



DISSEMINATION OF EXPERIENCES AND LESSONS LEARNED
IN INTEGRATED TRANSBOUNDARY WATER RESOURCES
MANAGEMENT IN LATIN AMERICA AND THE CARIBBEAN

DELTAmerica Project

Guidelines and Experiences in
Transboundary Water Resources Management
Projects in Latin America

Executive Summary¹





INTRODUCTION

The project “Development and Implementation of Mechanisms to Disseminate Experiences and Lessons Learned in Integrated Transboundary Water Resources Management in Latin America and the Caribbean-DELTAmerica” was initiated by the Government of Brazil, along with several Latin American and Caribbean (LAC) countries. With the purpose of improving capacity for integrated water resources management, particularly in the context of transboundary water basin, the Global Environmental Facility (GEF) was approached to support the implementation of a project to disseminate the lessons learned from the various GEF water resources management initiatives in the region. This document has been prepared toward the fulfillment of that objective.

As a regional initiative, DELTAmerica complements the UNDP/GEF project, “Strengthening Capacity for Global Knowledge-Sharing in International Waters” (IW:LEARN) , and serves as a demonstration project that illustrates the functioning of a network system, as well as a tool to facilitate the exchange of project experiences and results, disseminate lessons learned and best management practices to improve water resources management, and encourage the incorporation of the lessons learned and best practices into national water resources management policies and river basin plans.

The projects reviewed for this analysis were the *Bermejo River Basin* project (Argentina-Bolivia); the *Upper Paraguay–Pantanal River Basin* project (Brazil); the *Sao Francisco River Basin* project (Brazil); the *PROCUENCA San Juan* project (Costa Rica–Nicaragua); the *FREPLATA* project (Argentina–Uruguay); the *Guarani Aquifer System* project

(Argentina, Brazil, Paraguay, Uruguay); the *Framework Program for the La Plata Basin* (Argentina, Bolivia, Brazil, Paraguay, Uruguay–CIC), and the *Amazon Basin Integrated Water Resources Management Program* (Bolivia, Brazil, Ecuador, Colombia, Guyana, Peru, Surinam, Venezuela, OTCA).

The United Nations Environment Programme (UNEP), the United Nations Development Programme (UNDP) and the World Bank are the Implementing Agencies (IA) for these GEF-supported projects. With the exception of the FREPLATA project, the Organization of American States, through the Department of Sustainable Development (OAS/DSD), has acted as the regional Executing Agency (EA) for these projects, in collaboration with participating OAS Member States and relevant regional institutions.

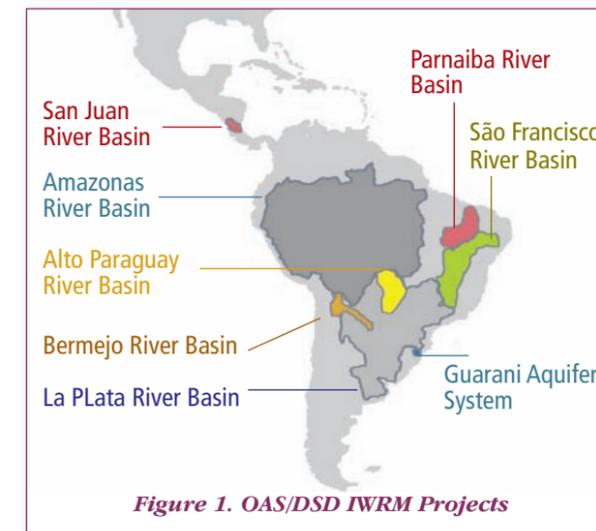


Figure 1. OAS/DSD IWRM Projects

GENERAL OVERVIEW OF GEF PROJECTS

The Global Environment Facility (GEF) was established in 1991 to provide financial support to developing countries for projects and programs designed to protect the environment. The operational strategies through which financing is provided include Biodiversity, Climate Change, International Waters, Land Degradation, The Ozone Layer and Persistent Organic Pollutants. The financing is incremental and provides the additional financing required to expand a project with national benefits into a project that provides environmental benefits globally.³

As a means to help obtain environmental benefits globally, the GEF Council established the International Waters focal area in 1995 as a catalyst to stimulate the implementation of ecosystem-based strategies in managing international waters. GEF helps countries implement effective policies that

1. This executive summary is an element of the second component of the project titled “Development and Implementation of Mechanisms to Disseminate Experiences and Lessons Learned in Integrated Transboundary Water Resources Management in Latin America -DELTAmerica”, executed by the General Secretariat of the Organization of American States through its Department of Sustainable Development., in collaboration with the United Nations Environment Programme (UNEP), as the Implementing Agency (IA) for the Global Environmental Facility (GEF). This report summarizes lessons learned from the GEF-supported projects executed in Latin America between 1997 and 2006, under the International Waters focal area. It identifies key experiences and lessons that have emerged from a decade of project implementation in the region and provides practical guidelines for the execution of GEF IW projects, as well as insights into the integration of several cross-sectoral issues related to freshwater management.

2. IW:LEARN is a GEF-funded program to promote experience sharing and learning among GEF International Waters projects. The website www.iwlearn.net serves as the knowledge base for GEF IW:LEARN and contains an extensive collection of resources, experiences, and materials for the IW focal area.

3. Training Course on the TDA/SAP approach in the GEF IW Programme (2005); Module 1, p. 9.



address key transboundary concerns, and, if political commitment to sustainability is indicated, provides support for the implementation of broader strategic actions.

The following criteria guide the GEF IW project selection process:

1 Beneficiary countries must foster and endorse the project. In order to be eligible for GEF funding, projects must reflect national priorities and must be approved by the government of the country, or of the countries. In addition, the GEF liaison officer or focal point in the recipient country or countries must approve the project proposal.

2 Project proposals must be justified vis-à-vis incrementality. The project proposal must clearly outline the problem to be solved, the achievements expected by GEF's participation in the project, as well as the consequences if no action is taken. *(Note: The presentation of the difference in project consequences because of GEF intervention, in contrast to no intervention by GEF, is known as incrementality)*

3 The project must provide replication potential. Experience gathered during the project must be applicable to other projects and countries. GEF-supported projects offer a rich source of new experiences which, when implemented correctly, can be drawn upon later to develop enhanced IWRM public policies.⁴

In 2007, the GEF Council approved a revised sequence of steps in the GEF project cycle, which now include:

- a) Council approval of a work program, consisting of project concepts approved by the CEO;
- b) CEO endorsement after Council review of fully-prepared projects; and
- c) Monitoring by the GEF Secretariat of portfolio performance during implementation, and evaluation oversight by the GEF Evaluation Office.

Countries can access Project Preparation Grants (PPGs—formerly Project Development Funds or PDFs) to help prepare project proposals. When the final document of the PPG is approved, funds for full-project implementation are allocated.

COMMON STAGES AND ACTIVITIES IN A GEF IW PROJECT

Overall, GEF IW projects use a similar approach and adhere to a similar set of project priorities and objectives that include (1) preparation of a Transboundary Diagnostic Analysis (TDA) used to identify, assess and prioritize environmental problems, and (2) formulation of a Strategic Action Program (SAP) that contains the basic measures required to solve the identified problems.

Usually, the TDA precedes the SAP, but it is rare that either are developed within a clearly defined sequential and linear implementation process. Often the SAP preparation process calls for a revision of the TDA in order to enrich or clarify certain aspects of the project. This, in turn, requires technical and scientific studies related to the TDA to be conducted simultaneously to the preparation of the SAP. A trend that has developed during the last few years is to prepare a draft or “macro” TDA during the project preparation phase, and the SAP is then developed during the full- project phase, with required adjustments to the TDA document and analysis being done simultaneously with the SAP.

Regardless of the sequence and timing for the preparation of the TDA and SAP, the process entails the following set of stages and activities⁵:

STAGE 1. PROJECT INCEPTION PHASE

The initial phase in project implementation is used to refine, as necessary, the detailed supporting documents developed during the project preparation phase, as well as to specify the institutional and operational arrangements required for project execution. This process includes three activities:

Activity 1.1. Establishment of the Project Steering Committee. Though this body may go by different names, it represents the project's highest

political body, responsible for guiding project activities throughout execution. This body is created especially for the project, and characteristics may vary depending on factors such as whether or not this body includes an existing international body with legal authority (commission or office) over the water resources or shared body of water. In the absence of a bi-national or multinational entity, participating governments usually designate national institutions related to water resources management, natural resources, or environment, to the Steering Committee. Due to the transboundary nature of the projects, Steering Committees generally include representatives from the ministries of foreign affairs. Representatives from the Executing and Implementing Agencies are normally part of the Steering Committees and can actively participate in the discussions.

Activity 1.2. Establishment of the Technical Team. This activity includes the preparation of terms of reference, contract drafting, calls for bids and the selection of competent technical staff to manage and execute project activities. Bi- and multinational projects include the establishment of technical teams for each country, including technical coordinators and core staff for technical and administrative support. In multinational initiatives, a single technical secretariat usually is established in one of the participating countries. Staff normally includes a General Secretary or Technical Coordinator, and technical and administrative support personnel. In the contracting selection process, national and/or geographic balance is sought.

Activity 1.3. Preparation of Project Operating Plans (POP). Once the technical unit is in place, the POP is prepared, which can be a single plan for the duration of the project or separate plans for each year of project execution. The POP specifies the goals, activities, and outputs along with the timeline, the contracts to be established, and the financial requirements for each period. While much of this information has been prepared and assembled during the project preparation phase, and subsequently submitted to GEF as part of the CEO endorsement process, the POP includes more information that is

detailed since the POP incorporates the results of the work conducted by the technical team in coordination with the national, regional, or local executing entities participating in the project. This POP is an essential component of project management and serves as a mechanism to promote dialogue, as well as develop a sense of project ownership within local and national institutions, thereby facilitating the integration of project results. The dialogue and coordination with institutions and relevant stakeholders may include the establishment of formal agreements, defining cash or in-kind contributions for project implementation to complement support from GEF.

STAGE 2. PREPARATION OF THE TRANSBOUNDARY DIAGNOSTIC ANALYSIS (TDA)

The TDA is a scientific and technical process used to identify priority transboundary issues and their associated causes. In general, the analyses are conducted across sectors and, while focusing on transboundary issues, remain sensitive to national priorities and concerns. According to the GEF/IW:LEARN, the TDA is “*an objective, non-negotiated assessment that uses the best scientific information available in order to analyze environmental status and the causal chain leading to its degradation*”⁶. As outlined above, the TDA process provides the basis for the preparation of the Strategic Action Program (SAP), a document that outlines the specific actions necessary to address the most pressing environmental concerns, and/or to holistically restore or protect a specific transboundary water body or ecosystem.

To study the relationships between the identified problems and their root causes, the TDA uses a Causal Chain Analysis (CCA), a cause-effect analytical process that gradually and incrementally establishes the relationship between the physical, chemical and biological manifestations of the environmental problem and its causes and effects (See Figure 1). Although the IW:LEARN definition of a TDA omits subjective and negotiated elements, the experience of TDA preparation for projects in LAC countries indicates that a highly participatory approach is normally used to identify and prioritize the problems affecting a specific region or basin. The process is based on scientific findings and follows a technical

4. DELTAmerica document., p. 2

5. This process does not include activities related to the Project Preparation Phase, including preparation and submission of the Project Identification Form (PIF), and detailed supporting documentation normally prepared after PIF approval by the GEF Council, and submitted to the GEF for final CEO endorsement.

6. IWLearn (<http://www.iwlearn.net>)



approach, nonetheless, it also draws heavily on the public participation processes, prioritizing common environmental concerns as envisioned by local stakeholders. This approach facilitates the building of a shared-knowledge base that favors the wide, active and effective participation of stakeholders in the implementation of corrective measures, including the formulation of agreed-upon political, legal, and institutional reforms. In general, TDA formulation includes the following activities:

Activity 2.1. Identification of TDA Core Themes and Preparation of the Preliminary TDA.

The TDA can be broad and complex, identifying and analyzing all major environmental issues affecting a transboundary basin, or simple and focused, concentrating on a specific issue or set of issues, as defined in the project's general and specific objective. In most cases, a TDA precedes the formulation of the SAP, although in some cases a preliminary SAP structure guides the TDA preparation process. The technical task team starts the information search and convenes informal meetings with institutional and social stakeholders in order to compile preliminary information. The following core themes are usually analyzed:

- i) biophysical aspects and the relationship to the basin or body water involved. This includes research on the physical characteristics of the

basin and the water resources, the collection of cartography, an analysis of the weather, the hydrology of the region and its balance, runoffs, land and land use, erosion and sedimentation, flora, fauna and main ecosystems.

- ii) social aspects, including issues related to population and human settlements, culture, education, labor, and health, and the relationship to water and the environment.
- iii) economic aspects, including relative development levels, main economic activities (agriculture, energy, leisure and tourism) and effects on water quantity and quality.

This preliminary information is used in the preparation of an initial TDA. The document is usually prepared by a consultant or technical unit staff, and is based on the compilation of available information and meetings with national institutions. As a preliminary document, it has a limited degree of information and detail. However, it lays the foundation for the comprehensive, participatory and scientifically validated process that follows.

Activity 2.2. TDA Social Validation (preparation of a participative TDA). This is a critical step in the formulation of the TDA, as it creates social awareness of the main problems affecting the river

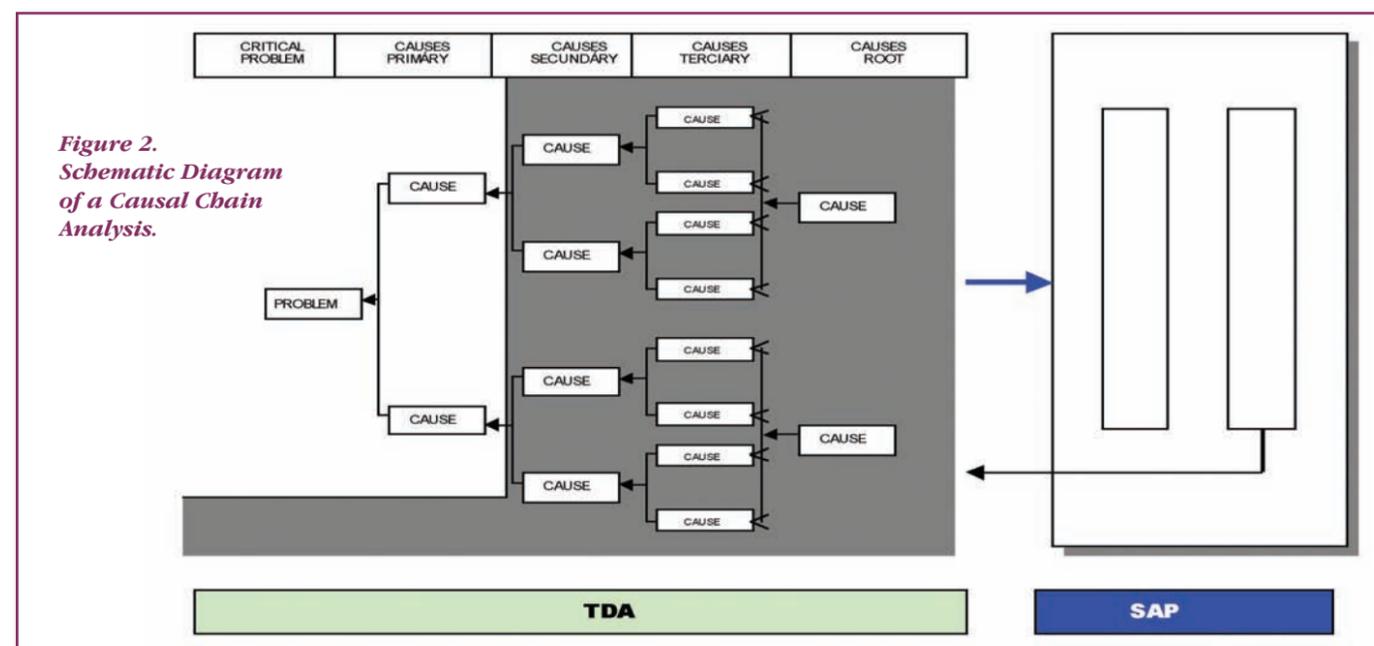


Figure 2. Schematic Diagram of a Causal Chain Analysis.

basin or water body. Mechanisms include technical meetings, workshops, and community working groups, as well as formal consultation processes with representatives from key institutions of government, civil society and academia, as well as open electronic forums. While the process does not necessarily yield a consensus, it facilitates the identification of common issues of concern and main transboundary problems, as perceived by stakeholders, including, in some instances, the characterization and prioritization of the root causes of the identified problems. This process also helps clarify the nature and type of obstacles that could impede resolution, thereby offering context to problem-solving actions included in subsequent SAP proposals. After the validation process, the identified transboundary problems and their corresponding root causes are complemented with additional specific scientific or technical studies undertaken in response to gaps in information that were identified during the participation/validation process.

Activity 2.3. Identification of Priority Intervention Areas. The participative processes and scientific and technical research conducted in the previous step result in the identification and characterization of the key environmental issues and indicate critical areas of intervention, or hotspots, where issues demand priority attention. The identification of these areas and issues usually initiates a parallel technical (and participative) process, led by specialists on the issues identified, who provide the necessary inputs for the design of pilot demonstration projects or project proposals to be implemented during the full-project stage or incorporated into the SAP formulation process. The pilot or demonstration projects are executed by local stakeholders, including community groups, local authorities, academic institutions, or NGOs, and the results incorporated into the SAP for implementation and, if applicable, replication on a larger scale.

Activity 2.4. Establishment of Project Baseline. The compilation and analysis of information gathered in activities 2.1 and 2.2, together with information from complementary studies, provide the scientific and technical basis for establishing or reviewing the general baseline for the project (as

identified during the project preparation phase), characterizing in detail the situation (ecosystem health and productivity) in the transboundary watercourse prior to project implementation, and defining and adjusting indicators to monitor and assess progress in the attainment of project objectives. Program baselines are usually outsourced (although sometimes carried out by the project technical team), and includes systems or mechanisms for monitoring and detecting changes over time.

Activity 2.5. Public Validation and Approval of Final TDA. The technical unit prepares the draft document of the final TDA and submits it to relevant institutions for its validation and approval. The process usually includes a final TDA workshop, where stakeholders involved in the preparation process discuss the final TDA proposal and make necessary adjustments. Before the TDA is published, the Project Steering Committee or participating governments generally provide final approval.



Figure 3. Public Validation, PROCUENCA San Juan Project (Costa Rica-Nicaragua)

STAGE 3. PREPARATION OF THE STRATEGIC ACTION PROGRAM (SAP)

The preparation of the Strategic Action Program is the final planning phase of a GEF IW project. The SAP includes the technical, social, legal and financial responses and costs associated with the main transboundary issues identified in the TDA. The actions included in the proposal, strategic in nature, seek to protect or restore ecosystem functioning with measures directed specifically at the root causes of the transboundary manifestations of the main



environmental problems identified. Experience indicates that while countries support addressing environmental issues of global significance, actions to resolve the problems must be included within the framework of a broader development program in order to be socially acceptable, politically appealing, and financially sustainable. In this regard, the TDA process and the preparation of the SAP should reflect the development priorities of national or regional development plans. Efforts must be made to ensure that project objectives are synchronized with a balanced sustainable development goal, avoiding the perception of being a “conservationist” activity.

Generally, defining a shared sustainable development vision for the area or Basin concerned, or identifying development scenarios by key stakeholders, can facilitate the preparation of a SAP that includes development perspectives and sustainability conditions complementing the environmental priorities defined through the TDA. With this approach, the resulting SAP is not limited to solving priority transboundary environmental issues, but also provides a general framework to promote sustainable development.



Figure 4. Guarani outcrop at Itapúa (Paraguay).

In general, the activities involved in the formulation of a SAP include:

Activity 3.1. Preliminary Structure and Content of Program Proposal. This activity involves the preliminary identification of the program components and sub-components to be included in the SAP. This step is undertaken by the technical team with support from a specialized consultancy.

The process includes the review of priority transboundary issues and corresponding root causes (identified during the TDA), identification of targets or vision statements for each of the priority issues identified, and preparation of a corresponding program of actions or interventions. It is common to see the basic structure of the SAP before the completion of a TDA, or even preceding the elaboration of a full TDA, especially if a macro or preliminary TDA was completed during project preparation phase. The SAP process defines a preliminary framework, and guides the planning and inception of activities to obtain detailed information for the formulation of specific projects. While a full social validation is not required at this stage, the preliminary SAP structure is usually the result of a workshop (or series of workshops, conducted during TDA validation), and/or of initial meetings with key institutions and national/regional authorities.

Activity 3.2. Establishing a SAP Baseline and Incremental Costs. This activity defines SAP activities or project components that are to be financed by the participating countries, and those that are eligible for GEF funding. The process includes the compilation of existing and planned investments (including programs, projects and activities) related to the SAP proposal to be financed and implemented by participating governments, other donors and institutions, and the identification and selection of actions yielding global (transboundary) benefits in addition to those in the baseline scenario.

Activity 3.3. Counterpart Contribution and Co-financing. This activity, carried out by the technical team in the initial stages of SAP preparation, seeks to determine the contribution (in-kind or direct), of counterpart agencies for the implementation of the proposed program, identifies partner agencies or institutions which can bring additional resources to supplement GEF support. The implementation of this activity should be given adequate time and effort, since the results of this activity provide synergies that maximize benefits, and help avoid duplication of efforts and overlapping measures. Activities related to co-financing continue throughout project planning and implementation phase.

Activity 3.4. Preparation of SAP Proposal.

On the basis of the preliminary SAP structure, and having identified strategic actions eligible for GEF funding, as well as SAP activities for which funding will be sought (or already identified as co-financing), the technical team prepares a preliminary SAP document. A technical SAP proposal is assembled with identified and prioritized strategic actions (grouped by components and sub-components), in relation to the obstacles or root causes of the main transboundary environmental issues and sustainable development priorities to be addressed. Tasks are usually conducted by the technical team and expert consultants (in coordination and with the support of specialists from the national and/or local institutions involved), and can include additional scientific or technical studies to finalize specific proposals. SAP proposals normally include short and medium term activities (5-15 years), as well as actions and objectives for the long-term (15-20 years).

Activity 3.5. SAP Consultation and Validation.

Draft SAP proposals go through a consultation process with affected basin population and stakeholders, seeking feedback and promoting ownership and support for proposed measures. The series of workshops, meetings, and forums for SAP consultation constitute a follow-up to the TDA validation process (and/or of an initial SAP structure as indicated in Activity 3.1 above). While this activity does not usually bring major changes to the proposal, it facilitates the integration of SAP activities into the programming (and budgeting) of state, provincial and local jurisdictions, and promotes the active participation of institutions and local stakeholders during implementation. The validation process includes activities at the national, as well as the regional (or basin-wide) level. In order to obtain political endorsement and adoption of the SAP report, the technical team seeks the participation of all relevant institutions (at the highest possible level), either through the inter-ministerial committees or through specific government convened-meetings.

Activity 3.6. Developing Monitoring and Evaluation Indicators. The technical team, with the support of specialized consultancies, should prepare

and include specific indicators into the SAP document that help measure the achievement of the objectives and targets established as the result of the TDA and SAP formulation process. As per GEF guidelines, these indicators can be related to process, stress reduction, or environmental status, and should be specific, measurable, achievable, relevant, and time-bound (SMART). Despite recent developments in terms of GEF guidelines, defining quality indicators remains a difficult task. In the establishment of indicators, existing and required institutional capacities for proper project monitoring should be established.

Activity 3.7. Preparation and Publication of Final SAP Document. Under this activity, the final document is prepared by the technical team, incorporating comments and suggestions from the consultation and validation process. While there is no specific or common standard regarding structure and content, SAP documents should include: i) an introductory section with the overall framework and justification for action; ii) a synthesis of the TDA analyses and agreed-upon issues; iii) the general and specific objectives of the SAP, priority measures (program of actions) and targets; iv) implementation plan, outlining responsibilities, commitments and financing; v) public participation plan; vi) monitoring and evaluation plan; vii) risks and sustainability; and viii) relevant annexes.



Figure 5. Aerial View, Bermejo River Basin.



KEY LESSONS LEARNED

The section below outlines some of the lessons learned from the GEF projects analyzed for this report.

TDA-SAP Methodology

■ **Public Participation.** By establishing links between scientific expertise, policy/decision makers, and stakeholder interests and priorities, the TDA-SAP methodology provides a sound scientific basis for action and mechanisms for building consensus and resolving potential conflicts. While participatory processes are critical to build project ownership, it also implies a trade off, and may compromise the scientific results and technical quality of the TDA-SAP process. Most notably in GEF IW projects is public engagement processes that highlight not only critical environmental issues, but also pressing socio-economic priorities, resulting in broad SAPs that reflect an integrated sustainable development program, not limited to solving the root causes of environmental degradation. Anticipating this potential trade-off will facilitate working with all relevant parties to achieve agreement about a common solution.

■ **Methodological Sequence.** While preparing a TDA during the PPG phase (with periods ranging between 12 and 18 months) allows for an efficient management of human and technical resources and a better adjustment to political processes, this step also brings a high degree of uncertainty, as TDA results and corresponding SAP proposals are based on limited knowledge. Experience indicates that instead of planning for a linear sequence of events (first TDA, then SAP), better and more comprehensive results come from a gradual TDA-SAP process, where a preliminary TDA serves to highlight possible hotspots and to guide the necessary scientific and technical studies for a complete TDA study, which is to be conducted simultaneously with the SAP formulation.

■ **Continuity and Sustainability of Effort.** When the TDA-SAP process is the result of work carried out during the entire planning phase (a four or five-year period) and when it is based on a broad participative processes (including actions grounded in scientific and technical studies and well-designed

and correctly implemented pilot projects), the final programs (SAP) are solid proposals that focus on key critical issues, and usually capable of sustaining changes in government and/or sudden shifts in political priorities. However, if the resulting proposal relies exclusively or too heavily on GEF resources for continuity, the entire effort runs the risk of being shelved as a planning exercise, as the interruption caused by a lengthy GEF project cycle, and/or the uncertainty of obtaining GEF resources for implementation, may discourage authorities in committing scarce resources for sustaining project actions (usually involving keeping a technical team in place and continued efforts in addressing transboundary issues), after the planning phase has been completed. With the process interrupted (which can be several months or even years), the project loses political momentum, stakeholders' credibility, and even counterpart financing. Consequently, efforts must be made at the onset of the planning phase to search for financial partnerships or strategies to secure financing and co-financing for the implementation of SAP proposals and provide for continuity of actions, in consideration that GEF resources may, or may not, be available in a timely manner to support implementation.

■ **Technical Content.** The TDA should not be viewed as a comprehensive diagnostic study that includes all relevant issues related to a basin or water body. The TDA should be focused and concise, synthesizing the results of scientific and technical research on the priority problems as perceived by stakeholders, providing the necessary guidelines for the preparation of the proposal (SAP) with actions directed towards solving the key issues identified.

Public Participation

■ **Consultation versus Participation.** Public participation during the preparation and execution of GEF projects in LAC countries has been rich and diverse. Within most projects, from the very start of project activities, structured participation processes were carefully created to involve key stakeholders. Processes included meetings, workshops, town councils, radio and television programs, and electronic (computer-based) consultations conducted at the community, local, provincial, state, national, and

regional level. Though often exhausting and time-consuming, the participatory processes helped achieve balanced and compromised proposals, ensuring proper “buy-in” by a wide range of stakeholders. While consultations were critical to ensuring proper stakeholder involvement, engaging basin communities in practical, hands-on experiences through project activities and pilot demonstration projects were critical in formulating and validating SAP proposals. The formulation and field testing of remedial actions not only benefitted from communal insights and experiences, but SAP proposals based on these pilot demonstrations projects were easily acceptable to the communities and ensured their participation during implementation.



Figure 6.
Installation of São Francisco River Basin Committee.

■ **The Issue of Gender.** Although gender-oriented approaches are still not a common practice, results indicate that public participation is more likely and effective if actions and measures are tailored by gender. The initial findings of the gender analysis in the *San Juan River Basin* project indicated that there were clearly different needs for women and men, as well as for children. Therefore, working elements of a strategy for the incorporation of a gender-appropriate approach to the implementation of the SAP were developed. The strategy was a cross-sectoral program based on the conditions under which men and women participated in the use of, access to and control and conservation of water resources and in the decision-making process for water resources management. This assessment helped identify inequities that obstructed the effectiveness of IWRM and provided methods to address gender inequities.

Legal and Institutional Frameworks

■ **Expectations as to Legal Reforms.** Though useful on many levels, it is difficult for GEF projects to influence national and sub-national legislation re-

garding water resource management. In general, changes in the law are rarely made in response to the needs of individual projects (especially those involving more than one country), and even if identified through a TDA process, they are rarely implemented as part of an agreed-upon SAP timeline. As reforms usually occur over an extended period of time (in most cases, beyond project termination date), provisions should be made in the project design for sustaining activities conducive to achieving these objectives, taking into consideration the established procedures in each participating sovereign state. Though complete legal reform might not be achieved during the execution of a GEF project, the project process has been proven critical in opening up areas for social participation and generating experiences and knowledge that raise social and institutional awareness and generate demand for changes. In transboundary water projects, where project experiences are shared by several countries, the commonality often leads to institutional commitments that serve as a basis for new national public policies, playing an important role in regional harmonization processes.

■ **Building upon Continuing Efforts.** Most countries in the region are undergoing legal reforms related to water resource management, particularly in relation to the establishment of IWRM principles and objectives. Linking project activities with these on-going efforts during project design facilitates the incorporation of TDA-identified issues and priorities in the national agenda. In the *Sao Francisco River Basin* project for example, project activities were geared towards strengthening the institutional framework and its capacity to implement new legislation, regulation and procedures (including evaluating the effectiveness of several recently formulated policy instruments), thereby actively



supporting the implementation of the National Policy on Water Resources and corresponding state legislation. A key milestone of the project was the creation and consolidation of the Sao Francisco River Basin Committee. The committee incorporated the integrated management vision of the basin and its natural resources, as well as the decentralization and participative management as a method to ensure rational and sustainable development of the land and water resource of the SFRB and its coastal zone. The implementation of a cross-sectoral bottom-up process of river basin planning and management provided an opportunity for the creation and implementation of effective structures, legal controls, and fiscal instruments to mitigate land and water management practices that degraded water quality, modified the hydrological and hydraulic characteristics of the basin, and/or adversely affected the water resources of the basin and its coastal zone.



Figure 7. Monitoring water quality in the San Juan River Basin

■ **Value of Commissions and Committees.** One commonly identified issue in TDAs is the number of institutions or organizations dealing with water resource management at the national level, and the low level of communication and coordination due to technical, political, and financial constraints. Conflicting mandates, incompatible policies, and duplication of efforts are not atypical, particularly when dealing with inter-jurisdictional entities in local, sub-regional, and national levels. GEF projects have been key in helping to identify these issues, promoting mechanisms for dialogue and coordination, establishing an appropriate institutional framework for project execution, and generating the basis for sustainable water management. Coordination is achieved through the creation of inter-ministerial committees (or some form of inter-sectoral coordination at the national level), regional coordination committees (multi-national or inter-jurisdictional entities established

for project-specific purposes), basin committees, and binational commissions. In the *Bermejo River Basin* project (shared by the provinces of Salta, Jujuy, Chaco and Formosa in Argentina, and by the Department of Tarija in Bolivia), the project identified a general overlap of federal and provincial competence and interests between the different organizations and institutions with responsibilities over water resource management. As a result, both governments gave priority to the establishment of an inter-jurisdictional mechanism for a basin-wide, integrated management of the basin. During implementation phase, the project helped establish a regional coordinating committee with direct participation by the four Argentine provinces and Bolivia's Tarija Prefecture. While the responsibilities for the coordinating committee were established initially for project execution, the committee gradually evolved into an inter-jurisdictional entity that the project identified as necessary for proper programming and coordination of water resource management at the basin scale. In the *Sao Francisco Basin* project, the project helped create and consolidate the São Francisco River Basin Committee. The establishment of the committee helped implement an integrated, decentralized, and participative management process, and facilitated the implementation of water rights and water use payment systems within the basin.

Project Sustainability

Sustaining the actions and priorities established during project execution after the termination of GEF intervention remains a critical issue in the region, since the pressing needs to alleviate poverty and improve socio-economic conditions continue to dominate national budgets. To help sustain project activities over time, three elements can be emphasized during project implementation: public participation, institutional agreements, and co-financing sources.

■ **Sustainability through Public Participation.** The incremental nature of GEF IW projects provides for the establishment of a participatory process during which multiple stakeholders gradually and increasingly engage in project activities. Technical dialogues over specific issues, training and skills development, continued workshops and seminars, public audiences, hands-on pilot demonstration projects, and use of electronic means, are all tools that can help communities and stakeholder groups understand, and support IWRM efforts. Emphasizing participation of relevant stakeholders beginning with the earliest stages of project formulation – from the identification of the environmental issues to the design of strategies, and implementation of on-the-ground-actions – is a critical factor in triggering the necessary changes in people's perception, attitudes, and behavior, which, over time, can foster the adoption and implementation of specific project's objectives and sustainable IWRM practices.

■ **Institutional Commitment to Project's Objectives.** Efforts must be made during project execution to ensure that projects activities and objectives are internalized by national executing agencies, thereby ensuring consistency with national policies and sustainability of strategic actions, and full incorporation of SAP actions within national programming and budgets. The establishment and/or strengthening of coordination and cooperation mechanisms is also a valuable mechanism to sustain project actions over time, as it usually involves formalized agreements between counterpart agencies and participating institutions, committing resources for the continued implementation of project objectives. Similarly, the establishment of basin committees or commissions during project execution, including the development and implementation of financial instruments and mechanisms to ensure its sustainability, is key to ensuring that project priorities and objectives will not be abandoned after GEF intervention.

■ **Sustainability through Project Co-financing.** Beginning with the start of the project, management efforts should be directed towards emphasizing the catalytic and incremental nature of GEF resources. Project programming and budgeting should reflect the need to seek other sources of financing (national and external sources, including grants or loans), or the development of financial instruments (public-private partnerships, payment for environmental services, water pricing, etc.), so that SAP action-proposals, and the continuity of project objectives and priorities, are not dependent upon GEF participation.



Figure 8. Satellite image of La Plata River Basin (Argentina-Bolivia-Brazil-Paraguay-Uruguay)

GUIDING PRINCIPLES AND RECOMMENDATIONS

Drawing upon an analysis and lessons learned from the different GEF projects analyzed for this report, the following principles and recommendations can help guide successful GEF project implementation:

■ **Seek Compatibility of Interests.** Project impacts are greater when objectives are aligned with the interests and public policies of the recipient countries and when properly anchored in the national agenda. When interests are compatible, government officials and representatives of other national or local institutions are actively engaged in the execution of project activities, contributing to project sustainability after GEF intervention. In the case of the *Sao Francisco River Basin*, the project was a key priority in the Government's agenda, since the project helped implement the recently formulated National Policy on Water Resources. A clear alignment of project activities to institutional interests and objectives facilitated a stronger national commitment to project execution. At the onset of a project, the technical team and counterpart agencies must identify the set of common interests, and seek to link project activities and objectives to national priorities.



■ **Focus on Practical Applications.** Evidence suggests that there is an overall fatigue with, and a negative reaction towards, projects that focus on research with little or no practical results. Authorities and institutions should clearly prioritize and match research, study and analysis with precise operating objectives aimed at achieving practical results regarding the improved and effective management of water resources. The technical team must ensure that goals emerging from the TDA-SAP process are converted into concrete, achievable actions with corresponding targets. This is in line with GEF's approach to finance actions that aim to produce clearly defined results, such as agreements on water resource management.

■ **Adjust to Local Conditions.** Projects need to adjust to local conditions as much as possible, and external executing or implementing agencies must avoid imposing technical, economic or social criteria when guiding a project, as doing so inevitably leads to disagreements that compromise the sustainability of project actions. The project must also be flexible in seeking to adjust to the level of political and/or economic stability of the recipient country, and corresponding level of organization. In many instances, activities may need to be developed under conditions of political instability, lack of skilled personnel, low levels of local salaries, and frequent staff turnovers.

■ **Promote Multi-Institutional Arrangements.** At the earliest stages of project development, the technical team must seek to establish an institutional framework aimed at promoting dialogue and coordination among the institutions directly involved in water resources management and/or basin development, including relevant sectoral agencies and institutions related to (or directly affected by) the project. For this purpose, the creation of national Inter-Ministerial Committees, Regional Coordination Committees, and/or basin committees or commissions, have demonstrated to be critical in helping organize the different sectors and groups involved, in facilitating the programming and coordination of project activities, and resulting in an improved management of water resources. Participation and commitment to the project by the national executing

agency and other participating entities at the national level increases coherence of project actions with national policies, and helps to sustain strategic actions after GEF intervention, by incorporating necessary resources in national plans and budgets.

■ **Strengthen Local Institutional Capacities.** Efforts must be directed towards building and consolidating local capacities, prioritizing direct responsibility for the implementation of actions to local (affected) stakeholders, and limiting the use of external consultants. Efforts to strengthen institutions work best when such efforts are preceded by an assessment of institutional needs, as conducted by the institutions themselves and based on the objectives of the project.

■ **Promote Information Exchange and Training Programs.** Formal and informal mechanisms must be developed to facilitate the open exchange of information during project preparation, fostering long-term dialogue and participation of local communities in the implementation of the SAP. When preparing the SAP, education and training programs should be emphasized since these activities will facilitate more informed, active and effective participation by stakeholders.

■ **Seek Direct and Active Community Participation.** Mechanisms that ensure active participation and involvement of affected communities and civil society need to be established in order to ensure project success. This entails a participatory approach envisioned not simply as a consultation process to validate specific proposals (i.e. TDA or SAP), but the active and effective participation of basin stakeholders in identifying the main problems, designing solution strategies, and implementing actions. In this regard, seminars, workshops, meetings and public hearings, electronic media, and the press are important mechanisms to promote community involvement. Likewise, development and implementation of pilot demonstration projects by the affected communities have shown to be critical in obtaining proper stakeholder "buy-in" and support for identified measures, facilitating the long-term sustainability of project proposals.

■ **Test Proposed Measures.** Carrying out pilot-demonstration projects during the planning phase is crucial to ultimate project success, as it assesses the technical, social, economical and environmental feasibility of the proposed remedial measures. The best practices and lessons learned are subsequently scaled-up and included as part of the SAP proposal, facilitating support from affected communities, and counterpart financing from relevant local and national entities. As indicated above, pilot demonstration projects are also key mechanisms for ensuring active public participation and community involvement.

■ **Document Experiences and Publish Results.** High quality and consistent project documentation plays an important role in creating awareness of the project at local, national and international levels. In this regard, it's important to define at an early stage a project communication and dissemination plan, establishing information requirements within components (and thus guiding the preparation of terms of reference for specific consultancies), and allocating sufficient project budget resources for the preparation and publication of relevant project results, experiences and lessons learned.

CONCLUSIONS

GEF IW projects in Latin America have made tangible progress in advancing the water resources management agenda, supporting continuing national and regional efforts to promote integrated approaches to water resource management. At relatively low project costs, comprehensive studies have been successfully completed, innovative practices implemented, local capacity built, inter-institutional coordination fostered, and dialogue and cooperation between countries promoted towards sustaining a common solution for shared problems, helping to resolve, in an integrated fashion, transboundary water issues such as

pollution and sediment control, as well as related challenges related with deforestation, soil degradation, and biodiversity reduction. In the project design and implementation process, mechanisms for political dialogue have been established, policies and institutional reforms have been promoted, legal and organizational frameworks have been developed, and public participation and stakeholder involvement efforts have been strengthened and

institutionalized. While all the projects analyzed for this report differ as to the political, economic, and institutional structure of the recipient countries and the particular environmental issues addressed, common aspects and critical issues were identified, providing for general guidelines and recommendations for project implementation. Among these, the use of scientific

methods and participatory approaches to identify and address critical issues; the importance of dialogue and coordination between institutions; the critical role of basin committees; the need for institutional strengthening and capacity development for local resource management, and the value of an active public participation and stakeholder involvement plan. Similarly, lessons from GEF projects in the region indicate that while projects should continue to strive in promoting the necessary reforms in laws, regulations, and policies, and in establishing adequate institutional and organizational frameworks, these alone will not suffice in resolving the problems affecting water resources. As critical as these elements are, projects need to emphasize appropriate awareness and education campaigns, as well as formal and informal education programs, and provide enough incentives to help change perceptions and attitudes towards the conservation and sustainable use of water. GEF projects that promote integrated approaches to resolving environmental and poverty issues, including goals and objectives proportionate to the existing capacities, seem to yield the best results for advancing IWRM practices in the region. ~



Figure 9. Rio San Juan (Costa Rica-Nicaragua)

