etc.

It should identify key stakeholders, including the main groups and institutions, environmental agencies and organizations of water users (water user boards, irrigation commissions, etc.),

NGOs, representatives of civil society and others, including those groups that are potentially affected by the potential environmental impacts of implementing the IWRM Plan.

The records of national public consultation processes that have been done before should be reviewed. The concerns and values of key stakeholders regarding the IWRMP and wetlands management must be identified on the basis of this review and other consultations. The participation strategy has been agreed upon with the sector's environmental authority before being implemented in order to prevent conflicts or create unnecessary expectations. The strategy should provide stakeholders an opportunity to influence the decisions that are made.

Due to the large geographical areas an IWRM and wetland management project may encompass, consultations were limited to the major stakeholders, especially those directly affected and vulnerable groups as well as those who have not had an opportunity to express their views during the preparation of the IWRMPs. Records of all the consultations and comments received must be maintained.

3.2.3 Conclusions from the Current Environmental Situation

Conclusions are developed on the current environmental situation in each basin. The Diagnostic Report will provide guidelines and environmental and socio-cultural criteria for the design of environmental management measures.

A diagnostic report of the current environmental situation in the basin will be prepared as a basis for assessing the environmental impacts generated by the application of IWRM Plan in the river basins to be studied. This report shall contain, among other things, the following:

- Diagnostic of environmental, socioeconomic, cultural and institutional features and trends of the area of direct and indirect influence, including appropriate scale maps and diagrams indicating physical characteristics of the area, land use, human settlements and economic activities, indigenous communities, nature reserves and protected areas, main pressures on land use (areas of expansion of the agricultural frontier, etc.), areas of future development potential in the region, and other matters that the consultant considers relevant during his analysis.
- Identification of the pertinent legal, regulatory and institutional framework, including the determination of the main public institutions responsible for environmental management determined in the rapid assessment of institutional capacities and needs for strengthening.
- Identification of major stakeholders affected/benefitted directly or indirectly by the application of the IWRM Plan. Documentation and analysis of their perceptions of the situation, risks/vulnerabilities and potentials of the river basins.
- Maps of the vulnerable areas in social and environmental terms (restrictions) and a map of areas with development potential. It will include a comprehensive analysis, by means of the geographic information system; maps of technical, environmental, socioeconomic and cultural aspects of the diagnosis and the identification of areas in the river basins with development constraints and potentials.

- Identification of criteria and indicators for use in assessing potential positive and negative environmental and socio-cultural impacts of the alternatives of programs, projects and activities that are proposed to prevent, control, mitigate, or offset them.

3.3 Social and Environmental Impact Evaluation

In this phase of the EAS, the environmental impacts generated by the activities considered in the IWRM and wetland management Plan will be evaluated. The environmental and socio-cultural assessment criteria and indicators prepared to examine the impacts will be used, and efforts identified to prevent, mitigate and/or strengthen the institutional management that must accompany their future implementation in order to ensure their environmental and socio-cultural sustainability.

The results of this evaluation process will be incorporated in a preliminary report that will be consulted and validated with the pertinent public institutions and key stakeholders affected from the private sector, organizations of water users, NGOs, civil society, etc.

The results of the diagnostic will form the basis for the methodology and evaluation criteria to be applied in this phase of analytic activity.

3.3.1 Identification and Evaluation of Impacts

The identification and description of the environmental impacts and risks arising from the implementation of the activities of the IWRM and wetlands management Plan will take into account the views and concerns of the stakeholders. Their significance was determined in accordance with their characteristics (e.g., duration, likelihood, magnitude, mitigability and reversibility), and environmental sensitivity. Those impacts that are significant should be evaluated in greater detail, while considering:

- The views and concerns of the stakeholders,
- Compliance with environmental regulations and standards,
- Consistency with environmental policies and objectives,
- Their implications for sustainable development.

The assessment would focus on the potential positive and negative impacts, examining strategic-level direct and indirect impacts, in addition to those synergistic and cumulative impacts.

Among other things, the impacts on hydrology, water quality, erosion, aquatic life and the impact on forests and protected areas should be examined with special care

Environmental impacts must be grouped into areas in order to compare both alternatives environmentally (null or "trend" alternative and that proposed in the IWRM Plan).

3.3.2 Identification and Evaluation of Environmental Opportunities and Constraints

The environmental factors and resources should be identified, described and assessed that may affect (either positively or negatively) the effectiveness, efficiency and sustainability of the proposed IWRM Plan. These factors may include expected impacts from other sectors or policies. This part of the study should also take environmental issues into account that could be resolved with the IWRM Plan. The study should assess whether the IWRM Plan provides an adequate response to these opportunities and constraints.

3.4 Environmental Management Plan of the IWRM Plan

As a result of the EAS process, specific environmental aspects with be identified that must be developed with the implementation of the Framework Environmental and Social Management, according to the special conditions of each river basin.

The Environmental and Social Management Plan aims to prevent, mitigate or manage potential environmental, social, cultural and economic impacts generated by the activities considered in the IWRM and wetland management Plan. It will also analyze the needs for strengthening of those institutions that are responsible for the prevention, mitigation or management and monitoring of environmental and socio-cultural impacts of the IWRM Plan.

Upon proposing measures to mitigate environmental impacts, the consultant should consider the following order of priorities:

Avoid: Avoid activities that may cause adverse environmental impacts
Prevent: Implement measures that prevent the occurrence of negative impacts that damage the environment.
Preserve: These are measures that prevent any future action from affecting environmental resources adversely.
Minimize: These are measures that limit or reduce the degree, extent, magnitude or duration of adverse impacts.
Rehabilitate: These are measures aimed at repairing or improving the environmental resources affected. These measures are taken especially when the project actions have led to significant degradation of the environment.
Restore: These are measures that restore the environment to the situation prevailing before the implementation of the project.
Compensate: Measures try to create, enhance or protect the same type of environmental resource elsewhere in the basin to compensate for resources lost as a result of project implementation

Keep in mind that the alternatives presented may be more effective if integrated into the project's planning process, so it is not necessary to develop a specific document for the Environmental Management Plan.

SCOPE OF THE MEASURES OF ENVIRONMENTAL AND SOCIAL MANAGEMENT TO BE DEVELOPED

1. Generalities
2. Structure of the social and environmental management plan

3. Mitigation and/or prevention plan
3.1 Programs for managing the physical environment
3.2 Programs for the management of the biotic environment
3.3 Programs for the management of the socio-economic environment
3.4 Solid waste management program
3.4.1 Integrated management of non-hazardous waste
3.4.2 Management of hazardous waste
3.4.3 Management of special waste
3.5 Environmental Monitoring Plan
3.6 Contingency plan
3.7 Close-out plan
3.8 Compensation plan
3.9 Environmental training program
3.10 Community relations plan

3.5 Monitoring and Evaluation

A detailed plan should be prepared to monitor the implementation of preventive measures and impacts of the activities considered in the IWRM and wetland management Plan. It should include a description of the baseline environmental and social conditions for evaluating long-term impacts of the IWRM and wetland management plan and an evaluation system to verify the results of the implementation of the measures contained in the plan. The monitoring plan should contain indicators of environmental quality as well as performance indicators to measure the proposed environmental management plan, etc.

When a specific document for the Social and Environmental Management Plan is developed, it should contain the following aspects:

Summary of impacts
Description of the mitigation measures
Description of the monitoring program
Define the institutional responsibilities
Program of implementation and types of reports
Estimated costs and sources of financing

3.6 The Public Consultation Process

The public consultation is considered an integral part of the development of the EAS. It should develop methodologies and materials for two types of consultations:

a) Interviews and work sessions with key partners during the diagnostic phase, and
b) Presentation of the evaluation of completed impacts and alternatives for managing these impacts to key groups

In the first case, the process is part of the stage of collecting materials and perceptions of the situation and environmental, socioeconomic, cultural and institutional trends that will generate water use in the basins. In the second, it is a shared process of evaluation and

validation of impacts induced by the IWRM Plan to prevent, control, mitigate or compensate them. In both cases, it will be necessary to identify key groups (stakeholders) of the public sector, civil society, organizations of water users, NGOs, regional and local governments, etc., and organize relevant meetings, using methodologies that are appropriate for each group.

The products of this consultation activity are as follows:

- Methodological proposal for the consultation process
- Document to identify key groups and institutions (stakeholders)
- Result of the diagnostic phase
- Presentation and facilitation materials:
  - PowerPoint Presentation;
  - Report / brochure for public distribution
- Documentation and registry of interviews and meetings

3.7 Conclusions and Recommendations

A summary of the key social and environmental aspects in the river basins to be evaluated should be presented, including institutional and policy constraints, challenges and key recommendations. They must make recommendations to enhance the positive impacts and opportunities to improve the environment and to mitigate the constraints, the negative effects and environmental risks. The recommendations must suggest potential changes in the design of the IWRM Plan and, if necessary, implementation and monitoring modalities or cooperation activities.

Recommendations should be primarily to assist in the overall assessment of the IWRM Plan. Whereas the IWRM Plan to be implemented in each basin includes some projects, recommendations should be made to deepen the environmental impact assessments of such projects.

The limitations and assumptions of the EAS shall be explained. The recommendations must take into account the views of stakeholders and explain how they were integrated. In the event that some aspects have not been integrated into the final recommendations, the reasons why must be explained.

3.8 Performance Indicators

The performance indicators for the IWRM Plan must be proposed from an environmental point of view, which is useful for identifying the (positive and negative) environmental effects of implementing this Program.

The indicators should include:

- "State" indicators for directly and importantly related sectors for key environmental resources (e.g., % of good quality water in the basin, % of area deforested, etc.)

- Indicators of other specific aspects, such as key institutional weaknesses identified in the EAS.

3.9 Final Report

In addition to preparing reports for each stage of formulating the EAS, a final report will be prepared and submitted that shall contain at a minimum:

a. Executive summary highlighting trends in water management in the basin, its environmental, socio-cultural, economic and institutional implications; environmental and socio-cultural management risks and opportunities, expected benefits; and future actions required to implement the recommended strategy.

b. Description of the IWRM Plan with its objectives, rationale and basic components presented concisely.

c. Analysis of the ability of the political, legal and institutional framework that will govern the implementation of the actions contained in the IWRM Plan.

d. Description of the scope of the EAS

e. Environmental and sociocultural diagnosis of the area of influence with its main features and environmental, socioeconomic, cultural and institutional trends, including information gaps that must be overcome, the main observations and issues raised in the process of public consultation and validation, and the situation of the beneficiaries and those affected, including the indigenous populations as a special subject, if applicable.

f. Description and analysis of the alternatives evaluated

g. Presentation of the results of the analysis of direct, indirect, synergistic and cumulative, and other impacts, highlighting the main risks of each alternative and the problems / potentials to be resolved in the future;

h. Results of the environmental comparison of the alternatives studied, describing the environmental situation in the basin after applying the IWRM Plan.

i. Environmental Management Plan that includes mitigation measures and the environmental monitoring plan, considering the requirements for implementation.

j. Description of the consultation program with a summary of the methodologies used, the registration of participants and documentation of its main results.

k. Drawing Conclusions and Recommendations: overall conclusions, recommendations for the formulation of the IWRM Plan.

Technical annexes

- Maps and other illustrative information not incorporated into the main report
- Other technical information and data as required
- List of participating stakeholders
- Records of the participation of stakeholders / those consulted

Other annexes

- Methodology/work plan
- List of the documents consulted

ANNEXES

ANNEX 1 INTERNAL ENVIRONMENTAL MANAGEMENT TOOLS
ANNEX 2
ANNEX 3 ENVIRONMENTAL CATEGORIZATION FORM (FAC)
ANNEX 4 ENVIRONMENTAL ASSESSMENT REPORT (REA)
ANNEX 5 ENVIRONMENTAL MONITORING AND CONTROL REPORT (RCSA)
ANNEX 6 FINAL ENVIRONMENTAL REPORT (RAF)

ANNEX N° 1

GUIDELINES FOR THE CONTENT OF THE ENVIRONMENTAL ASSESSMENT OF PROJECTS BASED ON ENVIRONMENTAL RISK

The project should be categorized as Type I, II or III, depending on the inherent risks associated with the type of intervention that will take place. In practice, the environmental and social risks associated with any project are related to project activities and the ecological and socio-cultural sensitivity of where the project is operating. The potential impact of the project can be categorized according to the size (at the local and regional level), the extension (direct or indirect impacts), the frequency of the impacts (continuous or intermittent) and the duration (short- or long-term) and permanence (reversible or irreversible) of the impact.

The environmental risk associated with the implementation of projects with various types of activities and projects can be determined on the basis of:

(i) The type of intervention. This classifies the type of activities to be included in the project and makes some assumptions about the nature of the potential impacts. For example, the impacts differ among types of policies, maintenance, expansion, rehabilitation and activities to improve or renovate infrastructure (see Matrix No. 1).

(ii) The type infrastructure or subsector. This classifies the project according to the specific activities to be carried out and the hierarchical level of the infrastructure, such as primary, secondary, tertiary (see matrix No. 2).

From these two criteria (considering the scale and magnitude of the project, the type of work and the category of the infrastructure), one can describe the environmental risks associated with the project and classification it as Type I, II or III (see Matrix No. 3).

Type I Risk: refers to projects with a minimal or no risk of adverse environmental impact.

Type II Risk: corresponds to projects with a moderate risk of environmental impact. The risks in this type of project come from the implementation of planned public works; although the potential adverse impacts would be smaller in magnitude than those for Type III projects. The impacts from type II risks are presented in specific areas; few if any of them are irreversible; and in most cases, they have appropriate mitigation measures.

Type III Risk: refers to projects with high environmental risk. These impacts may affect an area that is larger than the service sites or places, subject to the construction of projects. Matrix No. 1 displays the type of risk according to the type of intervention and type of project.

Matrix N ° 1 Type of Environmental risk by the type of intervention and type of project.

Type of Intervention	Type of Infrastructure		
	A	B	C
1 New Construction	Type I, II or III		
2 Expansion		Type II	Type I
3 Rehabilitation			
4 Maintenance	Type II		Type III

New Construction: This case refers to the implementation of new projects or changes of location. Land acquisition is required in the case of pipelines. If the proposed expansion projects were large-scale, they may be considered to be new construction.

Expansion: This case refers to expansions of the current characteristics of a project, such as the enlargement of channels, expanding water catchment projects, etc. In these cases, land acquisition may be required.

Rehabilitation: This case refers to the recovery of the original characteristics of a deteriorated existing project. All the work is performed on existing structure or within the right of way or property that has already seen intervention. Does not require land acquisition.

Maintenance: In this case, the project is considered to be in good operating condition, without requiring the implementation of additional works. The efforts required are routine or periodic in order to keep the project in good conditions of service.

Step 2: Type of Infrastructure

Distribution of the Irrigation and Drainage Networks	The main irrigation and drainage systems, primary and secondary distribution channels of the irrigation system, etc.
Water Catchment and Routing Systems	Water catchment and routing systems such as water intakes; groundwater well systems, pumping stations, etc.
Water Measurement Systems	Includes flow measurement structures, nets for sampling, nets for monitoring water quality control, etc.
Protection Projects	Includes dikes, rock fillings, protection projects, control and overflow projects, etc.

Once the project is defined in terms of the type of infrastructure and the type of intervention, a first classification is obtained of the potential environmental and social risks of the project. The type III projects are those with higher environmental risk, whereas type I are those with lower risks (see Matrix No. 3).

Step 3: Type of Social-Environmental Risk

Type of Intervention	Type of Infrastructure			
	Distribution of the Irrigation and Drainage Networks	Water Catchment and Routing Systems	Water Measurement Systems	Protection Projects
Rehabilitation and Modernization	I	II	I	II
Expansion	I	III	I	III
Construction	II	III	II	III

When one of the projects includes multiple types of interventions, the risk classification is assigned on the basis of the highest level of risk that is applied to any project component.

ANNEX N° 2

TERMS OF REFERENCE FOR THE ENVIRONMENTAL IMPACT DECLARATION

The present document has three parts: I Terms of Reference, II Project Description, and III Impact Statement

PART I TERMS OF REFERENCE

1. EXECUTIVE SUMMARY

2. CHARACTERIZATION OF THE AREA OF INFLUENCE AND ITS ASSOCIATED ENVIRONMENT
2.1 Determination of the area of direct and indirect project impact
2.2 Baseline presentation
2.1.1 Climatic aspects
2.1.2 Hydrological aspects
2.1.3 Geomorphological and soil aspects
2.1.4 Current land use
2.3 Characterization and analysis of the biotic environment of the area of influence and its surroundings
2.4 Presence of protected natural areas or protected areas
2.5 Characterization and analysis of the social and economic environment
2.6 Characterization and analysis of cultural aspects.
2.7 Monitoring of the baseline
2.7.1 Definition of baseline indicators to be monitored
2.7.2 Values of the baseline indicators

3. IMPACTS ANALYSIS AND EVALUATION
3.1 Identification of impacts for each stage of the project (construction, operation and close-out)
3.2 Description of the impacts identified
3.3 Evaluation, prioritization and value assessment of the environmental impacts, emphasizing the cumulative impacts.

4. PREVENTIVE - CORRECTIVE PROGRAM
4.1 Impact prevention or mitigation plan
4.2 Persons in charge of its implementation

5. MONITORING PROGRAM
5.1 Activities to be monitored
5.2 Indicators

5.3 Schedule

6. MONITORING AND FOLLOW-UP PROGRAM

7. CONTINGENCY PLAN
1.1 Characterization of the contingencies
1.2 Description of the action plans and designation of those responsible for fulfilling them

8. CLOSE-OUT PLAN
8.1 Restoration program
8.2 Post-close-out monitoring program

9. ENVIRONMENTAL BUDGET

10. PROJECT CLASSIFICATION PROPOSAL

CATEGORY	
Environmental impact statement	
Semi- detailed environmental impact study	
Detailed environmental impact study	

11. ANNEXES

PART II PROJECT DESCRIPTION

2.1 Geographic and political location (georeferenced map, UTM coordinates)
2.2 Hydraulic planning of the project
2.3 Pre–construction stage
2.4 Construction stage
2.3.1 Infrastructure to be built
2.3.2 Activities to be undertaken
2.3.3 Requirements (materials, machinery, labor)
2.3.4 Effluents and emissions: Volume, characterization and management
2.3.5 Flow diagram of the construction activities
2.7 Operation stage
2.4.1 Activities to be undertaken
2.4.5 Material and labor requirements
2.4.6 Effluents and emissions: Volume, characterization and management
2.7 Flow diagram of operation and maintenance activities
2.6 Close-out stage
2.6.1 Activities to be undertaken
2.6.2 Requirements (machinery and equipment)
2.6.3 Effluents and emissions: Volume, characterization and management
2.6.4 Flow diagram of close-out activities

PART III IMPACT DECLARATION

Preparation of request

ANNEX N° 3
ENVIRONMENTAL CATEGORIZATION FORM (FAC)

Project name: _____ Environmental Category: _____

Responsible Party Evaluator: _____ _____
Signature

Responsible Party UGA: _____ _____
Signature

1. Characteristics of the Project	
Overall Project Objective:	Specific Project Objectives:
_____	_____
_____	_____
_____	_____

2. Type of Risk: In the IWRMP the implementation of Type C (type a and d projects) and type D (type c projects) infrastructure is foreseen

Type of Infrastructure

A: Water Distribution Drainage Networks
B: Catchment and Diversion
C: Water Measurement
D: Protection Projects

Type of Projects

a: New Construction
b: Expansion – Improvement
c: Rehabilitation
d: Maintenance

Type of Intervention	Type of Infrastructure			
	A	B	C	D
a	I	II	I	II
b	I	III	I	III
c	II	III	II	III
d	I	I	I	I

2. Classification of the Project by the sensitivity of the environment		
HIGH (A)	**MODERATE (B)**	**LOW (C)**
Area under Regime of Protection (National Parks, Sanctuaries, etc.) High biodiversity index High degree of threat High degree of endemism High risk of environmental degradation (deforestation, hunting, etc.) Steep mountainous area (> 35% slope) Areas of high seismic risk Areas vulnerable to natural phenomena such as floods High potential for erosion Wetlands and / or mangroves, permanently flooded areas Primary forests Exceptional ecosystems and habitat with endangered species Water sources	Buffer areas of a Protected Area Moderate-to-high degree of biodiversity Moderate-to-high degree of threat Moderate-to-high degree of endemism Moderate risk of environmental degradation (deforestation, hunting) Undulating terrain (15-35% slope) Moderate seismic risk Moderate potential for erosion Sporadically flooded areas Archaeological and anthropic sites of moderate interest Areas at risk of human occupation or affected by recent invasions	Areas intervened anthropically outside of areas declared to be national park or buffer zone Low-to-moderate level of biodiversity Low-to-moderate degree of threat Low-to-moderate degree of endemism Under threat of environmental degradation (deforestation, hunting, etc.) Land undulating to flat (<15% slope) intervened vegetation Areas without flooding Absence of sites with historical and patrimonial value Areas without any type of declaration to be protected Partial allocation of land and / or buildings

Area recognized as indigenous territory or vulnerable populations Sites with high level of archaeological and anthropological interest Areas occupied by indigenous communities		

3. Level of Socio-Environmental Risk – Category of a Subproject

Level 3:
Subprojects with high level of environmental risk. The effects may be irreversible. Generally are projects in areas that are fragile from the environmental and social perspective.

Level 2:
Subprojects with moderate environmental risk; area of influence presents lower degrees of sensitivity. Impacts are easily identified and mitigated.

Level 1:
Subprojects with low environmental risk. The area of influence is not sensitive to the small - size projects to be implemented

Type of Intervention	Type of Infrastructure		
	A	B	C
a	Level 1	Level 1	Level 1
b	Level 1	Level 3	Level 1
c	Level II	Level 3	Level 2
d	Level 1I	Level 1	Level 1

4. Study Requirement	
Level 3 Category	Requires a Detailed Environmental Impact Study (EIA-d)
Level 2 Category	Requires a Semi-detailed Environmental Impact Study (EIA-sd)
Level 1 Category	Requires an Environmental Impact Statement (DIA)

5. Identification of the safeguards that can be activated in some river basins	
OP 4.01	Environmental Evaluation
OP 4.04	Natural Habitat
OP 4.09	Pest Control
OP 4.36	Forestry
OP 4.37	Security of Dams
OP 4.12	Involuntary Resettlement
OP 11.03	Cultural and Physical Patrimony
OP 7.60	Territories in Dispute
OP 4.20	Indigenous Peoples

6. Observations

ANNEX N° 4
ENVIRONMENTAL ASSESSMENT REPORT (REA)

Project name: _____ Environmental Category: _____

Responsible Party Evaluator: _____ _____
Signature

Responsible Party UGA: _____ _____
Signature

I. Environmental Aspects:

The important environmental aspects for each project are described. Following the field visit, the potential risks and opportunities that project implementation may present must be identified. These risks and potentials must be duly identified and located to warn of these risks when the required studies are contracted.

II. Risks and Opportunities

Following the field visit, the potential risks and opportunities that project implementation may present must be identified. These risks and potentials must be duly identified and located to warn of these risks when the required studies are contracted.

III. Environmental Studies Conducted: Conclusions and Recommendations

The important environmental aspects are described for each project.

IV. Environmental Budget

The required environmental budget should be consolidated as a result of the developed studies. This budget should be included in the total project budget. This budget consolidation must include decisions on investments to be undertaken by the beneficiaries and the government.

V. Compliance with the Environmental Authority

The status of compliance with the relevant environmental legislation should be presented. In the case that some permit is pending, it must be clarified who will assume responsibility for compliance before starting the implementation of the projects.

VI. Environmental Viability of the Operation

A project is viable if the environmental impacts have been well identified, and if for each impact, its respective measure of prevention, mitigation and / or compensation is proposed; if the identified risks do not cause large losses; if the Environmental Management Plan is feasible from an economic and technical viewpoint; and finally, if the operation is socially justified after making the respective economic and financial analyzes.

ANNEX N° 5

ENVIRONMENTAL MONITORING AND CONTROL REPORT (RCSA)

Project name: _____ Environmental Category: _____

Responsible Party Evaluator: _____ _____
Signature

Responsible Party UGA: _____ _____
Signature

1. Visit by field supervision

Participants: _____ N° of visit _____
_____ Date _____
_____

Background of the operation _____
_____
_____

2. Compliance with the environmental conditions established in the contract

a. _____ Yes No
b. _____ Yes No
c. _____ Yes No

3. Aspects reviewed

- Implementation of the Plans and Programs for environmental management:_____
_____

- Evaluation of the implementation:_____
_____

- Budget implemented:_____
_____

- Conclusions and recommendations:_____
_____

ANNEX N° 6
FINAL ENVIRONMENTAL REPORT (RAF)

Project name: _____ Environmental Category: _____

Responsible Party Evaluator: _____ _____
Signature

Responsible Party UGA: _____ _____
Signature

Activities Undertaken

On _____(date)_____, the final review of the environmental aspects corresponding to the activity _____ took place for the purpose of verifying compliance with the Mitigation Measures contemplated for the project and to see if other negative impacts have appeared during the period of the implementation of the project. In this regard, the verification commission, composed of the following persons, was formed;

Name	Institution	Position	Signature

Background

This section should capture the history of the case by dates, narrating in summary fashion the problem being addressed and listing the recommendations made on previous occasions.

Results of the Inspection

Here the conditions under which the mitigation measures were developed should be described in detail, as well as the degree of compliance and their current status and, when necessary, explain the reasons why the measures have not been completed.

In order to display the information, it is recommended to place it in the following evaluation matrix:

N°	Mitigation Measures	Compliance			Period to comply with the Mitigation Measures	Observations
		Yes	No	%		

Conclusions

On the basis of the inspection and the results of the evaluation matrix, the findings of compliance with the mitigation measures are prepared and appropriate recommendations are established.