ENTRO
NILE BASIN INITIATIVE
INITIATIVE DU BASSIN DU NIL

GUIDELINE

NILE BASIN SUSTAINABILITY FRAMEWORK

ENSAP ENVIRONMENT MANAGEMENT GUIDELINES

Photo: Shutterstock

Document Control Sheet

Title	ENSAP Environment Management Guidelines
Document type	☐ Policy ☐ Strategy ☒ Guidelines ☐ Legal and Foundational Document
Prepared by	☐ Nile-SEC ☒ ENTRO ☐ NELSAP-CU ☐ Other: _____
Status	☒ New Policy/Strategy/Guideline/Legal and Foundational Document ☐ Revision of existing Policy/Strategy/Guideline/Legal and Foundational Document
Revision Date	
Effective Date	2011

Consideration by ~~Nile-COM~~/EN-COM~~/NEL-COM~~ (cross out whichever body is not applicable)	
Date of submission for consideration	
Action by Council of Ministers	
Comments satisfactorily addressed	☐ Yes ☐ No ☐ Not Applicable

Consideration by ~~Nile-TAC/~~ENSAPT~~/NEL-TAC~~ (cross out whichever body is not applicable)	
Date of submission for consideration	
Action by the Technical Advisory Committee:	
Comments satisfactorily addressed	☐ Yes ☐ No ☐ Not Applicable

Responsible Officer: Dr Mohammed El Muntasir

ENSAP
Environmental Management Guidance

FINAL REPORT

October 2011

Submitted to the Attention of ENTRO environment management specialist (Dr. Mohamed Emuntasir)

TABLE OF CONTENTS

APPENDICES

LIST OF COMMON ACRONYMS

ADB	African Development Bank Group
AfDB	African Development Bank
CAA	Competent Administrative Authority (Egyptian guidelines)
CRA	Cooperative Regional Assessment
EA	Environmental Assessment
EAC	East African Community
EC	European Commission
ECC	Environmental Clearance Certificate
EEAA	Egyptian Environmental Affairs Agency (Egyptian NEA)
ESIA	Environmental and Social Impact Assessment
EIS	Environmental Impact Study
EM	Environmental Management
EMG	Environmental Management Guidelines
EN	Eastern Nile
ENCOM	Eastern Nile Council of Ministers
ENSAP	Eastern Nile Subsidiary Action Program
ENTRO	Eastern Nile Technical Regional Office
EP	Equator Principles
EPA	Environmental Protection Authority (Ethiopian NEA)
EPFI	Equator Principles Financial Institution
ESP	Environmental and Social Policy (NBI)
HCENR	Higher Council for Environment and Natural Resources (Sudanese NEA)
IAP	Interested and Affected Party
IEE	Initial Environmental Examination
MEA	Multilateral Environmental Agreement
MoEPD	Ministry of Environment and Physical Development
MoIWR	Ministry of Irrigation and Water Resources (Sudan)
MSEA	Minister of State for Environmental Affairs (Egypt)
MoWE	Ministry of Water and Energy (Ethiopia)
MoWRI	Ministry of Water Resources and Irrigation (Egypt)
NBI	Nile Basin Initiative
NEA	National Environmental Authority
NELSAP	Nile Equatorial Lakes Subsidiary Action Program
NFP	National Focal Point
NSA	National Sectoral Authority
OP	Operational Policy (WB)
PCU	Project Coordination Unit
REAG	Regional Environmental Advisory Group (ENTRO)
SAM	Social Assessment Manual
SDCO	Social Development and Communication Office (ENTRO)
SSEA	Strategic Social and Environmental Assessment
SVP	Shared Vision Program
WB	World Bank
WRD/M	Water Resources Development/Management

INTRODUCTION

1. Background

The rivers comprising the Eastern Nile (EN) form an important shared resource linking Egypt, Ethiopia, and Sudan. An estimated 100 million people reside in the watershed of the EN who depend on the river system for the provision of water and dietary requirements, sources of income, transport avenues, water for irrigation, agriculture and electricity, and other needs. The Nile River system is also crucial for the sound social, economic, and environmental development of each country and of the region as a whole, offering significant potential for the reduction of poverty and stimulation of sustainable economic growth.

The Nile Basin Initiative (NBI) was established by Ministers responsible for Water Affairs of each of the nine Member States which make up the Nile Basin (Burundi, Democratic Republic of Congo, Egypt, Ethiopia, Kenya, Rwanda, Sudan, Tanzania and Uganda, and Eritrea as an observer). The NBI is a transitional institution dedicated to the realization of a Shared Vision *'to achieve sustainable socio-economic development through the equitable utilization of and benefit from the common Nile Basin water resources'*. This requires addressing environmental and social concerns in a structured and sustainable manner. Figure 1 below shows the organization of the main NBI component bodies and activities.

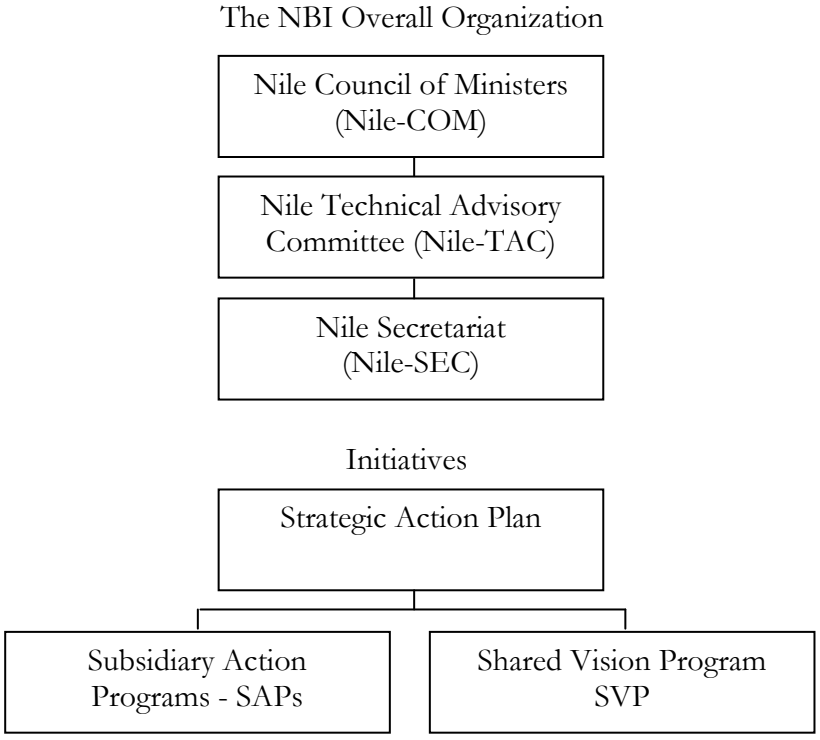


Figure 1: NBI general organizational structure

The Eastern Nile Subsidiary Action Program (ENSAP) was launched within the framework of the NBI to initiate investments and concrete actions on the ground in the EN Sub-basin[1] in the areas of power generations and interconnection, irrigation and drainage, flood preparedness and early warning, watershed management, development of planning models and joint multipurpose programs. In launching ENSAP, the Eastern Nile Council of Ministers (ENCOM) agreed to ensure efficient water management and optimal use of resources, target poverty alleviation and promote economic integration through cooperative investments. The first joint institution of the three countries – the Eastern Nile Technical Regional Office (ENTRO) – was established to manage and coordinate the preparation of ENSAP projects. The organizational structure of ENTRO is shown in Figure 2.

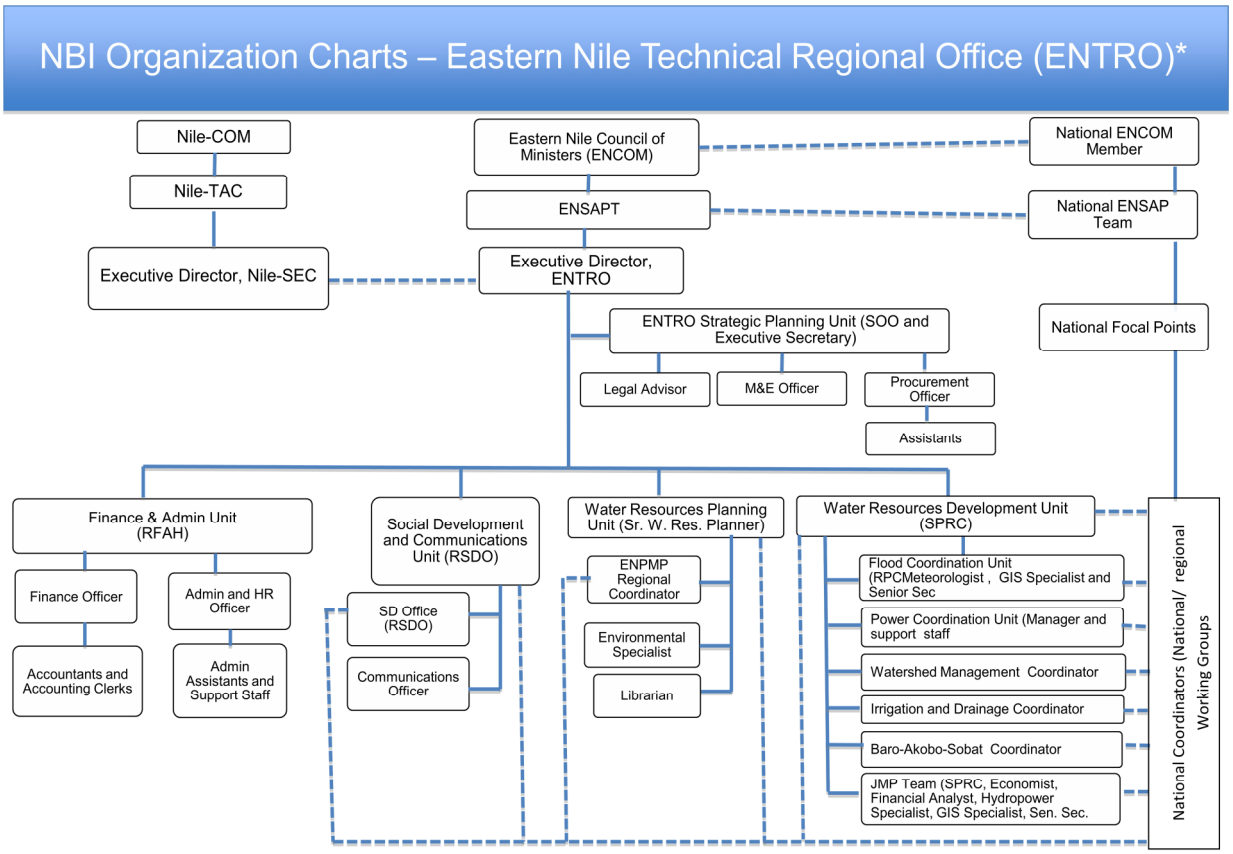


Figure 2: ENTRO organizational structure

2. Rationale for Environmental Management Guidance

The growing demands of the populations and economies of each EN country are increasingly straining the river's resources. Unguided or uncoordinated management of this system will result in detrimental impacts on the region's population. It is desirable for all parties involved to avoid such

[1] The original ENSAP member states were Egypt, Ethiopia, and Sudan. However, the Eastern Nile Sub-basin now falls within the borders of South Sudan. This EMG is meant to be applicable to any existing or future states that may comprise the EN Region.

impacts, by encouraging good planning and design of projects that will result in the cooperative use of and shared benefit from the resources of the EN River system. The need for a coordinated development and management of the water resources of the basin has become a necessity rather than a choice. The NBI and its subsidiary programs are designed to address this need, through the guiding principles of benefit-sharing, win-win projects, subsidiarity and no significant harm, and by pursuing the overarching goals of:

- Poverty reduction,
- Reversal of environmental degradation
- Promotion of economic growth
- Increased regional cooperation and integration
- Enhanced regional peace and security

Also contained within the essence of the NBI and its goals are the principles of environmental sustainability, equity among riparian citizens, and the importance of their inclusion in the consideration of development activities. These combined principles provide the rationale for developing a formal system for coordination of the regional environmental management activities necessary to responsibly steward the shared resources of the EN countries.

Until recently, coordinated efforts among the three countries in developing and managing the EN River resources have been limited. However, significant strides have been made in strengthening cooperation since the launch of ENSAP activities and the establishment of ENTRO. ENTRO has been mandated by Nile-COM to ensure sustainability and target reversal of environmental degradation, and by ENCOM to ensure good environmental practice in project preparation. These projects are planned and implemented within environmental, socio-cultural, and institutional contexts that are increasingly interrelated and at times transcend national boundaries. It is thus necessary for ENTRO to have a coherent approach for the Environmental Management (EM) of its activities that takes full consideration of the relevant social and economic issues and is regional in scale, in order to achieve its mission of realizing and sustaining the benefits of cooperative development amongst the people of the EN region.

ENTRO has already produced a Social Assessment Manual (SAM) through the Social Development and Communication Office (SDCO), which gives guidance on social issues associated with ENSAP projects and assessment methods, and strengthens ENTRO's ability to play a role in social matters. The preparation of this Environmental Management Guidelines (EMG) document is intended to give structure and formality to ENTRO's environmental function as an institution, in coordination with the developments taking place within the SDCO. This process will lay a foundation across the EN region for: (i) a unified EM framework that embodies the environmental principles already guaranteed by the respective national frameworks, and (ii) consistent EM practices that actualize those principles. Furthermore, the EMG is meant to enhance the capacity of ENTRO to play a role in environmental and social management activities at all project stages. To this end, the document will integrate with the SAM to help ensure that EM practitioners are informed of the prominent social concerns in the region, and to ultimately support the use of proper, well informed, and coordinated EM practices in the identification, planning, design, and implementation of ENSAP projects.

1.1. Statement of Challenges

ENSAP is preparing investment projects with potentially significant spatial (trans-boundary) and temporal impacts, without, however, commensurate authority and mandate to institute and enforce trans-boundary environmental policies to minimize and/or avoid adverse impacts on the physical, social and biological environment. ENSAP follows a "no-borders" principle in its project preparation, including in the analysis of impacts. The management of impacts, however, is not accompanied by a "no-borders" analysis and prescription. It is essentially limited to national modalities. Beginning to address this disconnect is an urgent task. The nature of water resources development in trans-boundary waters/international water courses is such that there is incongruence in where an intervention/investment takes place (e.g. upstream) and where adverse or positive impacts are felt (e.g. downstream). Similarly, in temporal terms, there could be incongruence: what is happening now (e.g. water infrastructure development) may address the problems of the current generation, but would leave huge problems behind for future generations.

1.2. Objectives and Methodology

The specific objectives of the EMG are to:

- Act as a preliminary guide for EM practitioners at ENTRO and in the EN countries
- Ensure that ENSAP projects are designed to be more environmentally sustainable, economically viable, and socially legitimate.
- Harmonize EM practices in the near future and pave the way to transform the guidelines and practices into EN trans-boundary guidelines.
- Strengthen capacity to implement EM plans in the EN countries especially for ENSAP projects
- Provide a unified framework for EM at ENTRO.
- Come up with a final plan for a unified or at least harmonized ESIA/SSEA legislation and guidelines to be adopted by ENSAP projects in the EN countries.

The EMG is meant to apply only to regional and country programmes, projects and activities that are being managed by NBI centres or NBI projects. ENTRO does not currently have a mandate to regulate environmental issues at large, but through proper management of its own activities, hopes to influence future developments in this area.

The development of this document was conducted through two interlinked processes. The first was a process of review and analysis of various documents and guidelines concerning EM tools, procedures, and institutions that were considered to be potentially applicable to the EN region, and relevant to ENTRO's mandate in particular. This included a review of documents from national environmental authorities, river basin organizations and other intergovernmental organizations, financial institution guidelines, and a number of other documents obtained from Nile-SEC, ENTRO, and NTEAP.

The second process was that of consultation with members of ENTRO and other authorities and experts in each country, to ensure transparency and inclusiveness of the EMG development process, and incorporate stakeholder input. A series of meetings were held in all three EN countries over the course of the study, during which experts in environmental management and representatives from

various related government sectors were invited to discuss the EMG. Important questions regarding issues such as trans-boundary environmental concerns and national sovereignty, proposed institutional setups, and enforcement of environmental practices were addressed, and the input from those consulted has been incorporated into this document.

1.3. Organization of the EMG

The EMG is intended to be a standalone document, composed of the following 3 main sections:

- Environmental Context – This section identifies the main environmental concerns in the region, as well as specific environmental priorities of each EN country. These are intended to complement the social concerns identified in the SAM, and serve as a basis for environmental practices.
- Approach to Environmental Management – This section describes the principles, methods, and tools to be used in ENTRO's approach to environmental management of ENSAP activities.
- Guidance for Environmental Management Tools – This section offers guidance on the use and application of the various tools prescribed for addressing the environmental and social needs of ENTRO and the EN countries.

The appendices contain information that is both a background for and supplemental to the EMG document. This information is referenced throughout the EMG at times to enable deeper understanding of the findings, and at times to enhance usability of the EMG by

The EMG is also meant to link closely with the SAM. Throughout the EMG, whenever social issues may play a role in the management activities discussed, reference is made to the SAM, which should be considered a complementary document to this one.

ENVIRONMENTAL MANAGEMENT GUIDELINES

1. Environmental Context

Environmental management practices must be based on a clear understanding of the underlying environmental systems and their boundaries, and the primary concerns which affect these systems. The use of the EM tools in this document involves careful consideration of the project related impacts associated with the critical environmental and social matters identified here and in the SAM. This section discusses the environmental issues relevant to ENSAP projects, and those of importance in the EN region and in each of the EN countries.

1.4. General Setup

The EN basin encompasses an extraordinary range of ecosystems including high mountain moorlands, montane forests, savanna woodlands, extensive wetlands, and arid deserts. Different areas subjected to different forms of management, and are threatened by different issues, but are ultimately interlinked. There are two ways in which the region can be logically partitioned in order to understand the varying environmental issues: according to the boundaries of geographical features and environmental systems, or according to the boundaries of socio-political systems. These boundaries do not always coincide, and this inconsistency is at times a barrier to developing an adequate understanding of the issues and effective means of addressing them.

Socio-political boundaries (e.g. national borders, sub-national administrative districts, social/ethnic/linguistic groupings) are useful because these areas are often fairly well defined and have been affected by different development strategies, different patterns of use, and different degrees of environmental management throughout recent history. However, in order to assess the impacts of activities that transcend these socio-political systems, it is essential to recognize the underlying environmental systems that are affected. Looking at the environment in terms of its natural boundaries allows for a more integrative and holistic approach that is consistent with the one river system endorsed by the NBI. To this end, the Eastern Nile can be seen as being composed of not just the three countries (Egypt, Ethiopia, and Sudan), but alternatively it is composed of four sub-basins (the Main Nile, the Baro-Akobo-Sobat, the Abbay/Blue Nile, and the Tekeze-Atbara), shown below in Figure 3. Although information on environmental concerns is predominantly collected and documented according to political boundaries, acknowledgement of the sub-basin setting is essential when considering such concerns, and the assessment of environmental impacts (particularly of a trans-boundary nature) requires consideration of these natural systems.

Figure 3: Major sub-basins of the EN region

1.5. Key Regional Concerns

EM practitioners working in the EN region will need to be familiar with the main regional environmental and social concerns. In general, environmental issues in the EN region include the problems of soil erosion, degradation of agricultural lands, desertification, loss of forests and wetlands, overgrazing of pastures, declining water quality, overexploitation of fisheries, eutrophication of lakes, invasive water weeds, inadequate urban waste management, waterborne diseases, and declining biodiversity. Furthermore, climate change is seen as one of the major uncertain external factors that might affect the overall water resources development and management within the Nile basin

The main environmental concerns in the EN sub-basins are the following:

- Deforestation, soil degradation, and loss of agricultural productivity, particularly of irrigated land
- High sediment load in the river system with impact on dams and reservoirs operation
- Water quality in the river downstream of the Aswan dam
- Degradation of wetlands and increasing flooding
- Loss of biodiversity
- Climate change, droughts, flooding, and general climate variability

Consideration of these general issues should be given priority during the assessment of ENSAP projects. Specific impacts and associated mitigation measures related to each of these concerns are listed in Appendix C, as they apply to projects similar to those being implemented by ENTRO. These lists should be consulted, for example, when conducting an environmental assessment or developing an environmental management plan. The ability to quantify and monitor these concerns plays a crucial role in environmental management, since they are affected by human land use and development activity. Indicators and data needs are discussed in Section 1.7.

1.5.1. Social Concerns and Linkage with SAM

Social impacts are the impacts of development interventions on the human environment; i.e., the consequences to human populations of any public or private actions that affect the ways in which people live, work, play, relate to one another, organize to meet their needs, and generally cope as members of society. The environmental concerns listed above are closely linked to social development issues in the region, because humans depend on these aspects of the environment for their health, livelihood, and happiness. At the same time, human activity can contribute to or reduce environmental degradation in these areas, so environmental and social concerns are closely linked. The SDCO has identified prominent social concerns in the region, with the intent of enhancing the understanding of the social context in which ENSAP projects are implemented. These issues include:

- Access to livelihood
- Inclusion and participation of stakeholders
- Social equity and cohesion (between and among groups including gender, age, ethnicity, occupation, language, etc.)

- Community institutions
- Environmental sustainability
- Cultural and historical heritages

These issues must be considered jointly with the environmental concerns listed above during project design in order to ensure successful implementation. The lack of attention to social development issues has been one of the main causes for failed development interventions in the region. The relation of each of these issues to ENSAP activities is explained in detail in the SAM. Consideration of the social and environmental concerns in an integrated manner is critical to the overall sustainability of ENTRO's EM practices.

1.6. National Environmental Priorities

1.6.1. Egypt

The importance of maintaining suitable river flow conditions and aquatic habitats to preserve biodiversity and fisheries production in Egypt has been realized and needs to be addressed. Water quality needs to be improved in order to reduce impacts on human health, and a high level of dependence on Nile water makes water quantity allocations a major issue. Other significant environmental problems include soil erosion, desertification, aquatic weeds, and sea water intrusion in the Nile delta. Climate change is anticipated to have a negative impact in the areas of water supply and consumption. Climate induced sea level rise will likely effect the delta region, and could alter the upstream river profile.

1.6.2. Ethiopia

Much past experience in water development projects in Ethiopia shows a failure in environmental protection, and it is now realized that sustainable development and environmental protection have to be closely linked. Environmental impact assessments have become mandatory for all national water resources projects. Deforestation and soil erosion are very significant environmental problems. Other concerns include provision of a clean water supply, development of irrigation systems for agriculture and food production, and electric power generation, as part of a much larger effort to reduce poverty in the region. The effects of climate change on flood and drought frequency and land degradation, and associated impacts on power generation and food production are also prominent concerns.

1.6.3. Sudan

Improved action is needed on a wide range of issues in Sudan, in particular control and channeling of water in irrigation schemes, sedimentation of reservoirs and irrigation channels affecting agricultural production and hydropower capacity, floating trash problems, contamination of groundwater by sewage, adverse impacts of water resources developments on forests and pastures, soil degradation and desertification, improved management of flash floods, droughts, and general climate variability, lack of access to climate information, more effective evaluation of risks and hazards of projects, planning controls to manage the risks, and public awareness and inclusion. The effects of climate change on flood and drought frequency and land degradation, and associated

impacts on power generation, food production, and recession agriculture are also prominent concerns.

1.7. Environmental Indicators and Data Needs

An important part of environmental assessment is the establishment of an environmental and social baseline from which impacts can be judged. This requires collecting data for a wide range of indicators which can be used to measure or quantify changes in the environment. Large scale efforts are already underway to collect such information, such as the One System Inventory (OSI) and the Knowledge Base of the Eastern Nile Planning Model (ENPM). However, some potential data sources and indicators for the environmental concerns prevalent in the EN region are provided in Appendix D. It should be noted that the specific environmental concerns identified in this section often involve indicators from various categories from the table in the appendix.

2. Approach to Environment Management at ENTRO

2.1. Guiding Principles

Nile-COM has adopted the following policy guidelines for the implementation of the SAPs:

- Action on the ground needs to be planned at the lowest possible level
- Planning must involve all those who will be affected
- SAPs are to be built on principles of equitable utilization, no significant harm, and cooperation
- Range of development projects will vary depending on needs and opportunities
- Benefits, costs, and risks are to be distributed equitably
- Resources are to be utilized efficiently; and the environment must be protected
- Projects are bundled into programs to counterbalance the positive and negative impacts of different projects

From these principles, ENTRO and the NBI are working to create a solid foundation on which to build their EM activities, consisting of well formulated and specific environmental and social principles, and an internal management structure (Environmental office) to take responsibility for environmental performance of the organization, ensuring that environmental efforts are planned, communicated, and implemented properly according to these principles.

2.2. Development Cycle

Proper management of ENSAP activities, to make sure they are implemented in a way consistent with the principles of ENTRO and the NBI, requires an expanded view of the overall progression of development activities, from the formulation of Policies, Plans, and Programs (PPPs) that encourage certain development activities, to the preparation of projects that result from these PPPs, to the implementation and eventual decommissioning of these projects. Five stages have been identified:

- PPP formulation/development: This is the process of creating policies, plans, or programs at a high level of decision making, using in depth analysis of the implications of the PPP (based on previous policy experience) and the strategic objectives of the PPP making body. For policies, this usually involves a national legislative process. Consideration of environmental and social issues and the inclusion of public representatives are important aspects in the formulation of sound and legitimate PPPs.
- PPP adoption/implementation: Approval of a PPP entails numerous lower level processes which are meant to achieve the objectives of the PPP, including development projects. PPP implementation is a continual process, without a definitive end point. Monitoring of the activities resulting from the PPP is needed to assess its efficacy, and improve future policy decisions.
- Project preparation: Identification, design, and approval of specific development projects. Analysis must be carried out to ensure that project activities are in line with national strategies, and will comply with all relevant regulations and standards.
- Project implementation: Once a project receives the necessary licenses, construction and operation activities may begin. This stage involves direct impacts on the earth and environment, as well as human activities. Monitoring is needed to ensure continual compliance with regulations throughout the life of the project.
- Project post-implementation/decommissioning: Specific project activities are designed to only last for a limited time. Once the project has run its course, it may be assessed to determine the overall effectiveness in achieving its original goals, and the accuracy of original predictions about the implications of PPP and project activities. This information can then be used to inform higher level decision making (PPP formulation), or the preparation and implementation of other projects.

The steps of this cycle, along with the associated EM tools, are summarized in Table 1, below.

Table 1: Development activity cycle and associated EM tools

Progression of development activities				
PPP formulation/ development	PPP adoption/ implementation	Project preparation	Project implementation	Project post-implementation/ decommissioning

Associated EM tools				
Strategic assessment	Monitoring and review	Impact assessment	Management Plan	Auditing

The development of a PPP may be informed by a strategic assessment, to include input from relevant stakeholders on the crucial environmental and social considerations affecting such high level decisions. This strategic assessment should include some monitoring and mitigation measures, which can be reviewed during the implementation of the PPP (generally a process without a well defined end) to inform individual projects that may result from the PPP, changes and modifications to the PPP, or future PPPs. The implementation of a particular PPP will tend to create lower level projects. The design of these projects should include an impact assessment. A management plan, developed as part of the impact assessment, should be used to monitor project implementation, and when the project has run its course, auditing is used as a way to assess the overall effectiveness of environmental measures taken.

Social issues and public inclusion are important during each of these stages. Therefore, in all proposed activities, strong linkages with the SAM are stressed so that these concerns will be accounted for. Certain social tools, such as consultation and resettlement planning, are discussed briefly below.

2.3. Activity Categorization

It is common practice[2] as part of the initial review (screening) of a PPP or project's expected social and environmental impacts to use a system of categorization that reflects the magnitude of potential impacts of the proposed activities. When considering institutional responsibilities for the environmental assessment of PPPs or projects in the EN region, it is useful to distinguish activities according to whether they are proposed or implemented by either a national or regional body, and whether the potential impacts and benefits are either local or trans-boundary in nature. The proper categorization of activities will help determine what standards a particular plan or program, or project, will be held to for compliance, as well as what institutions will be involved in the approval of the assessment, and the final decision about the activity. Table 2 proposes categories for general activities in the EN region that might be subject to environmental assessment, and indicates at what level approval and compliance matters belong. Such a categorization could be included in national assessment guidelines, to indicate when proponents need to consider trans-boundary impacts and include regional bodies in the review and approval of assessments.

Table 2: General categorization of potential activities

		Proponent/Implementation	
		National	Regional
Potential Impacts/ Benefits	Local	**Category 1** Approval from *national* authorities Compliance with *national* standards	**Category 2** Approval from *national* authorities Compliance with *regional* standards
	Trans-boundary	**Category 3** Approval from *regional* authorities Compliance with *national* standards	**Category 4** Approval from *regional* authorities Compliance with *regional* standards

A broad definition of the terms used to categorize projects is provided here, but it will be important in the future to develop specific criteria for determining these categories, particularly for distinguishing local impacts from trans-boundary ones.

An activity is considered "national" if the proponent is a government body from one of the EN countries, or if the implementation happens within the national boundaries of a particular country. National projects will be subject to national requirements and guidelines first, but may require regional approval depending on the scope of the impacts. On the other hand, an activity is considered "regional" if it is promoted jointly by two or more EN countries' (via bilateral agreement or a regional body such as ENTRO), or if the implementation involves activity in more than one country. In such cases, regional standards should be applied, that comply with the national systems of each affected country.

Potential impacts and benefits are considered as "local" if they are not perceived or intended to significantly affect the environment and natural systems beyond the national borders of the country

[2] Proper categorization during screening is an important aspect of the WB, ADB, and EP assessment requirements.

where the activity is taking place. If the opposite is true, or if the activity affects the ability of other EN countries to utilize the Nile resources in some way, the impacts are considered "trans-boundary". Extended geographical extent and effect of activities is a key indicator of the significance of potential impacts.

Since ENSAP is a cooperative regional program by definition, and its mission is to implement regional programs with shared benefits, its activities will mostly fall into Category 4. Further discussion of this category is most relevant to the EM practices to be adopted by ENTRO. The potential approval arrangements for all categories, for both SSEA and ESIA, are discussed in Appendix A, in an attempt to make these guidelines expandable for future use beyond the scope of ENSAP projects.

2.4. Stakeholders

Identification of the parties directly and indirectly involved in the use of the EMG and in the preparation and implementation of ENSAP projects enables the proper allocation of roles and responsibilities. These parties are divided into three categories:

- Primary stakeholder
    - EM practitioners at ENTRO; i.e. those taking part in environmental assessments or other management activities as part of ENSAP projects, including project units, consultants, and reviewers, as they will be the ones using the specific guidance in the EMG
    - Interested and Affected Parties (IAPs), including potentially affected communities, government agencies, and representatives of other interested parties including civil society organizations (NGOs), the private sector, independent experts and all other stakeholders including the general public., as they will necessarily be directly included in the management activities through consultation and participation
    - Government institutions (departments/ministries) of the EN countries, when acting as proponents or implementers of ENSAP projects
- Secondary stakeholders
    - Government institutions that will potentially be involved in the approval of ENSAP activities and enforcement of standards
    - Financial institutions whose requirements must be met by ENSAP project activities
- Tertiary stakeholders
    - EM practitioners at NELSAP and NBI, as their own environmental policies and practices may be affected by the development and use of these EMG

A mapping of the government institutions involved in EM is provided in Appendix F.

It is also useful to distinguish the entities involved in approval and compliance matters according to the geographic extent of their mandates. The most important actor to distinguish is the proponent of activities, as this will affect how compliance should be judged and where approval should lie. The proponent may be either a government entity, intergovernmental organization, or a private investor. Regional actors are Project Coordination Units (PCUs) at ENTRO (as proponents), the Environmental and Social Offices at ENTRO (to advise on trans-boundary issues), and the ENCOM (as a regional authority/approval body). National actors include National Environmental

Authorities (NEAs) and National Sectoral Authorities (NSAs). Actors without a well defined mandate include the IAPs, which includes the public and a proposed Steering Group, explained in Section 3.1.2., as well as independent consultants hired to perform the assessment, and private project proponents.

2.5. Compliance, Approval, and Consultation

Compliance consists of two parts:

- conforming with assessment requirements and procedures at the appropriate level during the planning/development of the PPP or project
- monitoring the significant environmental and social impacts during the implementation of the PPP or project and the responsibility for overseeing this monitoring

The tools included in this EMG are intended to form a set of practices consistent with international standards for best practice.

The responsibility of monitoring and enforcement must always fall at the national level, since ENTRO does not yet have the resources to monitor compliance or the mandate to enforce it, beyond the scope of its own activities. This matter ties into the issue of approval of EM activities on a regional level, since there is not yet a regional body with the authority to approve of studies/projects.

Given the current situation, an effort must be made to work for consensus through consultation at the national (NFP) and regional (ENSAPT, ENCOM) levels within the NBI/ENSAP organizational modalities, and when and as needed consult with the public as described below. This aspect of consultation must serve as a soft form of approval until a stronger basis for regional enforcement is established.

2.6. EM Tools

Two primary tools are recommended for the environmental management of ENSAP activities: Strategic Social and Environmental Assessment (SSEA) and Environmental and Social Impact Assessment. These tools have strong international precedents as best practice, they form a coherent approach to environmental management throughout the project cycle, and they are well suited to addressing the combined environmental objectives of ENTRO and the EN countries. Because environmental management is closely related to social management, certain social tools will need to be used as part of the assessment process. These tools are also described below. Finally, added emphasis is placed on the follow-up to the assessment process (i.e. monitoring and evaluation) to ensure that good practice is kept throughout the lifetime of activities.

2.6.1. Assessment Tools

The relationship between SSEA, ESIA, and the various levels of associated development activities is shown in Figure 4.

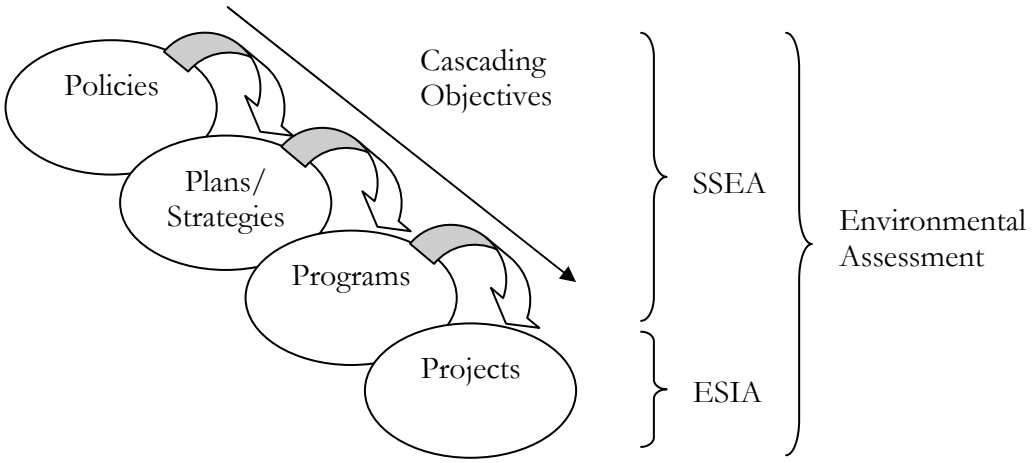


Figure 4: The link between SSEA and ESIA

2.6.1.1. SSEA

Strategic Social and Environmental Assessment (SSEA) is the systematic and comprehensive process of evaluating the effects of a plan or program and its reasonable alternatives. It is an analytical tool to link possible positive or negative environmental and social issues to higher level decision-making. SSEA should be carried out by the body which prepares and/or adopts a plan or program, and good practice emphasizes the value of integrating the assessment into the plan or program development process. In order to contribute to more transparent decision-making, and with the aim of ensuring that the assessment is comprehensive and reliable, it is also necessary to consult with any authorities with relevant environmental responsibilities and others who are not directly concerned with producing the plan or program (including the public) as part of this development process. Appropriate time frames should be set, to allow sufficient opportunity for all IAPs to contribute independent viewpoints.

SSEA is usually carried out for plans and programs that are prepared for agriculture, forestry, fisheries, energy, industry including mining, transport, regional development, waste management, water management, telecommunications, tourism, town and country planning or land use, and that set the framework for future development consent for projects that will require an Environmental and Social Impact Assessment under the relevant national legislation. Any plan or program developed by ENTRO will inherently impact one or more of these sectors, and according to best practice should therefore undergo SSEA. The three multi-purpose track programs being implemented by ENTRO have been subjected to strategic assessment, providing a solid basis for the standardization of this practice at the program and strategy development phase of ENSAP projects. Detailed guidance on the application of SSEA at ENTRO has been developed in Chapter III.

SSEA is often required for plans and programs financed by the AfDB, and the EU and UNECE have each issued protocols requiring strategic assessment. However, despite the growing emphasis on environmental assessment in the region, there are not yet any requirements for SSEA at the national level in any of the EN countries. It is hoped that the demonstrated usefulness of this tool at ENTRO will encourage the development of such requirements. The adoption of strategic assessment procedures at the planning and programming level should benefit national undertakings by providing a more consistent framework in which to operate by the inclusion of the relevant environmental information into decision-making. The inclusion of a wider set of factors in decision-

making should contribute to more sustainable and effective solutions. Additionally, the implementation of SSEA at higher levels of decision-making is notably complementary to ESIA at the project level, and greatly facilitates the process of ESIA (especially project categorization, scoping, and impact assessment) because the main potential environmental and social impacts are identified much earlier on.

2.6.1.2. ESIA

Environmental and Social Impact Assessment is the systematic examination of consequences of a proposed project, aiming to prevent, reduce or mitigate negative impacts on the environment, natural resources, and health and social elements, as well as enhance positive impacts of a project. The methodology of ESIA is well established, and the process should span the full project cycle (from identification to post-implementation). Other EM tools are used as components of the ESIA, such as public consultation and management plans. These elements of ESIA have been implemented for previous and current ENSAP projects, but are generally not part of a consistent assessment procedure. ESIA is also required in some form in each of the EN countries as an important part of the decision-making and development process. The institutional arrangements and procedural guidance proposed in Chapters II and III, respectively, are intended to harmonize the use of ESIA across the region. The general steps of the assessment process as they correspond to the project cycle are shown in Figure 5. Most of ENTRO's experience has been in the first two stages of the project cycle (identification and preparation).

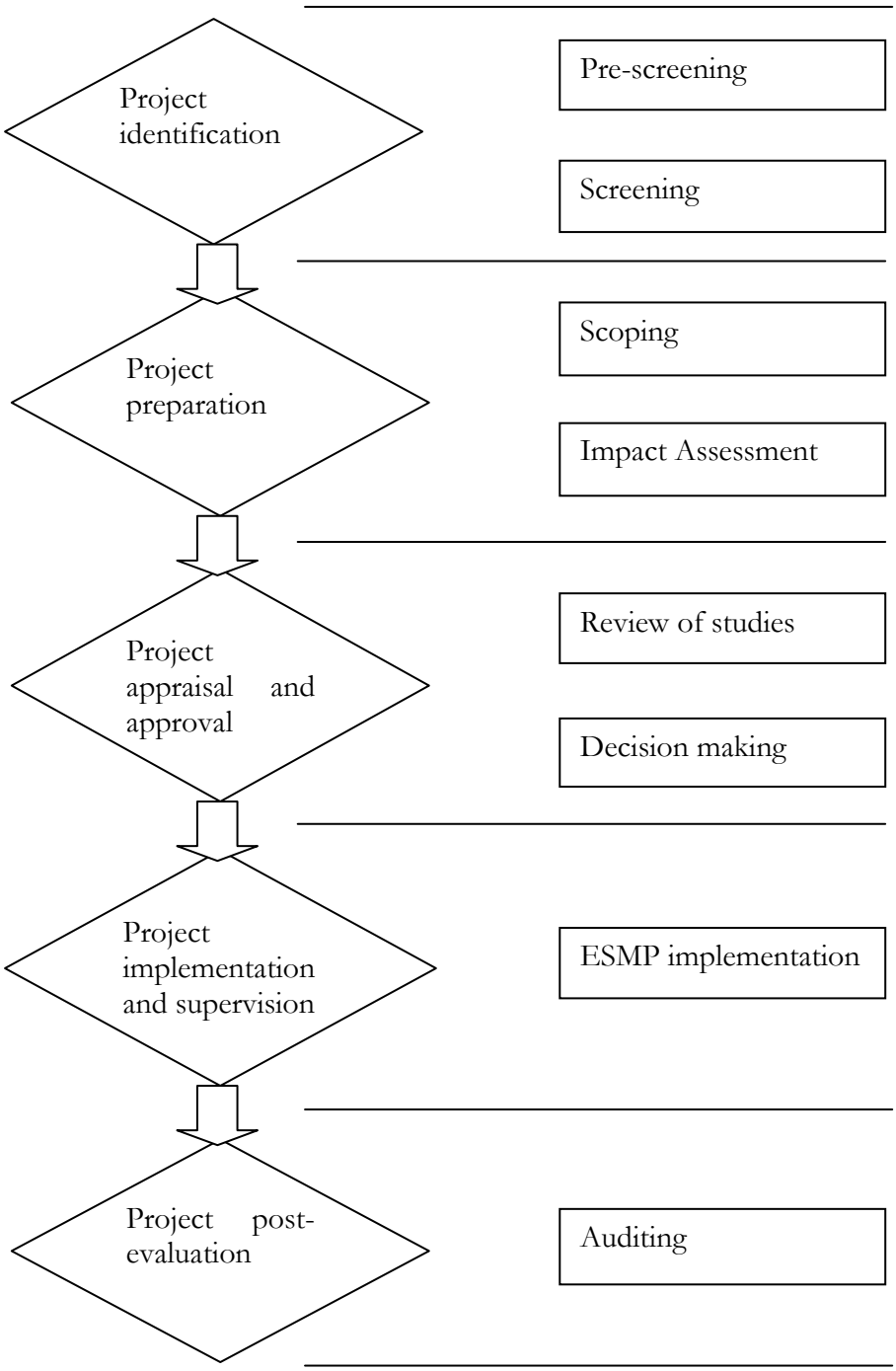


Figure 5: ESIA flowchart and relation to project cycle

2.6.1.3. Social Aspects of Assessment

Development projects are intended to modify social and natural environments in order to create or enhance the economic, health, educational and other benefits that are valued by society. This goal, however, can be denied by the occurrence of unanticipated or unintended negative impacts that reduce desired benefits or, if severe enough, threaten the sustainability of the project. Environmental assessment provides an opportunity to identify major environmental impacts so that measures can

be proposed to avoid or mitigate negative ones and to reinforce positive ones. Good practice also requires acknowledging that the social and environmental impacts are inherently linked. Environmental assessment should also identify the social changes and their connection to environmental impacts, evaluate the social costs of long-term continuation of the project, and formulate strategies to achieve the desired objectives. Information on social processes gained through environmental assessment is likely to be useful in other areas of project design. During either strategic assessment or project specific impact assessment, the social issues identified in the SAM should be considered in combination with the environmental issues, to ensure a rounded and fair approach.

2.6.2. Social Tools

2.6.2.1. Public Consultation

The general public should be allowed the opportunity to provide input during all phases of the project cycle. The methods, however, vary according to the project phase. During the preparation/planning/design of development activities (i.e. as part of the assessment process), consultation meetings should be held in which all IAPs are informed about the activities and their implications, and can voice their concerns about the relevant impacts of these activities. It is good practice to hold these meetings twice during the assessment process; once during the scoping and identification of impacts, and the second time after the full assessment of impacts has been carried out. This form of consultation can be seen as an independent method of approval for project activities, since the documentation of major complaints should withhold formal approval of a project.

The other form of inclusion occurs during the implementation of activities, at which time members of the public must be allowed to file complaints or grievances reflecting the quality of project implementation. A formal grievance mechanism is necessary to ensure that there is a proper avenue for feedback and that it is actively reincorporated into project design and implementation. This ensures that environmental predictions and standards are upheld, and that activities are stopped if they are not.

Effective public involvement will:

- improve project design and sustainability by ensuring that all relevant needs and concerns are address
- raise awareness of environmental issues among the people of the EN region, thus strengthening the overall capacity for environmental management
- helps strengthen public confidence in ENSAP projects, and ENTRO and the NBI as institutions

2.6.2.2. Resettlement Programs

Many large scale interventions are designed as part of national goals or programs aimed to benefit a society at large. It is often considered unfortunate but unavoidable that certain parties may at the same time be negatively affected by aspects of the intervention, such as acquisition of land or changes in access to assets, resources, and livelihoods. These situations require some form of

compensation, particularly when forced resettlement of residents is a necessary part of project implementation. Resettlement programs may be designed to address negative social impacts which are incurred by any peoples displaced or affected by project activities. It is essential that consideration of all of the key social concerns identified in the SAM be included in the assessment of resettlement programs. Resettlement Policy Frameworks (RPFs) and Resettlement Action Plans (RAPs) are the tools used to deal with such situations. The purpose of the RPF is to establish resettlement objectives, organizational arrangements and funding mechanisms for any resettlement operation that may be necessary. When during implementation the exact extent of land acquisition becomes known, a RAP will be prepared. It should also be emphasized that the resettlement process should be completed prior to the start of physical works.

Of the past and current projects carried out as part of ENSAP, dam construction is the most likely to require significant resettlement planning. In order to differentiate from ordinary displacement where people are negatively affected, resettlement planning should aim to provide at least some attempt to rehabilitate the moved people, and to provide reparation for the losses that they have incurred. Development undertakings, such as the construction of dams or other large infrastructure, should ideally provide affected people with an enhancement of their material circumstances, their range of options, and their control over day to day affairs, resulting in a number of specific outcomes:

- Increasing income levels, as well as diversity of income sources, both agricultural and non-agricultural
- Increasing control, and autonomy, over their productive activities
- Property rights and security of tenure in the resettlement area
- Access to services and infrastructure, which should also be reflected in better health indices.

These outcomes allow displaced peoples to instead become beneficiaries of the project, and thus be included in the development process.

2.6.3. Monitoring and Evaluation

2.6.3.1. Monitoring and Management Plans

Specialized Environmental and Social Management Plans should be developed as a key part of the assessments mentioned above, both strategic and project specific. At both levels, environmental predictions will be made, and mitigation measures suggested, and these claims need to be followed up to ensure that the assessments taking place are technically sound and reliable. This form of monitoring not only informs the particular project for which the ESMP is developed, but can increase the effectiveness of environmental management at other stages as well. ESMPs are general implemented by the project management unit or project proponent, and must be carried out in close partnership with the communities and local authorities for full compliance to national and international regulations.

2.6.3.2. Reporting

Periodic reporting on the progress of ENTRO's EM activities will help encourage feedback and positive growth in the practices. Semi-annual to annual reports would be ideal for the early phases of

EMG implementation. The reports capture experiences with implementation of the EMG procedures (reporting format to be developed later) and guide on issues relevant for improving application and performance. The reports also provide information on the general state of the environment in the EN region.

2.6.3.3. Review

While most project activities have generic environmental and social issues that are manageable through guidelines, some could carry a higher risk of environmental and social disruptions and/or impacts. These projects are subjected to reviews to identify lower cost/impact options and mitigation measures in line with the prevailing legal framework, as well as any relevant safeguard policies such as those of financial institutions. The reviews focus on the performance of monitoring and mitigation through the ESMPs, as well as general implementation of the EMG. An outcome of the reviews are approved project specific ESMPs.

2.6.3.4. Auditing

An Environmental Compliance Audit can be used to investigate whether a developed facility or program is in compliance with all the environmental regulations, where compliance is defined as the achievement and maintenance of environmental standards. Compliance audits are a key management tool. They are used to verify that ENTRO's internal compliance programs are running and to identify any gaps in compliance before major instances of violation happen. They will alert the environmental management at ENTRO to specific issues that must be addressed in order to remain in compliance. Further action plans may be developed as a result, leading to improved environmental performance.

3. Guidance on EM Tools

3.1. Guidance on Use of SSEA

3.1.1. Basic Principles

In general, to be influential and help improve policy formulation, planning and decision-making, an SSEA should adhere to the following principles:

- Establish clear goals for the PPP.
- Be integrated with existing policy and planning structures.
- Be flexible, iterative and customized to context.
- Analyze the potential effects and risks (both local and trans-boundary) of the proposed PPP, and its alternatives, against a framework of environmental and social sustainability objectives, principles, and criteria, as identified in the EMG and SAM.
- Provide explicit justification for the selection of preferred options and for the acceptance of significant trade-offs.
- Identify environmental and social opportunities and constraints.
- Address the linkages and trade-offs between environmental, social, and economic considerations.

- Involve key stakeholders from concerned/related authorities in all affected countries, and encourage public involvement.
- Be transparent throughout the process, and communicate the results.
- Be cost-effective.
- Encourage formal reviews of the SSEA process after completion, and monitor PPP outputs.
- Build future capacity for both undertaking and using SSEA.

3.1.2. Procedures and Responsibilities

SSEA is meant to take place during the planning/formation of PPPs. Since none of the EN countries currently employ a system for SSEA, there are no national processes to build off of. More specific criteria will need to be established for when a PPP might have trans-boundary impacts, and should thus be subjected to this regional assessment. The proposed system contains 5 core stages.

- Screening
- Scoping
- Analysis
- Review, Consultation, and Decision Making
- Monitoring

It has been proposed that a "Steering Group" be set up at the beginning of the scoping stage, consisting of national ministers or other relevant authorities who might be affected by or contribute to the PPP objectives. The Steering Group should be involved in all stages of the SSEA thereafter, along with other IAPs. This would ensure that policy makers across the region are informed about and actively informing new developments, contributing to regional cooperation.

The specific tasks involved in the 5 main stages are described in Table 3, along with the entities responsible for implementing them.

Table 3: Proposed SSEA tasks and responsibilities

SSEA stages and tasks	Purpose	Responsibility
Screening		
Defining content and objectives of the PPP	To gain an understanding of the intended outcomes of the PPP	Proponent
Coordination with ENTRO in identifying nature of potential impacts and benefits	To determine whether potential effects of the PPP will be local or trans-boundary	Proponent in consultation with ENTRO (Env./SDCO)
Determining the necessity of SSEA	To decide whether assessment is needed and on what level	ENCOM
Scoping		
Formulation of Steering Group	To identify and involve relevant stakeholders and allow early and continuous input from them.	Proponent/ ENTRO (Env./SDCO)
Identifying other relevant plans, programs and environmental protection objectives	To establish how the PPP is affected by outside factors, to suggest ideas for how any constraints can be addressed, and to help to identify SSEA objectives.	Proponent

Collecting baseline information	To provide an evidence base for environmental problems, prediction of effects, and monitoring; to help in the development of SSEA objectives.	Proponent
Identifying environmental problems	To help focus the SSEA and streamline the subsequent stages, including baseline information analysis, setting of the SSEA objectives, prediction of effects and monitoring.	Proponent
Developing SSEA objectives	To provide a means by which the environmental performance of the PPP and alternatives can be assessed.	Proponent
Consulting on the scope of SSEA	To ensure that the SSEA covers the likely significant environmental effects of the PPP and concerns of the public.	Proponent and IAPs
Preparation of ToR and recruiting of an independent consultant	To ensure proper content and quality of the SSEA study	Proponent
Review of ToR	To ensure proper content and quality of the SSEA study	ENTRO (Env./SDCO)
Non-objection to moving forward with the study	To ensure proper content and quality of the SSEA study	ENCOM and NEAs
Analysis		
Testing the PPP objectives against the SSEA objectives	To identify potential synergies or inconsistencies between the objectives of the PPP and the SSEA objectives and help in developing alternatives.	Proponent/Consultant
Developing strategic alternatives	To develop and refine strategic alternatives.	Proponent/Consultant
Predicting the effects of the PPP, including alternatives	To predict the significant environmental effects of the PPP and alternatives.	Proponent/Consultant
Evaluating the effects of the PPP, including alternatives	To evaluate the predicted effects of the PPP and its alternatives and assist in the refinement of the PPP.	Proponent/Consultant
Mitigating adverse effects and enhancing positive effects	To ensure that adverse effects are identified and potential mitigation measures are considered, and that benefits are shared	Proponent/Consultant
Proposing measures to monitor the environmental effects of PPP implementation	To detail the means by which the environmental performance of the PPP can be assessed.	Proponent/Consultant
Preparing the SSEA report	To present the predicted environmental effects of the PPP, including alternatives, in a form suitable for public consultation and use by decision-makers.	Proponent/Consultant
Review, Consultation, and Decision Making		
Review of draft SSEA report	To ensure proper consideration of all TB impacts and alternatives	ENTRO (Env./SDCO), NEAs, Steering Group
Consulting the public and Consultation Bodies on the draft PPP and the SSEA Report	To give the public and the Steering Group an opportunity to express their opinions on the findings of the SSEA report and to use it as a reference point in commenting on the PPP. To gather more information through the opinions and concerns of the public.	Proponent and IAPs
Assessing significant changes	To ensure that the environmental implications of any significant changes to the draft PPP at this stage are assessed and taken into account.	Proponent/Consultant
Making decisions and providing information	To provide information on how the SSEA report and consultees' opinions were taken into account in deciding the final form of the PPP to be adopted.	NEA/Approval Body
Monitoring		

Developing aims and methods for monitoring	To track the environmental effects of the PPP to show whether they are as predicted; to help identify adverse effects.	Proponent
Responding to adverse effects	To prepare for appropriate responses where adverse effects are identified.	Proponent
Auditing of monitoring activities and PPP performance	To ensure enactment of monitoring plan	ENTRO (Env./SDCO)

3.1.3. Content of the Report

The SSEA report should:

- Include an Executive Summary in non-technical language;
- Contain information on the content and the main objectives of the PPP and its link with other development policies and activities;
- Identify, analyze, and assess the environmental protection and social objectives identified in this EMG and the SAM, and those of the sustainable development strategy established at international, national, regional and local levels which are relevant to the SSEA report. Also discuss the ways in which these objectives and other environmental considerations have been taken into account during the preparation of the SSEA report;
- Includes reactions, suggestions and objections from IAPs and a description of the public consultation process;
- Present an overview of the data requirements, quality and data gaps.
- Identify the state of the environment and social conditions likely to be significantly affected;
- Identify the likely significant effects on the environment and social aspects including cumulative and indirect effects;
- Contain information on any likely trans-boundary social or environmental impacts;
- Identify, analyze, and assess the current state of the environment and social aspects, measures to prevent, reduce, mitigate or compensate any adverse effects on the environment which may result from the implementation of the strategic decisions, and the likely evolution of this state should the provisions of the SSEA report not be implemented;
- Discuss the residual effects remaining after mitigation;
- Present relevant alternatives, including the status-quo option, to those contained in the proposed strategic decision, along with a justification for their choice;
- Contain information on the methods envisaged for monitoring the implementation of the SIA report drafted; and
- Contain recommendations for institutional strengthening.

3.2. Guidance of Use of ESIA

3.2.1. Basic Principles

- To ensure that ESIA's consider not only physical and biological impacts but also address social, socio-economic, political and cultural conditions in a trans-boundary sense;
- To ensure that ENTRO development programs and projects recognize environmental impacts early and incorporate their containment into the development design process;

- To recognize that public consultation is an integral part of ESIA and ensure that ESIA procedures make provision for both an independent review and public comment before consideration by decision-makers;
- To ensure that the ESIA report always includes mitigation plans for environmental management problems and contingency plans in case of accidents;
- To ensure that, at specified intervals during project implementation, environmental audits regarding monitoring, inspection and record keeping take place for activities where these have been stipulated by the findings of the study;
- To ensure that ESIAs are inclusive of the relevant sectoral ministries or departments in affected countries
- To comply with and promote regional integration of national laws which require appropriate environmental impact assessments and environmental audits for private and state development projects;
- To establish the necessary institutional framework and determine the linkages of its parts for undertaking, coordinating and approving ESIAs at a regional level, and the subsequent system of environmental monitoring required to ensure compliance with conditionalities;
- To develop ESIA and environmental audit capacity and capability in ENTRO, at the national sectoral ministries and agencies, and in the region in general.

3.2.2. Procedures and Responsibilities

ESIA would be used for the assessment of project level impacts on a regional scale. The basic steps of the assessment process are set forth in Table 4. The steps occur within certain phases of the project cycle, and consist of various tasks to which responsible organizations/entities have been assigned.

Related impacts for various activities that fall under ENSAP

Table 4: Proposed ESIA tasks and responsibilities

Project phase	EA steps	Tasks	Responsibility
Project identification	Pre-screening and screening	Prepare and submit project brief	Proponent
		Review project brief and recommend categorizations	ENTRO (Env./SDCO)
		Determine if project has TB impacts or benefits and requires Regional EA process	NEA/NFP
Project preparation	Scoping	Inform countries of impact of potential effects and their role in the ESIA process	ENTRO
		Consultation with IAPs	Proponent
		Preparation of ToR and recruiting of independent consultant	Proponent
		Approval of scoping to ensure proper inclusion of regional concerns, submit ToR to NEA	NSA/ENCOM
	Impact Assessment	Develop a comprehensive ESIA report following the identified scope of work and compliant with safeguards	Proponent/Consultant
		Carry out public disclosure in order to include input from IAPs into ESIA reports.	Proponent/Consultant
		Review of the ESIA reports and conduct site visits as necessary, suggesting modifications	ENTRO (Env./SDCO)

		Submit the reviewed report to the NEA of each country for approval or review of the report.	Proponent
Project appraisal and approval	Appraisal	Review by national authorities, confirmation of project categorizations	NSA/NEA
		Review by regional authorities and recommendation for decision	ENCOM
	Decision Making	Approval of ESIA	NEA
		Review of the process and decision	ENTRO (Env./SDCO)
Project implementation and supervision	Implementation of EMP	Prepare ToR and report on implementation of EMP	Proponent
		Oversee implementation of EMP	ENTRO (Env./SDCO)
		Enforcement/control of implementation, review of reports	NEA
Project post evaluation	Auditing	Preparation of environmental and social audit	Consultant
		Review of audits	ENTRO (Env./SDCO)

3.2.3. Content of the Report

The following sections are deemed appropriate to address the various requirements for ESIA:

- Non-technical Executive Summary
- Policy, legal, and administrative framework
- Description of the project
- Description of the environment
- Identification and analysis of impacts
- Analysis of alternatives
- Public consultation
- Environmental management plan
- List of references
- Annexes (including but not limited to…)
    - List of consultants participating in the study and their role
    - List of attendees in public consultation meetings
    - Agenda of public consultation meetings

3.3. Guidance on Use of Social Tools

3.3.1. Public Consultation

All management activities should be based on a strong participatory approach. Participation shall be undertaken following the NBI public participation and consultation model developed by the NBI Confidence building and stakeholder involvement project. This model is based on best practices in stakeholder participation and consultations through informing, consulting, engaging, collaborating and empowering stakeholders. The PCUs together with the implementing agencies shall be responsible for consulting relevant stakeholders (including the affected communities and NGOs).

The Nile Basin Discourse is a network of over 300 civil society organizations from the 10 countries of the Nile Basin that seeks to achieve positive influence over the development projects and programs of the NBI. This network is an extremely valuable resource for the dissemination of information and inclusion of various parts of society in the development cycle. It should be utilized for the purposes of consultation, and also as a forum for complaints and grievances.

Table 5: NBI Participation Model for Public Participation and Consultation

INFORM		
Goal	***Commitment***	***Tactics/Techniques***
Promote stakeholder understanding of issues, problems alternatives, opportunities and solutions through balanced and objective information	"We will keep you informed."	• Fact Sheets • Websites • Open Houses • Briefings
CONSULT		
Goal	***Commitment***	***Tactics/Techniques***
Obtain feedback on analysis, alternatives, and decisions.	"As we keep you informed, we will listen and acknowledge your concerns and aspirations"	• Public comment • Focus groups • Surveys • Public meetings
ENGAGE		
Goal	***Commitment***	***Tactics/Techniques***
Work directly with stakeholders to ensure that their concerns and aspirations are understood and considered.	"We will work with you to ensure that your concerns/aspirations are directly reflected in the developed alternatives and Will provide feedback on how your input influenced the decision."	• Workshops • Deliberate polling
COLLABORATE		
Goal	***Commitment***	***Tactics/Techniques***
Stakeholders become partners in each aspect of the decision, including development of alternatives and identification of preferred solution.	"We will look to you for direct advice and innovation in devising solutions and incorporate your advice and recommendations to the maximum extent."	• Citizen Advisory Committees • Consensus-building • Participatory decision making
EMPOWER		
Goal	***Commitment***	***Tactics/Techniques***
Final decision-making in the hands of stakeholders.	"We will implement what you decide."	• Citizen juries • Ballots • Delegated decisions

3.3.2. Resettlement Programs

Successful resettlement programs involve a high level of participation by affected parties. Proven methods include the use of local committees to participate in designing the program and to negotiate favorable resettlement conditions. Committees can also take part in supervising their own resettlement, including constructing the resettlement houses, and selecting village sites and household plots within the village. In any case, the representative wishes of those displaced must be taken into account where possible.

Since the purpose of resettlement programs is to address social concerns, close consultation of the SAM should be an integral part of the design of any RPF or RAP. Practitioners must be aware of the prevailing issues in the EN region in order to properly consider the resettlement situation and make acceptable and sustainable decisions. Discussion of resettlement options should necessarily include all of the key regional topics identified in the SAM. Other steps to ensure proper design and execution of resettlement programs include:

- All efforts must be made to minimize the amount of resettlement in the first place
- All alternatives to resettlement must be seriously considered and agreed upon by all the interested parties.
- An integral component of this process is (or should be) the participation of all affected parties. PAPS must be involved in the entire decision-making process relating to the development project.
- Compensation must be fairly negotiated and be paid in full and upfront
- A free and transparent flow of information should be considered to all interested parties throughout the project cycle.
- Compensation packages should be designed in such a way as to create sustainable and feasible options and new sources of income for people, and should therefore be negotiated.
- Monitoring of the entire project cycle, and particularly of its resettlement-related aspects, is essential. PAPs should be engaged in the monitoring process and mechanisms should be designed to ensure that.

3.4. Additional Guidance

3.4.1. Sector Specific Assessment

The above assessment processes are generic and may be applied to any development activity. However, ENSAP deals mainly with projects in the water resources sector. Project specific impacts for development activities similar to those currently undertaken at ENTRO are shown in Appendix C, along with proposed mitigation measures to reduce impact severity. These lists may be used as a guideline for conducting assessments of similar ENSAP activities. Detailed sector specific guidelines should be developed, first for WRD activities, and later for other sectors as the need arises.

3.4.2. ESMP

Creating a plan for monitoring and management of project related impacts is a necessary part of the assessment processes discussed above. The ESMP shall provide the basic direction, principles or requirements for the prevention/mitigation/control of impacts. Whenever deemed necessary, it may

specify the extent to which the project or activity is considered reasonable or feasible to undertake, viewed from the technical, economic and social aspects before more investment, energy and time are spent. ESMP's should include information on the following:

- A summary of activities carried out on site and associated significant impacts
- Description of mitigation and management measures (structural and procedural controls), with reference to related impacts, and associated costs
- Description of a monitoring program to check implementation of mitigation measures, including indicators, locations, frequencies, and limits for monitoring, and associated costs
- Institutional arrangements including roles and responsibilities for mitigation and monitoring, coordination between parties, and staff training and awareness
- Emergency preparedness and response
- Inspections and maintenance
- Improvement and review.

APPENDICES

Appendix A: Legal and Institutional Analysis

This chapter sets forth the Approval/Compliance Mechanisms for the EM tools proposed in the EMG. First, a brief description of the primary institutions that are likely to play a role in matters relevant to ENSAP, and their mandates, is provided. Then, the function of each of these institutions as it relates to environmental assessment is described, and some opportunities for cooperation and improvement are highlighted. Finally, the proposed mechanisms for linking the national and regional legal and institutional frameworks are set forth.

A.1. Legal and Institutional Context

The laws and institutions governing environmental management and water resource development activities in the region are numerous. A mapping of the actors involved and the various national and international legal requirements to be met will enable users of this document, and environmental practitioners in the region in general, to more competently implement the EM activities prescribed. Furthermore, it will ensure that projects implemented at ENTRO will efficiently and effectively meet their desired environmental standards.

A.1.1. General Setup

There are two main levels of Environmental Management laws and institutions:

- National, including the environmental and social principles enshrined in the respective constitutions of the EN countries, umbrella environmental laws and specific environmental regulations and institutions bearing the responsibility for enforcement thereof, and the national Impact Assessment systems which are the primary tool for applying and monitoring environmental standards.
- International, including Multilateral Environmental Agreements (MEAs) signed by each country, and the environmental standards and assessment guidelines of financial institutions which must be met according to the funding sources of a particular project

The existing legal principles of Environmental Management are primarily national in scope, and EM activities are carried out on the national or sub-national level. The constitution of each EN country provides the fundamental rights and principles upon which the state is established. At the moment, Ethiopia has the only permanent constitution, adopted in August 1995. The Republic of Sudan adopted an interim constitution in 2005, which is still in use. A similar version was used by the autonomous government of South Sudan, until it was superseded by a different interim constitution after independence in July 2011. Egypt's 1971 constitution was suspended in February 2011, and a provisional constitution was adopted in March 2011, to be replaced by a new constitution after national elections later the same year.

Despite the transitional state of affairs in Egypt and Sudan, all three EN countries have provisions for three important principles in their national legislation:

- The principle of environmental protection and the right to a good environment

- The principle of equality among citizens and the promise to increase living standards and promote fair distribution
- The principle of regional cooperation for the fulfilment of national objectives

The legal foundations of these principles are highlighted below, along with the general environmental requirements concerning national assessment systems. The details of these national systems, as well as international agreements and institutions involved in EM activities, are discussed in Section A.3. Lists of the environmental laws and regulations in each EN country are provided in Appendix C.

A.1.2. National Frameworks for EM

A.1.2.1. Egypt

The previous Constitution of Egypt was adopted in 1971 and amended most recently in 2007. Part of the economic foundation of the state is the provision of a development plan for the national economy which ensures fair distribution, higher living standards, increased job opportunities, and the reduction of disparities between incomes (Article 23). Article 40 declares citizens equal before the law in their rights and general duties without discrimination, and Article 59 specifically guarantees the regulation of the right to a good environment and the measures necessary to safeguard it. Safeguarding the environment is designated as a national duty.

Law 4/1994 for the protection of the environment, and its amendment Law 9/2009, set forth the specific framework for environmental management in Egypt. Article 5 designates the Egyptian Environmental Affairs Agency (EEAA) as the agency responsible for the protection and promotion of the environment, as well as for:

- setting the criteria and conditions which owners of projects and establishments must observe before the start of construction and during the operation of projects
- strengthening environmental relations between the ARE and other countries and regional and international organizations

Environmental and Social Impact Assessment (ESIA) is required for proposed projects whose construction or activities might affect the safety of the environment, in order to protect it. Guidelines have been issued and reviewed, most recently in 2009, for the principles and procedures of ESIA. The EEAA is responsible for review and approval of assessment reports. A full list of environmental laws and regulations in Egypt is shown in Appendix C. Various other institutions with environmental responsibilities are listed in Appendix E. Similar information may be acquired for Ethiopia and Sudan.

A.1.2.2. Ethiopia

The Constitution of Ethiopia requires current and future legislation and the conduct of government to conform to a Bill of Rights. The concept of sustainable development and environmental rights are entrenched in the Rights of Peoples. Article 43, the Right to Development, guarantees the right to improved living standards and sustainable development, and the right for each citizen to be consulted and participate in national development. Also, international agreements and relations shall

ensure Ethiopia's right to sustainable development under this article. Article 44, Environmental Rights, states that all persons have the right to live in a clean and healthy environment, and ensures that they should be compensated in case of displacement or loss of livelihood. Article 86 concerns External Relations, and promotes ever growing economic union and fraternal relations with neighbors and other African countries, while ensuring that policies are based on mutual interests and equality of states. Article 89 defines the Economic Objectives of the state, and ensures that all Ethiopians get equal opportunity to improve their economic condition and to promote equitable distribution of wealth among them.

The Environmental Protection Authority (EPA) was established in response to the requirements of the Constitution (Proclamation No 9/1995). The objective of the EPA is to *"ensure that all matters pertaining to the country's social and economic development activities are carried out in a manner that will protect the welfare of human beings as well as sustainably protect, develop and utilise the resource bases on which they depend for survival"* (Federal Negarit Gazeta of the Federal Democratic Republic of Ethiopia - Proclamation No 9/1995). In addition to the EPA, the Investment Authority has responsibilities towards the environment. These are captured in the Federal Negarit Gazeta - Proclamation No 37/1996, which states that *"the intended investment activity would not be convening the operational laws of the country and that, in particular, it complies with conditions stipulated in environmental protection laws"*.

The Environmental Policy of Ethiopia was formulated in 1997, followed by ESIA guidelines issued by the EPA in 2000. Separate proclamations in 2002 made ESIA a legal requirement for major development projects, and authorized the EPA to review and approve these assessments.

A.1.2.3. Sudan

The Republic of Sudan also functions on an interim constitution established in 2005. The principle of equality is a fundamental basis of the constitution and the state, with Article 7 declaring all citizens equal in rights and duties. Article 10 defines the objectives of the national economy, which aims to eradicate poverty while guaranteeing the equitable distribution of wealth, redressing imbalances of income, and achieving a decent standard of life for all citizens. This article also declares that the state shall enhance regional economic integration. Article 11 discusses the environment and natural resources, guaranteeing the right to a clean and diverse environment, and designating the duty to preserve and promote the environmental to both the state and the citizens. It also requires the sustainable utilization of natural resources and the use of best practices with respect to their management. Article 12 says that the state shall promote social justice by ensuring means of livelihood for citizens.

Sudan's ESIA system was formally established with the Environmental Protection Act of 2001, requiring proponents of projects with potential negative impacts on the environment or natural resources to present an Environmental Feasibility Study, to be evaluated and followed-up by the Higher Council for Environment and Natural Resources (HCENR), the technical arm of the Ministry of Environment and Physical Development (MoEPD).

A.1.3. International Agreements and Standards

Within the Eastern Nile Basin exists a long and thriving tradition of bilateral and regional trans-boundary agreements and efforts that can set the precedent for future use of the EMG. There is a long history of trans-boundary cooperation ranging from shared natural resources to economic

development and energy trade. The baseline foundation of multi-sector and multi-lateral cooperation provides the linkages for building and strengthening the institutional structures for a potential regional assessment system. A discussion of the existing regional institutions is provided in Section A.2.

The broader existing international agreements (MEAs) for environmental management, trans-boundary cooperation, and sustainable development provide a wider international context for cooperation between the EN countries. There are a number of processes by which a state can become party to an MEA, including ratification, accession, acceptance, and approval. MEAs often require the implementation of additional laws and regulations at a national level to ensure that the country is in compliance. These agreements can be used as a basis for consideration of trans-boundary issues. These MEAs must be taken into consideration during the assessment of development interventions, whether national or regional, and must be complied with. The ultimate responsibility for complying with terms generally rests with the parties. Implementation at the national level is at the core of an MEA's effectiveness, and each party to an MEA is responsible for complying with the obligations it imposes and for taking the necessary measures to bring about that compliance. A table of the agreements that each country is party to is shown in Appendix F.

Finally, while the innate principles of environmental protection and sustainable development at ENTRO and the EN countries already make proper environmental management an imperative, the international safeguard policies for funding organizations are intended to provide a summary of the requirements of the donor community. A substantial amount of the funding for existing ENSAP projects comes from the World Bank (WB) and the African Development Bank (AfDB). Moreover, the adoption of the Equator Principles (EP) for assessing and managing social and environmental risk in project financing is a growing trend among private financial institutions. Each of these organizations has their own standards for environmental assessment, but the requirements are quite similar, and can be met with a consistent assessment process. General procedures/requirements of these financial institutions are shown in Appendix G.

A.2. Institutions and Mandates

ENTRO's mandate primarily relates to issues of water resource and their management. It is guided by the combined water ministers of the three EN countries. However, ENTRO is also trying to increase its role in environmental matters, through proper environmental management of its activities. The existing national institutions for environment and water resources are described below. Additionally, since ENTRO is attempting to build regional cooperation, existing bilateral and regional agreements and institutions are discussed briefly.

A.2.1. National Institutions for Environment

A.2.1.1. Egypt

At the national level, the recently established Minister of State for Environmental Affairs (MSEA) has the portfolio for environment in the Egyptian Cabinet of Ministers. The EEAA has the responsibility for setting national policy for the environment and coordinating environmental management activities within the government. Law 4/1994 gives the EEAA the authority to regulate air pollution, management of hazardous wastes, and discharges to the marine environment. Furthermore, the law gives the EEAA an array of tools for implementing and enforcing these

provisions, including traditional regulatory controls (e.g.. emission standards for air pollutants), economic instruments, compliance monitoring, inspection, and enforcement (e.g., penalties, closures, and imprisonment).

A.2.1.2. Ethiopia

The EPA is the responsible body for environmental issues at the federal level, entrusted with the powers to develop policies, laws, directives and standards. The objective of EPA is to formulate policies, strategies, laws and standards, which foster social and economic development in a manner that enhances the welfare of the people and the sustainability of the environment, and to spearhead the process of their implementation.

The powers and duties given to EPA includes, but not limited, to coordinate measures to ensure that the environmental objectives, establish a system for environmental impact assessment of public and private projects, establish an environmental information system that promotes efficiency in environmental data collection, management, and use and others.

Recently a new institutional arrangement has been established by the EPA where the main tasks of EPA have been given to the selected sector ministries. The power of the Environmental Protection Authority has accordingly been devolved to the Ministry of Water and Energy, Ministry of Mines and Energy, Ministry of Agriculture and rural Development, Ministry of Works and Urban Development, Ministry of Health, Ministry of Trade and Industry, and Ministry of Tourism and Culture.

Based on this new arrangement, the sectors ministries are required to establish Environmental Protection Units in their organizational structure responsible for environmental matters in their respective sectors. Accordingly the ministries were delegated to assess and evaluate the ESIA and RAP undertaken by the proponents of projects of different sectors. In addition, the sectoral environmental units will produce annual reports and submit the same to EPA for final decision and monitoring of performances of the units.

This institutional arrangement however is provisional and adjustments will be made following a review of results accomplishment during this period. Although this structure has already been implemented, it still requires a legal framework to affect it. The legal framework will be issued in the form of proclamation by the national government.

A.2.1.3. Sudan

The Higher Council for Environment and Natural Resources was founded in 1992, as part of the Sudan's follow-up to the Rio Conference, with the task of coordinating national plans and policies on the environment. Headed by a federal minister, the Ministry of Environment and Physical Development is the main government organization responsible for the protection of environment and resource conservation. The Ministry works with the HCENR. The HCENR is a high-level committee comprising the Minister of Environment and Physical Development as the Chairperson; the Khartoum State Governor; federal ministers; environmentalists and community representatives. The functions of the Council include policy formulation and approval of standards.

The HCENR discharges its functions through a General Secretariat with the following mandates, among others:

- Draft general policies for natural resource inventories and development to ensure the appropriate management of the resources and their conservation and sustainable use;
- Make long-term plans for rational and the balanced use of natural resources and environment conservation, and follow-up the execution of the plan with the appropriate authorities;
- Formulate a federal plan for environmental awareness and rational use of the natural resources, and try to incorporate environmental education in school curricula.

A.2.2. National Institutions for Water Resources

A.2.2.1. Egypt

The primary institution for Nile Basin issues in Egypt is the Ministry of Water Resources and Irrigation (MoWRI). Within this Ministry exists the Nile Water Sector that houses the Central Department for Nile Control, and the Central Department of Egyptian Irrigation in Sudan. The Nile Water Sector is the institutional location of the Nile Basin Initiative National Focal Point (NFP).

For capacity building nationally and throughout the region the Regional Center for Training and Water Studies that contributes to different programs of capacity building in the field of integrated water resources management, water engineering, environment and water-related sciences that meets the needs of professionals, engineers and technicians, in Egypt, as well as the Arid and Semi-arid zones and African countries.

The MoWRI coordinates with other relevant Ministry sectors for the development of long term planning. These include the Ministry of Agriculture and Land Reclamation, Ministry of Electricity and Energy, Ministry of Environmental Affairs and Ministry of Health, Ministry for Economic Development, and Ministry of Finance, among others. The coordination spans long term planning for water dependent development based on the Egyptians very high level of dependence on the Nile.

For trans-boundary management issues the Ministry of Foreign Affairs often plays a critical role through the Office for Nile Basin Country Affairs. This office provides critical support with regards to trans-boundary agreements and creation of formal bilateral, trans-boundary institutions.

The high sensitivity and dependence on Nile water in Egypt leads to the Office of the Prime Minister, Cabinet of Ministers, Office of the President and the Ministry of Defense and Military Production to actively monitor developments pertaining to the Nile River.

A.2.2.2. Ethiopia

The primary institution in Ethiopia pertaining to the Nile River (referred to as the Abbay River in Ethiopia) is the Ministry of Water and Energy (MoWE). The Basin Development and Implementation Supervision Department of the MoWE oversees the development schemes for the Abbay sub-basin. The Boundary and Trans-boundary River Affairs Department within the MoWE

provides diplomatic government representation for agreements between countries within the basin. The MoWE has the mandate to undertake studies pertaining to the utilization of the waters of trans-boundary rivers and upon approval, follow up the implementation of same; and to sign international agreements relating to trans-boundary rivers in accordance with the law.

A.2.2.3. Sudan

In Sudan the primary institution is the Ministry of Irrigation and Water Resources (MoIWR). Within the Ministry exists an office of Nile Basin Affairs, though the Nile activities are spread throughout the Ministry, much as it is in the other countries. The representation for Sudan to NBI and ENTRO stems from the MoIWR.

The Nile Water Department within the Ministry of Irrigation and Water Resources has the following objectives: co-operation with Nile Basin countries and regional, national organization in order to develop water resources and efficient utilization without prejudice to another basin countries and helping in developing schemes of increasing surface water resources. This office is responsible for co-operation with regional, national organization in order to develop and renew of monitoring methods and increasing of yield and decreasing of losses, and setting up of budget proposal and expend from approval budget according to financial principles.

Within the MoIWR, the Office of the General Directorate of Planning has the mission to contribute to the strategic planning in international, regional, and bilateral cooperation projects in the field of water resource uses and its development. This includes support for environmental standards for new projects to ensure international standards are adhered to. This body also coordinates with federal ministries departments, conducts economic and technical feasibility studies, and coordinates with state departments.

A.2.3. Bilateral Institutions

The current baseline of bilateral and trans-boundary institutions in the Eastern Nile pertain to a wide array of topics. Bilateral agreements related to co-management of the Nile exist historically, and continue to develop. The presence of bilateral agreements, memoranda of understanding and joint cooperation activities reflects an increasing interdependence and economic integration across the region emphasizing cooperation between countries. These bilateral agreements are enhanced by tripartite and regional agreements focusing on increasing trade mechanisms, investments, infrastructure development, and social linkages between the countries. Past bilateral agreements reflect the tone and cooperative institutional traditions emerging in the region, as they pertain to co-management of the Eastern Nile, and realization of the economic importance of establishing ties between countries. A list of these institutions is shown in Appendix H.

A.2.4. Regional Institutions

The key regional institutions in the Eastern Nile that could play a role in trans-boundary environmental analysis include the NBI and its Eastern Nile subsidiary organizations, including ENCOM and ENTRO. Also included in existing regional institutions is the Shared Vision Program. Broader regional institutions related specifically to ENSAP projects include the East African Power Pool, and the Common Market for East and South Africa. Egypt, Ethiopia, and Sudan are all members of these organizations, and actively participate on a regular basis.

A.2.5. Previous River Basin Organizations

The experiences and practices in environmental management of previously formed River Basin Organizations (RBOs) are valuable to consider in the development of the EMG. The most significant lesson to be learned from these similar attempts is the importance of the following aspects in the design and function of an RBO:

- recognition of the importance of environmental management by all stakeholders involved
- political commitment of member countries that is sustained over a long period
- ability to mobilize external assistance,
- strong and stable internal organizational set up
- political stability of member countries

Many previous RBOs have recognized the importance of ecological concerns and the need incorporate an environmental flow regime to maintain the river's productivity, and member states are usually enthusiastic at the initial stages of establishing these organizations, but political and social instability, as well as economic stagnation, negatively affected the ability and will to participate meaningfully in the RBO's activities.

A.2.6. EM at ENTRO

The legal status of ENTRO is conferred upon it by the Eastern Nile Council of Ministers (ENCOM) and a Headquarters Agreement with the Government of the Federal Republic of Ethiopia. ENTRO has legal power to receive and administer grants funding its activities, to sue and be sued, to acquire or dispose movable and immovable properties and to enter into legally binding agreements. ENTRO is governed be the law of Ethiopia. It is hoped that by 2015, ENTRO will have transformed to an all inclusive Eastern Nile Sub-Basin Organization with a ratified legal framework

ENTRO, as a regional organization, has a distinct role and profile in working for the sustainable integrated development of the Eastern Nile under the umbrella of the NBI. It serves ENCOM and ENSAPT in their pursuit to ensure cooperation and joint action in the Eastern Nile by:

- providing technical expertise and adopting best practices for the coordinated identification, preparation and possible implementation of regional development programs and projects in the Eastern Nile
- enhancing capacities of ENSAP institutions
- building and strengthening networks among the stakeholders
- enabling people from the Eastern Nile to work together

ENSAP consists of grant based activities to foster trust and cooperation and build an enabling environment for investment in the EN. Currently, ENTRO is primarily involved in the project identification and preparation stages of the project cycle. This involves various forms of assessment and feasibility studies. Some work has been done at the strategic level, representing a higher degree of planning occurring before the identification of specific projects and the commencement of a typical project cycle. Also, some limited monitoring activities have been carried out during project

implementation. A brief summary of the current EM activities ENTRO is provided in Section A.2. It is hoped that a formalized EM process at ENTRO will increase the organizations role at the strategic and monitoring levels of the project cycle, specifically for activities related to water resource development. To this end, specific EM activities covering all project stages must be applied at ENTRO. A full list of the current ENSAP projects is shown in Appendix H.

ENSAP is engaged in the first set of identified investments referred to as the Integrated Development of Eastern Nile (IDEN) projects. IDEN consists of the fast track and multipurpose projects. IDEN "fast track" projects are planned to confer early mutual benefits and thus demonstrate tangible results of cooperation on the ground. The "multi-purpose track" includes jointly developed projects that serve multiple purposes in each of the three countries and are intended to cement regional cooperation in the basin. Currently, ENTRO's role is limited to project preparation, but it would like to expand its role in environmental and social management aspects of post-project preparation. Forms of environmental management previously used for various activities are shown in Table 6.

Table 6: Previous EM activities and associated project phases

Project Cycle Phase	Environmental Management Tools Used
Program and Strategy development	**JMP** SSEA, **BAS** SSEA, **ENPTPS** SSEA
Project identification Pre-feasibility, Feasibility Detailed design	**WS** CRA, **ENPTPS** CRA, **ENIDS** CRA, **JMP1** ID (phase 2) **ENPTPS** IEE, ESIA, RCP, EMP **National fast track WS** ESMF
Construction Operation/Implementation	**ES Interconnection** EMP, RCP **ES Interconnection** Monitoring

Any legitimate and effective regional institution must build on the principles and practices of its constituent entities. The environmental and social values that the NBI and ENTRO promote – through the vision to achieve sustainable socio-economic development through the equitable utilization of and benefit from the common Nile Basin water resources – are already largely incorporated into the respective laws, policies, and objectives of the EN countries and their institutions. In this respect, a well functioning regional system for environmental assessment would contribute to the fulfilment of the relevant environmental and social rights and principles promoted by the EN nations. Such a system is in fact a natural extension of the current national environmental activities, given the increasing importance of trans-boundary and strategic issues. Nile water resources can then be used as an entry points for broader and deeper trans-boundary, regional cooperation to achieve the NBI shared vision:

Water Resource Management (WRM) is directly linked to stability, integration, and economic growth. ENTRO, through the proper management of its own activities on a regional scale, hopes to encourage the development of regional WRM practices.

A.3. Functional Analysis

Environmental assessment is the combined function of these institutions that is most relevant to the measures proposed in the EMG. The national ESIA systems are described and compared below, and some measures for addressing gaps are provided. The current environmental practices at ENTRO are also discussed.

A.3.1. ESIA Systems

Each EN country has its own system of environmental assessment laws and institutions, which have been implemented with varying degrees of efficacy. These systems require the assessment of project activities in the form of an ESIA, although the name used varies between countries. The main distinguishing aspects of these EA systems, and those considered most relevant to the creation of a regional assessment system, are considered to be:

- Laws and guidelines
- Institutional arrangements, roles and responsibilities
- Assessment procedures
- Required content of assessment reports

By looking at these aspects, it will be possible to better understand where ENTRO might fit into these national systems, and how they might be built upon in the future.

A.3.1.1. Egypt

Egypt's ESIA system was established with Law 4/1994 and its executive regulations. ESIA is one of the strategic tools upon which the MSEA and the EEAA are based.

There are three main parties which are identified in the Egyptian system as playing central roles in the EA process. These are:

- The EEAA is responsible for setting the criteria for undertaking ESIA studies and issuing general and sector specific guidelines. It also has the final say in approval of ESIA studies. Studies are reviewed by a qualified team of researchers in the Central Department for ESIA, but when necessary, technical expertise is also sought from Egyptian universities and research centers.
- A Competent Administrative Authority (CAA), which is any body that issues licenses for project construction and operation (such as the MoWRI), acts as the main interface between the project proponent and the EEAA.
- The Project Proponent, responsible for carrying out the ESIA study

In cooperation with the WB and with the support of the Environmental Sector Program, the MSEA has reviewed the ESIA system and undertaken the needed modifications in order to be compatible with the systems adopted in numerous developed countries, and the WB system adopted in projects financing. The guidelines have been made available to all CAAs, Ministries, and other concerned entities (investors and consulting firms), and was applied starting 1/7/2009.

Projects requiring a full ESIA study should include in the report information according to the following table of contents, at a minimum:

- Executive summary
- Policy, legal, and administrative framework
- Description of the project

- Description of the environment
- Identification and analysis of impacts
- Analysis of alternatives
- Public consultation
- Environmental management plan
- List of references
- Annexes (including but not limited to…)
    - List of consultants participating in the study and their role
    - List of attendees in public consultation meetings
    - Agenda of public consultation meetings

A.3.1.2. Ethiopia

The Environmental Policy of Ethiopia was formulated in 1997. The EPA, established in 1995, issued ESIA guidelines in 2000. Separate proclamations in 2002 made ESIA a legal requirement for major development projects, and authorized the EPA to review and approve these assessments. The guidelines identify four main parties involved in the EA process:

- Competent Environmental Agency - EPA or regional offices, responsible for coordination with the project proponent, and review and approval of assessments
- Project Proponent - government organ or private investor
- Consulting Firm - independent and qualified to conduct the assessment
- Interested and Affected Parties - any individual or group concerned with project activities and consequences

Additionally, licensing agencies play a role, mainly as government organs empowered by law to issue investment permits, trade or operating licenses, or work permits (for example the MoWE). Such permits should only be issued once a project ESIA has been officially approved.

The guidelines set forth a detailed description of the EA process, which must consist of the following stages:

- Pre-screening – consultation between proponent and relevant agencies to determine how best to proceed
- Screening – determine if a proposal requires EA and to what extent, produce screening report or Initial Environmental Examination (IEE)
- Scoping – consultation with IAPs to identify important issues, create terms of reference for a full scale study
- Impact assessment – preparation of the Environmental Impact Study (EIS) report
- Reviewing of the report by the Environmental Agency
- Decision making – approval, rejection, or additional information requested, issuance of an Environmental Clearance Certificate (ECC)
- Auditing – systematic follow-up to ensure accuracy of predictions in the EIS, monitor and audit the performance of the project during and after implementation

The information required for an EIS is the following:

- Executive summary
- List of consultants and qualifications
- Description of the development project
- Outline of the main development alternatives
- Description of the main environmental, socio-economic, and health conditions
- Prediction and assessment of impacts at all stages of the project cycle and for each alternative
- Description of residual impacts that cannot be mitigated
- Description of proposed monitoring schemes
- Discussion of potential uses of the environment which will be prevented or rendered less productive due to adverse impacts
- Description of national and/or international legal guidelines and standards used
- Statement on the extent of involvement
- Identification of information gaps and uncertainties
- Budgetary implications and financial measures to be taken to ensure that mitigation measures can be adequately carried out

A.3.1.3. Sudan

Sudan's ESIA system was formally established with the Environmental Protection Act of 2001, requiring proponents of projects with potential negative impacts on the environment or natural resources to present an Environmental Feasibility Study, to be carried out by an independent consultant, and evaluated and followed-up by the HCENR, the technical arm of the MoEPD.

No specific procedures have been established for the EA process, nor are there strict requirements as to at what stage in the project cycle the assessment should take place. Oftentimes the assessment is not begun until substantial steps have been taken towards the implementation of a project.

According to the Act, the minimum standards for the information that must be included in the Environmental Feasibility Study include:

- Description of the existing environmental conditions as a baseline
- Description of the project
- Assessment of potential environmental impacts, both positive and negative throughout the project phases
- Provision of recommendations to mitigate the negative environmental effects

Sudan is in the process of drafting a National Environmental Strategy. The State Government of Khartoum has developed an Environmental Protection law and guidelines. Furthermore, there are various sectoral environmental policies, plans, and procedures, the strongest of which are for the Petroleum sector.

A.3.2. Comparisons and Gaps

The respective national EA systems are compared to each other in terms of the four key aspects identified in Section A.3.1. The standards and effectiveness are judged in terms of international best practices, and how they might better accomplish the stated goals of environmental management in a manner consistent with the vision of the NBI.

A.3.2.1. Laws and Guidelines

Each country has a central law that acts as an umbrella for environmental affairs, establishes a system of Environmental Management, and designates an institution to be responsible for overseeing relevant matters. This is a major and essential first step to producing a comprehensive EA system. However, substantial follow through is necessary after the establishment of such a law, and there are obvious gaps in the degree and way in which this has been carried out in each country.

A lack of follow through is most evident in Sudan, where general ESIA guidelines and procedures are yet to be issued. This has a serious affect on the quality and consistency of the reports produced. On the other hand, the Egyptian and Ethiopian guidelines are well established and comparable in their content, and are reviewed periodically. There is the potential for cooperation during the review processes of each of these guidelines, as they may potentially be coordinated in an effort to harmonize the two systems. The Sudanese government could be involved in the review process, thus facilitating the development of its own guidelines, and ENTRO could conceivable.

The national legal frameworks may potentially be linked to a regional assessment system using the proposed categorization scheme at the national level that includes provisions for a "trans-boundary" category, which would require some form of regional approval.

A.3.2.2. Institutional Arrangements

On the institutional side, the lack of a central agency for environmental affairs is also seen as a gap in the Sudanese system. Such an agency would need to be well funded, well staffed, and operate with a clear organizational mandate. The role of licensing agencies is also not well defined in the Sudanese system, and differs between the Egyptian system (where the CAA is an intermediary and provides guidance to the proponent, as well as reviews and preliminarily approves reports) and the Ethiopian system (where the licensing authority is simply responsible for ensuring a ECC has been obtained prior to granting license). This issue is of importance because ENSAP is led by ENCOM, which is comprised of the Water Ministers of each of the three countries, and in that respect ENTRO may be seen as a sort of “regional licensing authority”. Finally, none of the countries have established a formal organization or system for ensuring the independence and qualification of the consultants who carry out ESIA.

National institutions are linked regionally through ENTRO, having established NFPs within the relevant authorities in each country, and particularly through ENCOM, which represents the combined authorities on water resources. This linkage needs formal legal backing in order to play a more meaningful role in regional EM activities.

A.3.2.3. EA Procedures

Although impact assessment has a well established methodology, the Ethiopian system is the only one to clearly delineate the recommended steps of the EA process, and at what point in the project cycle they should occur. Many of the other (non-national) assessment frameworks which have been reviewed include such procedures. Proper EA procedures help ensure that the objectives of environmental assessment (such as timely stakeholder inclusion, avoidance of adverse impacts, project sustainability, etc.) are achieved. Furthermore, inclusion of procedures in the guidelines will contribute to uniformity of practices on the part of those who are performing the assessment. In a trans-boundary sense, harmonizing these procedures across the three countries will helping to reduce inefficiency in the assessment process by making the efforts of those carrying out assessments applicable in all EN countries.

A.3.2.4. ESIA Report Contents

The Egyptian and Ethiopian guidelines contain the most thorough description of the information needed for a full ESIA report. Notably, the Ethiopian guidelines do not expressly require the process of stakeholder inclusion and public consultation to be documented in the ESIA, although public consultation is heavily emphasized during the scoping phase. The required content of the Sudanese assessment reports could also be improved by including information regarding:

- description of the relevant legal and institutional features which may affect project activities
- analysis of project alternatives, such as investment, technology, and siting options
- documentation of stakeholder inclusion and public consultation

Direct provisions for the inclusion of these aspects in the final assessment reports will help ensure compliance of the assessments with some of the international environmental guidelines discussed below, in which these elements are essential.

A.3.2.5. Trans-boundary and Strategic Gaps

The primary purpose of the legal requirement and institutional enforcement of environmental assessment is to require project proponents and decision makers to incorporate environmental and social values into their actions. However, within the current national systems of environmental management at a project level and based on national boundaries, the scope of the impacts of activities considered by proponents and decision makers at times exceeds the limits within which these entities traditionally exercise their influence. The current national laws and practices were not designed to, and therefore are incapable of, addressing environmental concerns that:

- cross national boundaries (i.e. are of a trans-boundary nature); or
- are affected by cumulative project impacts or nationally focused planning (i.e. are of a strategic nature).

The impacts of a particular project on environmental systems that transcend national borders represent externalities that are not systematically addressed, inhibiting the impacted countries from effectively safeguarding their own environments. Furthermore, the cumulative impacts of multiple projects that have been implemented at various points in time and by various countries is often not

considered, nor are the impacts of the separately developed national policies, plans, and programs (PPPs) which produce and guide such projects. These gaps represent inadequacies of the current national systems which prevent them from fully accomplishing their objectives, and ultimately lead to improper management of the regions environmental resources. In the area of WRD, these gaps have even begun to pose a threat to the sustainability of the shared EN water resources. Two developments have become necessary to address the situation:

- The advancement of a cooperative regional system for assessment of trans-boundary impacts and approval of projects by all of those who are impacted.
- The implementation of strategic assessment at both a national and regional level

The general arrangements for approval of assessments addressing these gaps are discussed below.

A.4. Approval Mechanism

In the following sections, general institutional hierarchies are proposed for the approval of environmental assessments resulting from the use of the tools identified in the EMG, based on the categorization also therein. These are intended to apply to EM activities and assessments in general, not only those carried out by ENTRO; although the ways in which they apply to ENTRO are highlighted. Since SSEA requirements and guidelines do not yet exist, there is more freedom to propose different arrangements for different situations. In the case of ESIA, the existing systems place some constraints on the possibility for different forms of approval and compliance.

A.5. SSEA Approval

SSEA is aimed at informing the PPP development and decision-making processes. Since the EMG applies specifically to ENSAP activities, and there is not yet a regional policy making body in the EN, it should be understood that the implied activities will typically be plans or programs. PPP is used as a general term so as not to exclude the possibility of assessing policies under this system.

Approval of an SSEA does not guarantee adoption of a particular PPP. It merely ensures that the relevant environmental and social effects have been considered, and that IAPs have been given an opportunity to provide input. Once the required process of review and consultation has been carried out, the quality of the assessment report should be approved by a relevant authority, and environmental and social concerns will be considered in the final approval of the PPP. Final approval or adoption, especially of policies, usually involves legislative procedures. This aspect is left ambiguous in the following sections, since it varies depending on the type of PPP and between countries, and there is not yet a formal body for regional policy issues.

A.5.1. Category 1

When a PPP is being developed for adoption at the national (or sub-national) level, and its potential impacts are local, there is no need to invoke a regional assessment system. During screening, a brief description of the content and objectives of the PPP may be provided to the NFP or the Environmental Department at ENTRO to ensure that there will be no trans-boundary impacts, but after that, the national assessment system may be used to carry out the SSEA. Since this does not actually exist yet, some important steps to developing such a system are provided in Chapter IV. It is

hoped that this would be developed to correspond closely with the SSEA system proposed for ENTRO.

A.5.2. Category 2

Category 2 activities are those that would be implemented on a regional level, but whose impacts are local. Such a case may not be realistic, as regionally implemented projects would tend to have impacts and benefits that are also regional in scale, but it is treated here for the sake of completeness.

In this case, the activities in each country may in fact be treated as separate, and therefore classified as Category 1 activities with a separate study carried out for each impacted country, for simplicity. However, the proponent would be a regional body responsible for coordinating the assessment process among the affected countries, as well as hiring independent consultants to carry out the actual assessment as necessary, and informing and involving stakeholders. The SSEA should still be carried out in compliance with relevant regional guidelines, which would comply with the relevant national requirements. Since the impacts within each country would theoretically be only local in nature, and thus within the scope of these systems. The relevant national authorities (environmental or otherwise, as designated by the national guidelines) of each impacted country would then be responsible for the approval of the study and the activities in that country alone, making approval a national matter.

The final decision for moving forward with the PPP would be at the regional level, after the separate approval of activities in each of the affected countries, as shown in Figure 6 below.

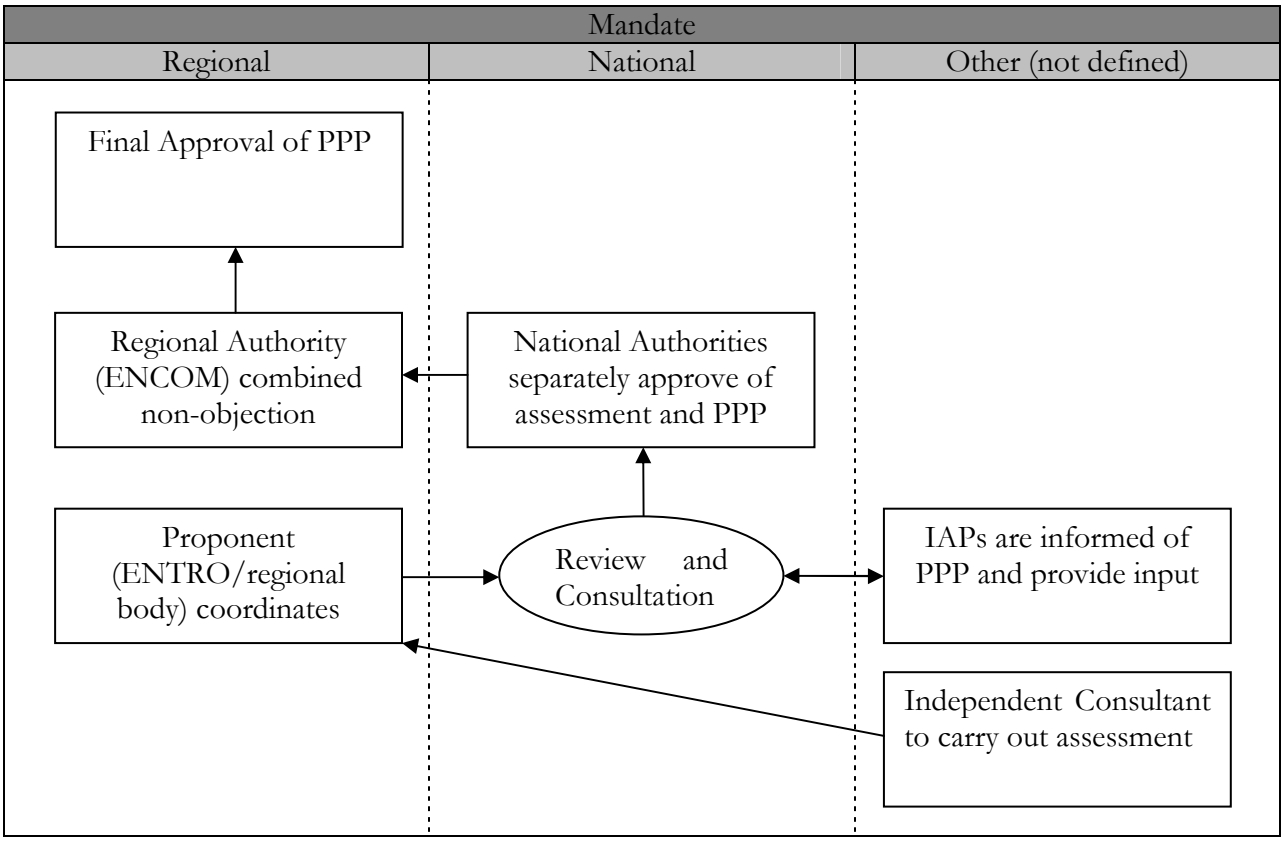


Figure 6: Approval hierarchy for Category 2 SSEA

A.5.2.1. Category 3

In Category 3, the PPP is initiated by a national entity, but entails trans-boundary impacts. In this case, it is the national proponent's responsibility to coordinate with consultants and IAPs, and also to inform other countries of the trans-boundary impacts of its activities. SSEA would be carried out in compliance with national standards. It is hoped that regional bodies would be used to inform the process, with ENTRO acting as a source of expertise on trans-boundary issues in the region and a common ground for inclusion of the affected parties, and ENCOM acting as a source of regional approval. However, if the regional elements on the left side of Figure 7 are removed, the national approval process would remain intact. Regional approval cannot yet be considered mandatory for PPPs to be adopted and come into effect nationally.

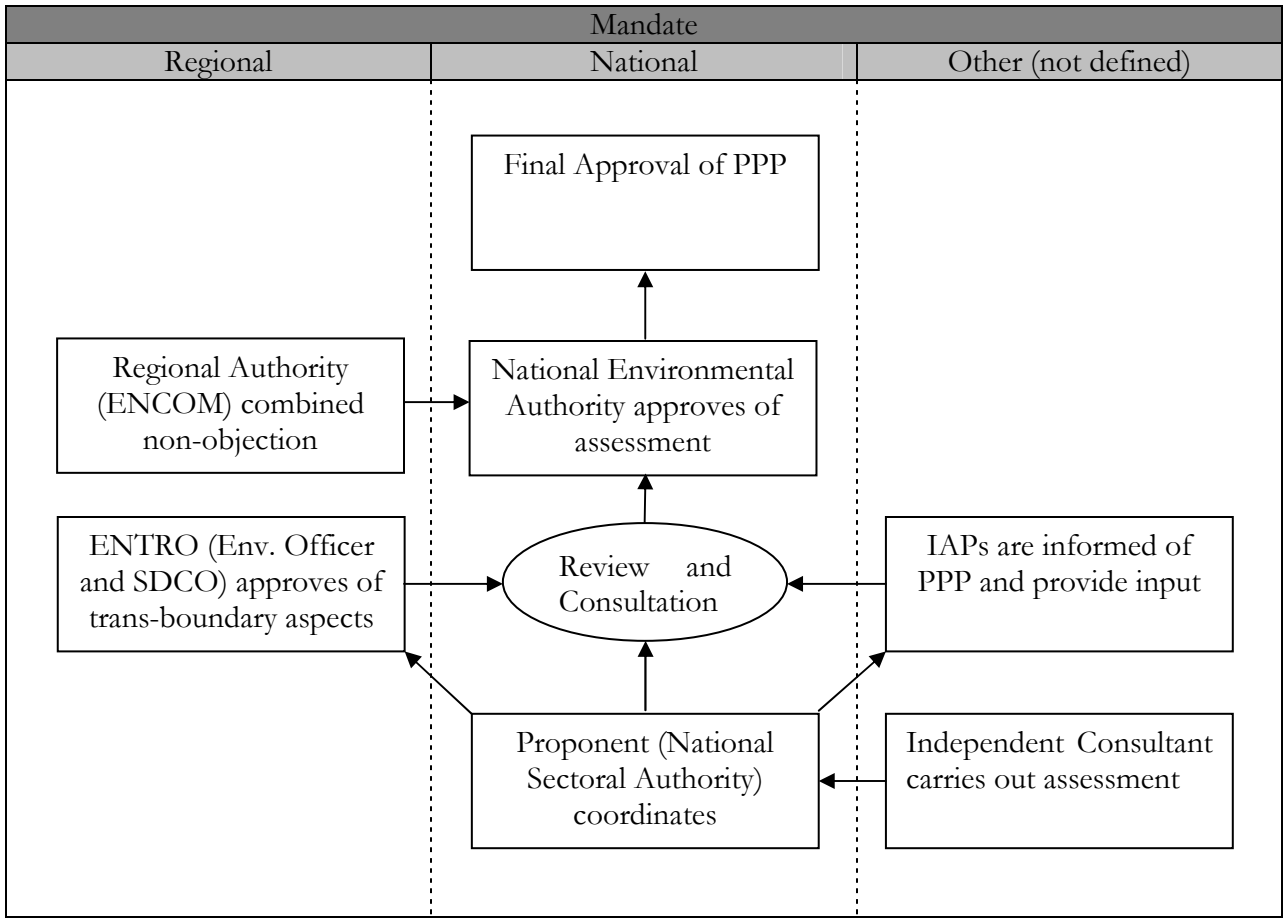


Figure 7: Approval hierarchy for Category 3 SSEA

A.5.2.2. Category 4

Category 4 is where ENSAP investment projects are likely to fall. Due to the regional implementation, the assessment must be performed according to regional requirements. Due to the trans-boundary nature of impact, the activities would require a unified SSEA study that examines the proposed activities and impacts on a regional scale, and requires joint approval from the relevant authorities in each impacted country.

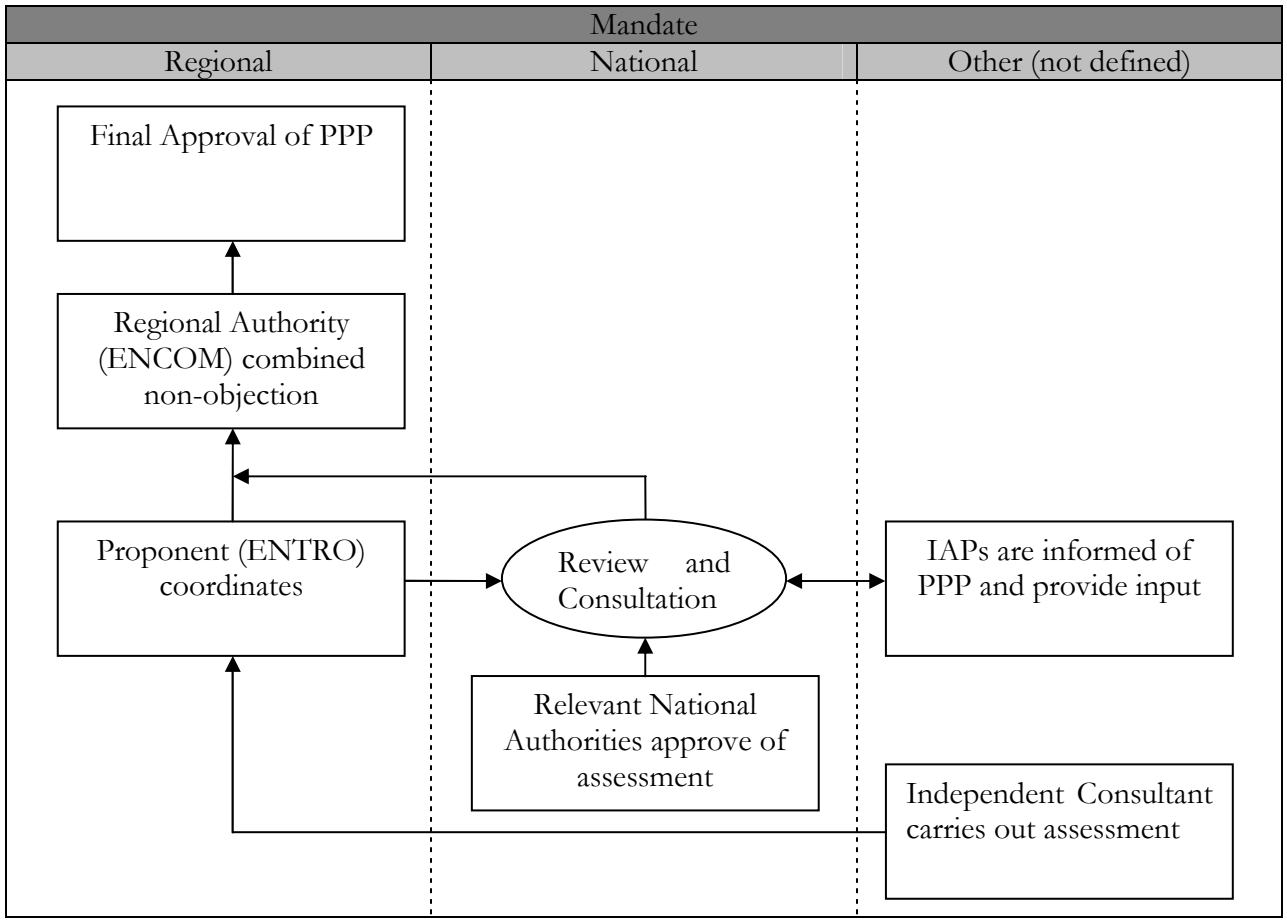


Figure 8: Approval hierarchy for Category 4 SSEA

A.5.3. ESIA Approval

The ESIA system of each country assigns responsibilities to project proponents regardless of their mandate. For this reason, it is not as useful to distinguish between national and regional proponents/implementation. ESIA approval is discussed only in terms of the scale of potential impacts. This simplifies project categorization.

Approval of an ESIA report will come separately from the national environmental authority of each affected country. There is not yet a mechanism for the unification or coordination between these institutions. This development is proposed in Chapter IV.

A.5.3.1. Category 1 and 2

Similar to the Category 1 and 2 PPPs, projects which only have local impacts can be assessed using the existing national systems, and approval need only come from the environmental authority in the country of impact.

A.5.3.2. Category 3 and 4

When potential trans-boundary impacts are identified, regional bodies should be involved in the assessment process, and regional authorities should be given an opportunity for approval, or at least non-objection, to moving forward with the project.

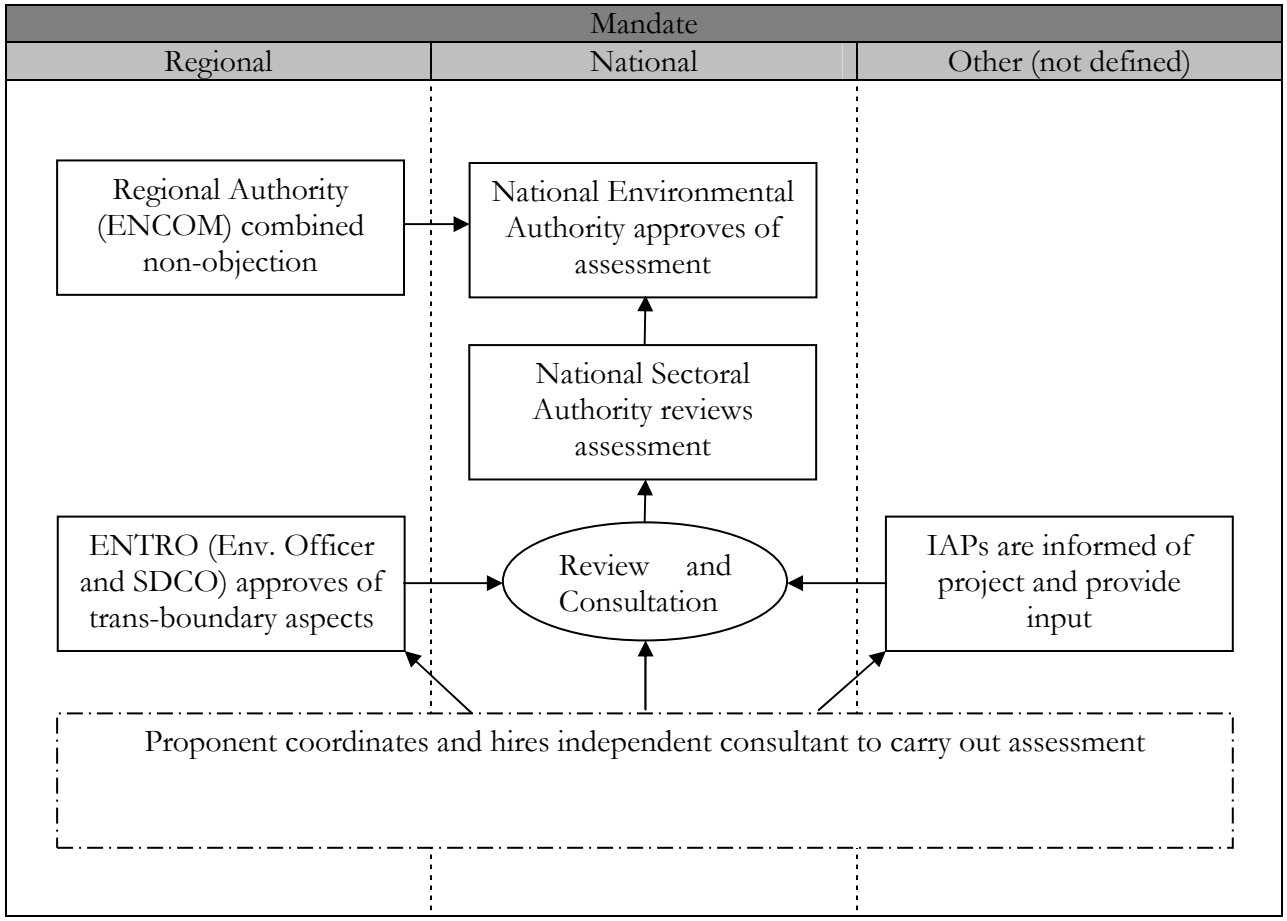


Figure 9: Approval hierarchy for ESIA projects with trans-boundary impact

Appendix B: ENTRO Action Plan

This chapter is meant to advise ENTRO on the operational mechanisms to be adopted to allow for the sustainable identification, preparation, and implementation of ENSAP investment projects in a reasonable time frame. The main obstacles to implementing the proposed EM tools, particularly SSEA, are: i) lack of will to carry out timely and expensive assessments, ii) lack of expertise in the region on the specialized and diverse topics needed for a quality strategic assessment, which contributes to the high cost; and iii) lack of a legal basis or guidelines requiring SSEA or the consideration of trans-boundary impacts in ESIA. These issues must be addressed is two ways:

- By demonstrating the usefulness of ENTRO's management process, and in particular of environmental assessment at high levels of decision making, and encouraging its use through proper and effective implementation of the EMG
- By building capacities of governments, individual experts, and the general public, and addressing deficiencies in education and general awareness of all actors

Production of the EMG is part of a planned process within ENTRO and the NBI to develop a basin-wide Environmental and Social Policy (ESP). The component tasks are shown in Table 7. This document, combined with the existing SAM and a soon to be completed Needs Assessment will lead to a combined Environmental and Social Management Guidelines for ENSAP, along with the overarching NBI-ESP. The following sections lay out suggested measures to apply this EMG at ENTRO and to develop the required capacities.

Table 7: Tasks involved in the development of NBI Environmental and Social Policy

Task No.	Task	Brief	Due	Status
1	ENSAP-SAM	Guidance on social issues associated with ENSAP projects and assessment methods	2009	Completed
2	ENSAP-EMG	Guidance on environmental management of ENSAP at various phases of project cycle and with strong linkage to SAM	June 2011	In progress
3	ENSAP-NA ESM	Assessing capacities to implement and adhere to the ENSAP-EMG/ENSAP-SAM and recommendation of an action plan. Assessment of institutional and policy frameworks of relevant environmental and social management related institutions.	June 2011	TOR submitted for NO from WB
4	ENSAP ESMG	A combined guidance on environmental and social management for ENSAP. This document can be started in parallel with or when the NBI ESP is ready to inform the guidance.	June 2012	planned
5	NBI-ESP	An overarching policy for NBI on environment and social management	June 2012	Process in progress

The priorities of structuring the environmental management process, as this EMG aims to do, are to:

- Address country needs in capacity building technically and institutionally, to enable addressing ENSAP pertinent priority environmental issues
- Create synergies among ENSAP projects to better address environmental issues
- Create a regional institutional arrangement to address environmental issues at the trans-boundary level linking closely with the national environmental authorities
- Bolster the relevance and legitimacy of ENTRO to build an internationally responsive institution

B.1. EMG Implementation

Since both SSEA and ESIA have been implemented previously at ENTRO, the use of these tools should be according to established practices. However, some training will be required in order to orient practitioners with important aspects of the EMG and SAM, and to prepare them for implementing the proposed assessment tools. The following section suggests workshops to be held prior to implementing the tools. Approximate time frames are given for the ideal implementation of SSEA and ESIA studies to be performed in when identifying future ENSAP projects.

B.1.1. Preparatory Workshops

A series of workshops are envisioned to enable ENTRO staff and associated personnel to properly implement the EMG. These workshops may be considered low priority, depending on the qualifications of practitioners, and could be provided as needed, according to experience, to the various technical experts (hydrologists, engineers, economists, modelers, etc.), project coordinators, government officials, and consultants recruited by ENTRO for project preparation. The main course topics, approximate duration, and a brief description of each is shown in Table 8 below:

Table 8: Proposed workshop titles and description of topics covered

Duration	Description
EMG Orientation: Introduction to Regional/Trans-boundary Environmental Assessment	
5 days	This course would introduce takers to the motivation for and purpose of the EMG. It would cover the legal and institutional frameworks for regional cooperation on environmental issues, and the need for trans-boundary assessment. Other points covered would include: project categorization schemes, approval/compliance mechanisms, and assessment procedures.
Principles and Procedures of Strategic Assessment	
5 days	This would be an in-depth course on Strategic Social and Environmental Assessment, informing takers about when SSEA is necessary, what expertise is needed to carry out an SSEA, how to identify alternatives and analyze strategic issues, and stakeholder consultation methods.
ENSAP Project Specific Issues	
3 days	Specific environmental and social impacts arising from past and likely future ENSAP

	activities would be covered (dams and reservoirs, hydroelectric plants, irrigation and drainage, watershed management, etc.), to familiarize takers with the common regional concerns identified in the EMG and SAM, as well as potentially unexpected issues. Appropriate mitigation measures would also be discussed.
Case Study in Regional Assessment	
3 days	A past (or hypothetical) regional project would be thoroughly analyzed to discover the successes and failures of the assessment process, and how regional institutions might have affected it. Course takers might be asked to role-play as different actors in the assessment process to gain a more detailed understanding of the associated responsibilities.

B.1.2. Monitoring

Finally, ensuring proper implementation of the EMG cannot only be done with preparatory measures. A monitoring framework should be designed to measure the degree and effectiveness of actions taken as a result of the EMG implementation. Many indicators of successful use of the EMG are not easily quantifiable, but important aspects to gauge and monitor include:

- political will and motivation to implement assessments
- establishing proper requirements and guidelines at a national and regional level
- budgets for assessment activities and man power to handle responsibilities
- amount and quality of expertise available in different fields to conduct assessment
- awareness of the general public and capacity to contribute to studies
- transparency and avenues for disclosure and feedback from concerned parties

These efforts will promote continual improvement in ENTRO's environmental management process practices and procedures, leading to improved environmental performance of projects. Monitoring is a lower priority, since it is more important to first implement the actual EMG.

B.2. Institution and Capacity Building

As a complement to demonstrating the usefulness of SSEA and creating sufficient will to carry out high level assessments throughout the region, a series of measures will need to be taken in order to create the proper capacities for implementing SSEA. A foundational aspect of the capacity to carry out environmental management is proper legal requirements and formal and effective institutions. Development of these laws and institutions is a long term process and should be given high priority. Measures to meet these requisite needs, as well as recommend steps to be taken by ENTRO and the EN countries to develop these capabilities, are provided in the following sections.

B.2.1. ENTRO

After the formalization and adoption of the ENSAP ESMG, one of the results of the process discussed at the beginning of this chapter, an adequate budget should be allocated to allow for effective ESIA and SSEA implementation at ENTRO. This will ensure that appropriate resources are available for the assessment process, but is low priority since it will only be necessary after other capacities have been built.

Qualified staff is another condition for effective impact assessment. The development of local expertise includes the introduction of new knowledge on policy and planning SSEA or ESIA and training of professionals across the region. This is a difficult task for countries to achieve by themselves and should be given very high priority, since the quality of reports is of utmost importance and outside expertise can be very expensive. ENTRO has accumulated much experience and material to facilitate this knowledge transfer. ENTRO's previous experience with SSEA can be used to train additional trainers and future practitioners. In designing effective SSEA approaches, practitioners need to be aware of the following:

- Strategic planning is not linear, but a convoluted process influenced by interest groups with conflicting interests and different agendas; it is therefore important to look for "windows of opportunity" to initiate SSEA during cycles of the decision-making process.
- Relationships between alternative options and environmental effects are often indirect; so they need to be framed in terms relevant to all stakeholders (e.g. politicians, government agencies, and other IAPs). One way of doing this is by linking environmental effects to their specific policy priorities.
- Strategic issues cannot be tackled by a one-time analysis; they need an adaptive and sustained approach as strategies and policy-making take shape and are implemented over time.
- The value of SSEA in strategic planning depends greatly on capacity within the responsible authorities to maintain the process and act on the results.

Also, ENTRO's experiences can be used to raise awareness of the public by information dissemination, to build knowledge about the process of public consultation. While this is an important task, public knowledge of the process is not essential for its implementation, and can be given low priority. However, development of the public awareness will surely increase the quality of consultations, and therefore assessments. Publishing documents in local languages may contribute to capacity building as it makes information available to many parts of society. Use of the NBD should be encouraged and expanded as the main avenue for such communications. Exploration of other channels should be undertaken, especially in areas with low internet connectivity.

The success of SSEA hinges on country-based analytical capacity. There will generally be a range of analytical capacities in government, research and academic institutions, civil society organizations and the private sector. Most will have focused on impact assessment approaches and some will have engaged in wider analytical frameworks relevant to policy processes (e.g. state of the environment reports and sector studies). A detailed review of the existing analytical capacities of relevant PPP-making institutions in the region would be helpful in identifying key areas that need further capacity building. Links should also be made with efforts to integrate the other forms of impact analysis (ESIA) into the institutional structure for SSEA. This will provide a more informed management cycle.

It will be important for ENTRO to assist and advise countries in their early attempts at SSEA, to ensure continuity of the process. SSEA should not be a once-off event that results in a discrete output, but an institutional process that adapts to the momentum and cyclical nature of PPP formulation. Therefore, the need for capacity building is of significance. However, it is more important that ENTRO develop its own practices, and countries can be held somewhat responsible for their own development, so this aspect of capacity building is given low priority. It should focus

on analytical, participatory, and political requirements, and on adaptive learning to capture lessons from effective processes and institutional arrangements. Assistance needs to be sustained to be effective. Planning processes and capacity building have medium- to long-term time frames. The focus should be on building constituencies as well as public administration capacities.

Another way to facilitate regional cooperation is by creating a formal linkage between the environmental authorities of the EN countries. This would create a better platform for discussion of trans-boundary environmental issues, and a useful mechanism for regional approval of assessments. This would require a great deal of political negotiation, but should be considered a high priority if environmental concerns at a regional level are to be addressed adequately.

Specific criteria for determining when PPPs or projects have trans-boundary impacts will need to be developed. Specific and detailed guidelines for WRD activities are needed and should be given high priority, and eventual development of sector specific guidance for each type of impact assessment will be important for the future expansion of the EMG.

B.2.2. Nationally

Weak enforcement is a seen as a problem in the region, reflected by late implementation, insufficient consideration of alternatives, weak public consultation and lack of information disclosure. This issue must be dealt with at a national level. In order to make the systems more effective many of the regulations need further strengthening. As discussed above, the requirements of early implementation, analysis of alternatives, public consultation and information disclosure should be stipulated as essential for assessment reports and for approval of assessment reports. International experiences can be used as a benchmark for improvement. The improvement of national requirements is a high priority, since this is the basis for the quality of the produced management activities.

Coordination between government bodies at central and local levels, and across sectors, should be improved. Authorities for national environmental administration and ESIA implementation and approval generally require further strengthening and clarification of their legal mandate. Finally, the responsibilities of sector ministries on environmental issues should be clarified. Governments should allocate separate budgets for implementation of environmental assessment.

Incorporating SSEA in the policy and planning toolkit is a critical step in order to find and address the inadequacies of the existing regulation system and to make implementation more effective. There is also a need for a more detailed understanding of the policy formulation process in each country in order to identify appropriate entry points for improving the EA system. Political will to drive this process should be built up with appropriate activities, such as studies and seminars. All of these tasks are long-term, but implementation of SSEA is a major step in ensuring sustainability of development interventions at later levels of the project cycle, and should be given high priority.

Training and capacity building is still an important task in the region. Enough qualified professionals in ESIA and SSEA are essential to implement environmental assessment in each country, and there is a lack of such capacity in many of the countries in the region. “On job” training in various real assessment projects and pilot programs should be encouraged as it is direct and cost-effective compared with other methods. This is a high priority.

Incorporation of a regional approval mechanism into the environmental management framework will be necessary to guarantee compliance with appropriate regulations. This may be given low priority, as there are several prerequisite actions.

Finally, the development of support mechanisms that increase accountability and improve governance should be encouraged with high priority. A key aspect of environmental assessment is the improvement of accountability, i.e. the responsibility of governments and officials for the impacts of their decision and actions on their citizens. The greater the existing degree of accountability, the more likely it will be that environmental and social issues are successfully integrated into policy formulation. Accountability can be increased by focusing on independent audits and oversight processes, access to information, and avenues for consultation. Enhancement of public awareness and local capacity to participate in environmental assessment processes will only enhance the effectiveness of the processes. Again, this requires widespread dissemination of information through various channels and in local languages. All efforts to increase the rights of the citizens and hold governments and officials accountable are likely to lead to improved governance and greater transparency. An additional element is support to civil society organizations to enable them to be more effective in the policy dialogue and to increase their analytical capacity. With better governance comes greater integration of environmental issues with social and economic policy goals. The public have greater opportunities to challenge policy makers to address environmental issues and to be more transparent about the environmental implications of economic and social policies.

Appendix C: ENSAP Project Related Impacts

C.1. Irrigation and Drainage

Potential Negative Impacts		Mitigation Measures	
Direct			
1.	Soil erosion (furrow, surface).	1.	• Proper design and layout of furrows or field avoiding too steep a gradient. • Land leveling. • Design of terraces on hillside minimizing surface erosion hazard.
2.	Soil erosion (with sprinkler irrigation on hilly area)	2.	• Design of sprinkler system minimizing surface erosion hazard.
3.	Waterlogging of soils.	3.	• Regulation of water application to avoid overwatering (including controlled turn-out to allow cutting off water supply to irrigation ditches). • Installation and maintenance of adequate drainage system. • Use of lined canals or pipes to prevent seepage. • Use of sprinkler or drip irrigation.
4.	Salinization of soils.	4.	• Measures to avoid waterlogging: • Leaching of salts by flushing soils periodically. • Cultivation of crops with salinity tolerance.
5.	Scouring of canals.	5.	• Design of canal system to minimize risk and use of lined canals.
6.	Clogging of canals by sediments.	6.	• Measures to minimize erosion on fields: • Design and management of canals to minimize sedimentation. • Provision of access to canals for removal of weeds and sediments.
7.	Leaching of nutrients from soils.	7.	• Avoidance of overwatering. • Replacement of nutrients by fertilizers or crop rotations.
8.	Algal blooms and weed proliferation.	8.	• Reduction of input to and release of nutrients (nitrogen and phosphorous) from fields.
9.	Clogging of canals by weeds.	9.	• Design and management of canals to minimize weed growth • Provision of access to canals for treatment or removal of weeds
10.	Deterioration of river water quality below irrigation	10.	• Improved water management; improved agricultural practices and

	project and contamination of local ground water (higher salinity, nutrients, agrochemicals) affecting fisheries and downstream users.		control of inputs (particularly biocides and chemical fertilizers). • Imposition of water quality criteria.
11.	Sea water intrusion into downstream freshwater systems.	11.	• Reduction of takeoff to maintain adequate downstream flow. • Recharge of coastal aquifers through injection wells.
12.	Reduction of downstream flows affecting flood plain use, flood plain ecology, riverine and estuarine fisheries, users of water, dilution of pollutants.	12.	• Relocation or redesign of project. • Regulation of takeoff to mitigate effects. • Compensatory measures where possible.
13.	Encroachment on swamps and other ecologically sensitive areas.	13.	• Siting of projects to avoid or minimize encroachment on critical areas.
14.	Alteration or destruction of wildlife habitat or impediment to movement of wildlife.	14.	• Siting of project to minimize los or avoid encroachment on most sensitive or critical areas. • Establishment of compensatory parks or reserved areas. • Animal rescue and relocation. • Provision of corridors for movement.
15.	Impediment to movement of livestock and humans.	15.	• Provision of passageways.
16.	Threat to historic, cultural or aesthetic features.	16.	• Siting of project to prevent loss. • Salvage or protection of cultural sites.
17.	Alteration or loss of flood plain vegetation and disturbance of coastal ecosystems (e.g. mangroves).	17.	• Siting of project to less vulnerable area. • Limitation and regulation of water take-off to minimize problems to extent possible.
18.	Dislocation of populations and communities.	18.	• Siting of project to minimize effect. • Resettlement scheme ensuring at least equal standard of living.

19.	Introduction or increase in incidence of water-borne or water-related disease (schistosomiasis, malaria, onchocerciasis, etc.).	19.	• Prevention measures:
			  • use of lined canals or pipes to discourage vectors
			  • avoidance of stagnant or slowly moving water
			  • use of straight or slightly curving canals
			  • installation of gates at canal ends to allow complete flushing
			  • filling or draining of borrow pits along canals and roads
			  • disease prophylaxis
			  • disease treatment

20.	Disease and health problems from use of wastewater in irrigation.	20.	• Wastewater treatment (e.g. settling ponds) prior to use. • Establishment and enforcement standards for wastewater use.
21.	Conflicts over water supply and inequalities in water distribution throughout service area.	21.	• Means to ensure equitable distribution among users and monitor to assure adherence.
22.	Overpumping of groundwater.	22.	• Limitation of withdrawal so that it does not exceed "safe yield" (recharge rate).
Indirect			
23.	Increased pollution and health hazards from downstream industrial and municipal pollutants caused by decreased flow (decreased dilution) of river water.	23.	• Control of waste sources downstream • Reduction of water take-off
External			
24.	Water quality deteriorated or made unusable by upstream land use and pollutants discharge.	24.	• Control of land use in watershed areas. • Control of pollution sources. • Water treatment prior to use.

C.2. Hydroelectric Dams and Reservoirs

Potential Negative Impacts		Mitigation Measures	
Direct			

1.	• Negative environmental effects of construction:
	  • Air and water pollution from construction and waste disposal
	  • Soil erosion
	  • Destruction of vegetation, sanitary and health problems from construction camps
		1.	• Measures to minimize impacts:
			  • air and water pollution control
			  • careful location of camps, building, borrow pits, quarries, spoil and disposal sites
			  • precautions to minimize erosion
			  • land reclamation

2.	Dislocation of people living in inundation zone.	2.	• Relocation of people to suitable area, provision of compensation in kind for resources lost, provision of adequate health services, infrastructure, and employment opportunities.
3.	Loss of land (agricultural, forest, range, wetlands) by inundation to form reservoir.	3.	• Siting of dam to decrease losses; decrease size of dam and reservoir; protect equal areas in region to offset losses.
4.	Loss of historic, cultural or aesthetic features by inundation.	4.	• Siting of dam or decrease of reservoir size to avoid loss; salvage or protection of cultural properties.
5.	Loss of wildlands and wildlife habitat.	5.	• Siting of dam or decrease of reservoir size to avoid/minimize loss; establishment of compensatory parks or reserved areas; animal rescue and relocation.
6.	Proliferation of aquatic weeds in reservoir and downstream impairing dam discharge, irrigation systems, navigation and fisheries and increasing water loss through transpiration.	6.	• Clearance of woody vegetation from inundation zone prior to flooding (nutrient removal); provide weed control measures; harvest of weeds for compost, fodder or biogas; regulation of water discharge and manipulation of water levels to discourage weed growth.
7.	Deterioration of water quality in reservoir.	7.	• Clearance of woody vegetation from inundation zone prior to flooding. • Control of land uses, wastewater discharges, and agricultural chemical use in watershed. • Limit retention time of water in reservoir. • Provision for multi-level releases to avoid discharge of anoxic water.
8.	Sedimentation of reservoir and loss of storage	8.	• Control of land use in watershed (especially prevention of conversion

	capacity.		of forests to agriculture). • Reforestation and/or soil conservation activities in watersheds (limited affect). • Hydraulic removal of sediments (flushing, sluicing, release of density current).
9.	Formation of sediment deposits at reservoir entrance creating backwater effect and flooding and waterlogging upstream.	9.	• Sediment flushing, sluicing.
10.	Scouring of riverbed below dam.	10.	• Design of trap efficiency and sediment release (e.g. sediment flushing, sluicing) to increase salt content of released water.
11.	Decrease in floodplain (recession) agriculture.	11.	• Regulation of dam releases to partially replicate natural flooding regime.
12.	Salinization of floodplain lands.	12.	• Regulation of flow to minimize effect.
13.	Salt water intrusion in estuary and upstream.	13.	• Maintenance of at least minimum flow to prevent intrusion.
14.	Disruption of riverine fisheries due to changes in flow, blocking of fish migration, and changes in water quality and limnology.	14.	• Maintenance of at least minimum flow for fisheries; provision of fish ladders and other means of passage; provide protection of spawning grounds; aquaculture and development of reservoir fisheries in compensation.
15.	Snagging of fishing nets in submerged vegetation in reservoir.	15.	• Selective clearance of vegetation before flooding.
16.	Increase of water-related diseases.	16.	• Design and operation of dam to decrease habitat for vector. • Vector control. • Disease prophylaxis and treatment.
17.	Conflicting demands for water use.	17.	• Planning and management of dam in context of regional development plans; equitable allocations of water between large and small holders and between geographic regions of valley.
18.	Social disruption and decrease in standard of living of resettled people.	18.	• Maintenance of standard of living by ensuring access to resources at least equaling those lost; provision of health and social services.
19.	Environmental degradation from increased pressure on land.	19.	• Choice of resettlement site to avoid surpassing carrying capacity of the land. • Increase of productivity or improve management of land (agricultural, range, forestry improvements) to accommodate higher

			population.
20.	Disruption/destruction of tribal/indigenous groups.	20.	• Avoid dislocation of unacculturated people; where not possible, relocate in area allowing them to retain lifestyle and customs.
21.	Increase in humidity and fog locally, creating favorable habitat for insect disease vectors (mosquitos, tsetse).	21.	• Vector control.
Indirect			
22.	Uncontrolled migration of people into the area, made possible by access roads and transmission lines.	22.	• Limitation of access, provision of rural development and health services to try to minimize impact.
23.	Environmental problems arising from development made possible by dam (irrigated agriculture, industries, municipal growth).	23.	• Basin-wide integrated planning to avoid overuse, misuse, and conflicting uses of water and land resources.
External			
24.	Poor land use practices in catchment areas above reservoir resulting in increase siltation and changes in water quality.	24.	• Land use planning efforts which include watershed areas above dam.

C.3. Watershed Development

Potential Negative Impacts		Mitigation Measures	
Direct: Site Preparation			
1.	Soil erosion from clearing site.	1.	• Reestablishment of forest cover as soon as possible after clearing. • Use of fast growing, intermediate tree crops or mulching of exposed soils. • No clearing on steep, unstable slopes or highly erosive soils. • Limitation of plantation size or stand sizes. • Limitation of site preparation to dry season.
2.	Soil compaction and puddling by machinery.	2.	• Limitation of use of machinery. • Manual site preparation.
3.	• Loss of organic matter and nutrients by removal of vegetation and leaching. • Development of hardpans and laterization	3.	• Rapid replanting. and leaching. • Cover crops. • Mulching.
4.	Where burning is involved, air pollution from smoke.	4.	• Limitation of use of fire and size of burn where possible. • Burning in wet season.
Direct: Plantation Management and Harvesting			
5.	Soil erosion from harvesting	5.	• Replanting as soon as possible after cut. • Avoidance of clear cutting; practice of "small coupe logging" (characterized by checkerboard pattern of alternating small cuts with unlogged areas). • Limitation of harvesting to dry season or season of low rainfall. • Planning of felling to minimize log skidding and avoidance of skidding logs parallel to slope. • Stabilize skid trails as soon as possible after use. • Use of animals instead of skidders for extraction.
6.	Loss of nutrients from the system by thinning and clear cutting and by whole-tree harvest.	6.	• Logging debris left on ground after harvesting and removal of boles whole-tree harvest. only (no whole-tree harvesting). • Planting of cover crops between rotations; addition of fertilizer to compensate for nutrients loss

7.	Use of fertilizer, pesticides and herbicides having negative impacts on-site and on quality of local water bodies.	7.	• Limitation of potential of pest and disease infestations by choice of resistant species. • Choice of chemicals with least potential negative impacts. • Controlled use of chemicals.
8.	Chemical and biological changes in the soil as litter becomes dominated by one or a few species and decomposition dynamics are altered.	8.	• Limitation of size of stands and interspersal with stands of native.
9.	• Direct damage in harvesting operations by dragging and skidding logs causing compaction. • Localized soil erosion and unequal distribution of debris and organic matter over the site.	9.	• Use of manual methods or animal power for clearing forest instead of mechanical means. • In short rotation plantations plan use of same tracks and loading areas in harvesting operations to protect as much of site as possible.
10.	In semi-arid zones depletion of soil moisture and lowering of water table in plantation area.	10.	• Choice of low water demanding species. • Water catchment and conservation techniques to minimize runoff and evaporation losses and maximize infiltration.
11.	Build up of organic matter under plantations posing a fire hazard.	11.	• Periodic clearing or burning to keep volume low.
12.	Increased sedimentation of streams.	12.	• Buffer zones of undisturbed forest 20-40 m wide along streams. • Avoidance of earthfill dams across streams as crossings. • Sediment traps in streams. • Avoidance of skidding trees in stream.
13.	Increased organic matter entering surface waters in form of leaf litter and logging debris or from logs transported on river leading to decrease in water quality and perhaps eutrophication, and navigational hazards.	13.	• Buffer zones along streams. • Spaced transport of logs in river over time.
14.	Soil erosion from logging roads.	14.	• Siting of roads on ridge tops or valley bottoms and avoidance of steep grades on hillsides. • Engineering to ensure proper drainage or provision of drainage measures • Stabilization of road cuts with mulch, wood chips, etc. • Minimized use of borrow pits or stabilization after use. • Proper road maintenance.

			• Use of rivers for log transport (see also -Rural Roads- section).
Displacement of Other Ecosystems			
15.	Loss of habitat and decreased biological diversity by replacement of natural forest by plantations with limited number of species and increased uniformity of forest structure.	15.	• Protection of natural forest area with particularly high or unique biological diversity. • Limitation of plantation establishment to degraded sites or sites of low diversity. • Increase in number of species planted and avoidance of mono-cultures over large area. • Restriction of size of individual stands and mixing of stands of various age classes. • Conservation of islands of untouched forest or natural vegetation. • Separation of stands by belts of native vegetation and use of native species as plantation species.
16.	Increased potential for massive loss by pests or pathogens (through simplification of natural ecosystem, provision of abundant food for pest, increased pest habitat, absence of natural controls, e.g. in the case of introduced exotic tree species).	16.	• Use of native species. • Choice of species and provenances with pest or disease resistance. • Rotation length to minimize susceptibility (e.g., cutting before trees are overmature). • Thinning and other stand improvement ~ to remove dead and diseased material, and wood residues which act as centers for infection. • Direct pest or disease control.
17.	Loss of forest products from native species.	17.	• Careful evaluation of local use of forest products to accommodate continued use and determine feasibility of developing local industries based on these goods.
18.	Spread of plantation species outside of plantation becoming a nuisance, competing with native species and becoming weeds in agricultural fields.	18.	• Species choice to avoid ones that will grow out of control from desired site.
Socioeconomic Impacts			
19.	Social impacts from influx of people from outside, both wage earners and spontaneous setters, induced by road building into remote areas (direct and indirect impacts).	19.	• See the following sections: "New Land Settlement"; "Indigenous Peoples"; and "Induced Development."

20.	Problems related to land tenure and land and resource use rights leading to unequitable sharing of costs and benefits of the project.	20.	• Genuine integration of local communities and peoples in project planning and implementation. • Pre-project socioeconomic surveys and assessments and land and resource use studies. • Provision of alternatives which fairly compensate local people who incur losses.

C.4. Flood Protection

Potential Negative Impacts		Mitigation Measures	
Direct			
1.	Flooding of lesser magnitude, but greater duration of flood-plain downstream due to dam releases.	1.	• Adaptation by changes in agricultural practices.
2.	Potential for structural failure and floodwaters higher than capacity of control structures/measures, leading to increased risk to life and property because local pre-project adaptations are relaxed or abandoned or increased development on the floodplain has occurred post-project.	2.	• Implementation of non-structural measures to prevent increased flood risk, and of a flood warning system.
3.	Cycle of enrichment and groundwater recharge in floodplain soils broken.	3.	• Where dams are present, partial mitigation of effect by regulation of discharge to imitate natural flooding in a controlled way.
4.	Resettlement of populations and other negative socioeconomic effects on populations and communities affected by the project.	4.	• Identification of at-risk population groups or groups who may be adversely affected by flood control measures. • Incorporation of their interests and protection into project planning and cost analysis to minimize losses or provide in-kind compensation for losses.
5.	Adverse effects on fisheries and other aquatic resources by disruption of migratory routes, deterioration of habitat and changes in water quality (e.g. sediment load), leading to reduced productivity of riverine, coastal and marine fisheries.	5.	• Installation of fish passageways. Protection of reproductive sites for fish. • Incorporation of fishery management, including hatchery and restocking programs.

6.	• Negative impacts of channelization measures:
	  • disruption of fish habitat by elimination of pools, riffles and channel irregularities
	  • increased water temperature by removal of vegetation on banks and in stream
	  • increased erosion and sedimentation problems
	  • bed and bank erosion
	  • downstream flooding and sedimentation
		6.	• Careful selection of engineering options at planning stage.
			• Limitation of degree of channel modification or maintenance.
			• Mitigating measures after construction phase.
			• Minimize reduction of channel length and preserve some meanders.
			• Limit excavation and fill.
			• Limit destruction of bank and streamside vegetation.
			• Replant/reseed banks.
			• Excavate only one and not both banks, etc.

7.	Adverse effects of construction.	7.	• Minimization of effects by avoiding impediments to natural drainage,

			uncontrolled run-off and soil erosion, and air pollution. • Provision for adequate filling of borrow areas, control of land clearing, and disposal of spoil. • Limitation of access of vehicles to stream bank.
8.	Reduction of floodplain grazing, both through ecological changes on the floodplain and intensified development (e.g. irrigated agriculture).	8.	• Production of fodder crops and usage of byproducts of irrigated food crops and development of alternative water sources. • Integration of existing rangeland use (e.g., semi-nomadic herding) with planned developments, to ensure substantial grazing and watering possibilities in valley during dry season.
9.	Reduction of recession agriculture.	9.	• Maintenance of natural flooding regime to extent possible in most productive lands (and intensification of production) by maintaining water courses free of flood control structures or installing structures to enable semi-control1ed flooding.
10.	Obstacles (levees, dikes, etc.) to wildlife passage.	10.	• Construction of bridges or special crossing places.
11.	Loss of wildlands and wildlife habitat.	11.	• Identification of critical habitats and planning of flood control measures to minimize effects; where habitats or species are dependent on natural flooding regime, minimize disruption of flow in that area to extent possible.
12.	Flooding problems created downstream.	12.	• Protection of natural overflow areas downstream. • Creation of overflow basins.
Indirect			
13.	Improved accessibility, development opportunities in floodplain, and sense of security after flood control measures taken, leading to influx of people with associated agricultural development, deforestation, wildlife poaching, infrastructure development, etc.	13.	• Limitation of access, if possible. • Planning for anticipated influx and implementation of companion rural development activities. • Introduction of non-structural control measures.
14.	Increased fertilizer use on agricultural fields to compensate for loss of fertility, leading to water pollution and dependence on imported supplies.	14.	• Optimal timing and rate of application. • Use of nitrogen fixing cover crops. • Use of organic instead of chemical fertilizers.

Appendix D: Environmental Data and Indicators

Category/Concern	Data and Indicators
Geology and Soils	Data obtainable from Departments of Agriculture or Land Administration or their equivalents Broad information on regional geology and soil types Specific issues of interest may include: distribution of mineral resources, soil stability (Landslides, erosion), soil contamination, desertification, earthquakes
Water Resources	Data obtainable from Departments of Hydrology, Energy, Geology, Water Resources and Irrigation. Surface water: hydro-graphic network, catchments, lakes and wetlands (check Ramsar Convention on regionally significant wetland areas), rivers, dams and reservoirs, flow rates, environmental flows, annual or seasonal water level fluctuations, physio-chemical characteristics and pollution. Ground water: types of aquifers, location, depth, recharge patterns, flow direction, physio-chemical characteristics and pollution For the purpose of SIA, broad information on water resources at the national/regional level is sufficient
Habitats and Ecosystems	Data obtainable from Dept. of National Parks and Reserves (or equivalent), research institutions and universities, national and international NGOs (IUCN, WWF, etc.) Types of ecosystems (terrestrial, aquatic, marine and coastal) and ecosystem functions, protected areas and sensitive zones, ecosystem health and integrity, sustainability, pollution and degradation threats (natural or human pressures), regional to international significance of ecosystems (scientific, cultural, educational, leisure, aesthetic, historic) Conservation and protection measures at the national and international level For the purpose of SIA, ecosystem information at the national/regional level is sufficient. Detailed field investigations are not justified unless no reliable baseline data are available at all and are deemed critical for decision-making.
Floral and Faunal Biodiversity	Data obtainable from Dept. of National Parks and Reserves (or equivalent), research institutions and universities, national and international NGOs (IUCN, WWF, etc.) Wildlife biodiversity, nature conservation significance (rare, vulnerable, threatened or protected species), species value (aesthetic, commercial, genetic, cultural or ecological), pollution and threats affecting certain wildlife species (natural or human pressures) Conservation and protection measures at the national and international level For the purpose of SIA, emphasis should be given to key animal species.
Land Use	Data obtainable from government (Dept of Land Administration or Planning or equivalent)

Category/Concern	Data and Indicators
	Data on current and future land uses, land carrying capacity, traditional land use management practices, access to property, land tenure, irrigation Development land policies, plans, zoning, municipal and regional regulations For the purpose of SIA, information at the regional level is sufficient.
Climate and weather conditions	Climatological data obtainable from Dept of Meteorology: radiation, temperature, precipitation, wind directions and velocity, atmospheric pressure, relative humidity, evaporation and evapotranspiration Specific issues may include storms, cyclones, floods, drought, etc.
Access to Infrastructure and Services	Data obtainable from national and regional government (Dept of Transport, Energy, Health, Education, Public Affairs, Roads, etc.), civil society organisations Energy sector: electricity network, affordability, type of energy, use of renewable energy sources Communications: type and distribution Transportation: types and networks, affordability, private and public transportation means, seasonal reliability Water supply: facilities and coverage, water quality, affordability Waste and sanitation: facilities and coverage, mgmt practices, affordability Health services: facilities, personnel, ratio per capita, affordability Education: facilities, personnel, budgets, ratio per capita, affordability Social services: community centres, youth centres, service accessibility of poor and marginal groups For regional SIA, a broad understanding of the infrastructure and services at the regional level is sufficient. For sectoral SIA, the targeted sector should be analysed in detail, which may require more detailed field work/consultation.

Adapted from ADB Strategic Impact Assessment Guidelines

Appendix E: National Environmental Legislation

E.1. Principal Environmental Laws, Decrees, and Regulations - Egypt

Environmental Law	Date	Authority	Decress/Regulations	Implementing Agency
Law No. 4 on Environment	1994	Establishment of EEAA and Environmental Trust Fund; requirement of ESIA, regulation of air pollution, hazardous waste management, and marine pollution	Decres No. 338 of 1995 (Executive Regulations)	MoEA, EEAA
Law No. 117 on Cultural Heritage	1983	Preservation and management of cultural heritage	Presidential Decree No. 2828 of 1971 (cultural heritage)	Ministry of Culture, SCA
Law No. 102 on Natural Protectorates	1983	Designation and management of natural protectorates	Decrees designating sites	MoEA, EEAA
Law No. 124 on Fisheries	1983	Management and protection of fisheries and marine animals		Ministry of Agriculture and Land Reclamation
Law No. 48 on Protection of Nile and its Waterways	1982	Control of pollution of surface waters	Decree No. 8 of 1983 (standards for wastewater discharges to surface waters)	Ministry of Public works and Water Resources
Law No. 137 on Labor	1981	Control of work place safety and environment		Ministry of Manpower and immigration
Law No. 27 on Public Water Sources	1978	Protection of public water sources for drinking and domestic purposes	Decree No. 27 of 1966 (Supreme Com. for Water) Annex IV of 1975 (Standards for potable water)	Ministry of Health and Population Supreme Committee for Water
Law no. 31 on Public Cleanliness	1976	Control of solid waste management (amends Law No. 38 of 1967)		Ministry of Housing, Utilities, and Urban Communities
Law No. 66 on Transport Air Pollution	1973	Control of air pollution from transportation sources	Decress No. 864 of 1969 (Supreme Committee) Decree No. 470 of 1971 (ambient air standards)	Ministry of Health and Population Supremem Committee for Protection of Air
Law No. 38 on Public	1967	Control of solid waste management	Decress No. 134 of 1968 (waste from	Ministry of Housing,

Cleanliness		(including hazardous waste)	domestic and industrial sources)	Utilities, and Urban Communities
Law No. 53 on Agriculture	1966	Regulation of purchase, importation, and handling of pesticides	Decree No. 50 of 1966 (registration and licensing requirements)	Ministry of Agriculture and Land Reclamation
Law No. 93 on Wastewater and Drainage	1962	Control of wastewater discharges and drainage to public sewers	Decree No. 643 of 1962 (standards for wastewater discharges to public sewers)	Ministry of Housing, Utilities, and Urban Communities

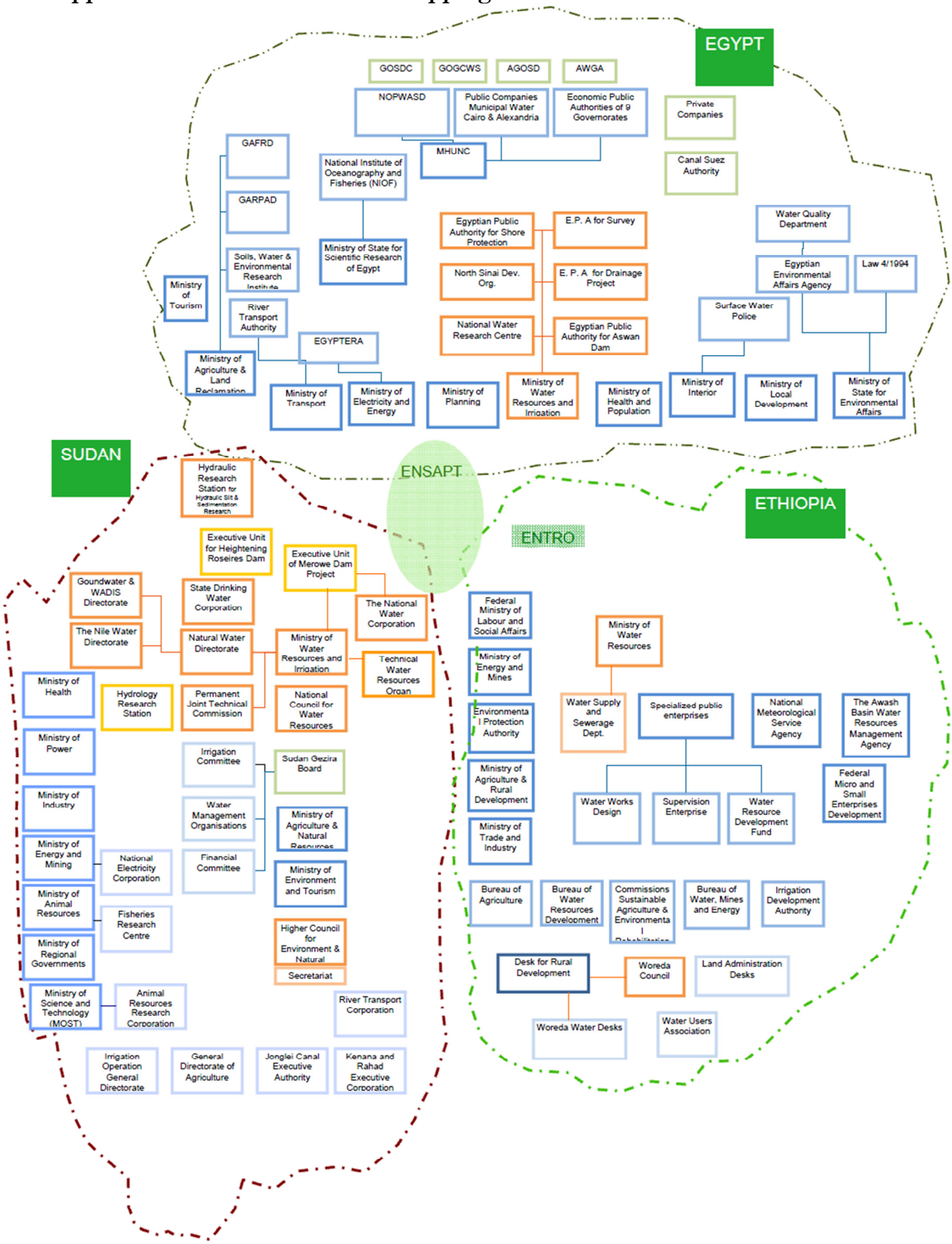
E.2. Principal Environmental Laws, Decrees, and Regulations - Ethiopia

Environmental Law	Date	Authority	Implementing Agency
Proclamation No. 513 Solid Waste Management	2007	Stipulates planning and movement of solid waste, standards for specific materials	EPA
Proclamation No. 300 Environmental Pollution Control	2002	General control of waste and pollution sources, state necessity for sectoral pollution standards	EPA
Proclamation No. 299 Environmental Impact Assessment Proclamation	2002	Requirement of EIA for development projects and public instruments	EPA
Proclamation No. 295 Establishment of Environmental Protection Organs	2002	Establishment of EPA and Environmental Council, designation of objectives, powers, and duties	
Water Resources Management Policy	1998	Environmental protection of water resources, appropriate water allocation	MoWRI
Environmental Policy of Ethiopia	1997	Definition of environment and natural resource base, sectoral policy guidelines	
Proclamation No. 9	1995	Definition of the Environment	
Proclamation No. 94 Forestry Conservation, Development, and Utilization	1994	Designation of forests, rules for conservation, management, and use	Ministry of Natural Resources Development and Environmental Protection
Proclamation No. 92 Water Resources Utilization	1994	Introduction of water permits	
Penal Code Proclamation	1957	Regulation of waste, water, and soil pollution	

E.3. Principal Environmental Laws, Decrees, and Regulations - Sudan

Environmental Law	Date	Authority	Implementing Agency
Forestry Commission Act	2003	Established forest commission for regulation, management, and utilization of forests	Forestry Commission
Environmental Protection Act	2001	Framework environmental law, compliance with international conventions	HCENR
Seeds Law	1990		Ministry of Agriculture
Forests Act No. 14	1989		
Environmental Health Act	1975	Measures for water pollution control and drinking water safety	By Locality
Law No. 37 on Pesticides	1974		Ministry of Agriculture
Law No. 18 on Quarantines	1974		Ministry of Agriculture
Freshwater Fisheries Act	1954	Regulate introduction of species, use of chemicals and equipment, licensing issues	Ministry of Agriculture, Food, and Natural Resources

Appendix F: Institutional Mapping



Appendix G: Institutions with Environmental Responsibilities

G.1. Egyptian Institutions Mandated with Environmental Issues

Ministries National Institutions	Affiliated National Institution or Division	Environmental Department or Unit	Environmental Management Responsibility
Ministry of Health and Population (MOP)	Central Department for Environmental Affairs	• General Department for Environmental Health • General Department for Environmental Monitoring • General Department for food Inspection • General Department for Occupational and Industrial Medicine	• setting environmental health policy and regulation • Prevention and control of environment –related health problems and diseases through environmental health officers • Operating the national Air pollution and the River Nile water Quality Network • Monitoring water quality for drinking and domestic purposes. • Monitoring the municipal and industrial effluents through sampling
Ministry of water Resources and Irrigation	National Water Research Center	Climate Change and Environmental Institute	• Protecting all public water resources in Egypt • Regulating and Controlling Sources of water pollution • Operation of the national surface and groundwater monitoring networks • Issue regulations setting water quality standards and discharge Limits • Facility inspection and reporting violations to the police
	Coastal Protection Authority		Protection of coastal line against erosion and seawater intrusion
		Water Quality Management Unit	Policy development, decision support system and monitoring
Ministry of Local Development	Solid waste Management Unit		Overview the privatization process of solid waste management services in the Governorates
Ministry of Tourism	Tourism	Environmental Unit	

	Development Authority		
Ministry of Industry (MOI)	General Organization for Industrialization		
Ministry of Housing Utilities and Urban Communities	General Organization for Sanitary Drainage	General Department for Control of Industrial Discharge	• Provision of water supply, sewage collection and solid waste management • Planning and construction of new industrial cities. • Preparing land use/physical plans.
Ministry of Interior	Environmental and Surface water police Traffic Departments		• Special police force for enforcement of law 48/1982 and Law 4/1994 • Implementation of the Vehicles Emissions Inspection, according to Law 4/94
Ministry of Manpower (MOMP)		General Department for Occupational Health and Safety	General Department for Occupational Health and Safety
Ministry of Agriculture & Land Reclamation (MALR)	Agriculture Research Center		• Management and conservation of agricultural land wildlife, and biological resources. • Preventing soil stripping and protecting land from degradation. • Regulating the purchase, importation and handling of pesticides.
Ministry of electricity and Energy	Egypt Electricity Holding Company	General Department for Environmental Studies Environmental Affairs Departments within the affiliated companies and stations	• ESIAs of electricity projects • Periodic environmental audits and reviews • Management of monitoring and inspection programmes • Implement environmental compliance plans • Collaboration with environment-related Organizations
Ministry of Petroleum	Egyptian General Petroleum Cooperation	Deputy Chairman for Environment	Deputy Chairman for Environment

Ministry of Foreign Affairs		Department of Environment and Sustainable Development Affairs	Sustainable Development

G.2. Ethiopian Institutions Mandated with Environmental Issues

Ministries National Institutions	Affiliated National Institution or Division	Environmental Department or Unit	Environmental Management Responsibility
Ministry of Water Resources Development			• study, design, development, and management of entire water resources development • matters relating to interregional and trans-boundary waters • irrigation and flood control study, design, and implementation • issue permits and regulate water works for certain water bodies
Ministry of Agriculture and Rural Development			• Increase agricultural productivity • Support farmers and investors in irrigation • Prepare land use and administration policies, draft laws on conservation and use of forest and wildlife resources
Ministry of Finance and Economic Development			• formulate strategies for managing foreign aid and loans • signs loan agreements and monitors implementation
Ministry of Health			• directs health center development program • follows up implementation of strategies for preventing communicable and non-communicable diseases, malnutrition, etc.
Environmental Protection Authority			• formulate policies, laws, strategies, and standards to foster social and economic development to enhance welfare of people and sustainability of environment • establish system for EIA (public and private projects)

			• establish environmental information system that promotes efficiency in environmental data collection, management and use
			• EIA function and other tasks delegated to other national institutions (ministries) through Environmental Protection Units
			  o done without checking for capacity to perform tasks
			  o may create biases in reports from sector specific env. specialists
			  o gap to be filled by review of environmental performance reports, audits, etc.

Institute of Biodiversity Conservation			• undertake conservation and promote the development and sustainable utilization of the country's biodiversity • maintaining and developing international relations with bilateral and multilateral bodies having the potential to providing technical assistance for the support of biodiversity conservation and development
Ethiopian Electric Power Corporation			• generation, transmission, distribution, and sale of electricity nationwide • operates entire power system in Ethiopia • only enterprise responsible for development of large hydropower projects
Water Supply and Sewerage Services			• working on water supply and sanitation in the country both at federal and regional as well as at lower administration level
Abbay River Basin Authority			• Decision-making, collaborative planning and programming,;

			• Knowledge, monitoring & evaluation; • Regulatory functions - Water Resources Administration; • Financial functions (charges and collection); • Promotion of "sustainable development" projects in the frame of the Basin program.

G.3. Sudanese Institutions Mandated with Environmental Issues

Ministries National Institutions	Affiliated National Institution or Division	Environmental Department or Unit	Environmental Management Responsibility
Ministry of Irrigation and Water Resources			• policy making, legislation, planning, and coordination of all water resources activities • monitor water resources, collect information • design irrigated engineering projects • operation of dams • PPPs for developing drinking water
Higher Council for Environmental and Natural Resources			• composed of Minister of Environment and Physical Development, Khartoum state governor, federal ministers, environmentalists, and community representatives • coordinate national plans and policies on environment, approves standards
Ministry of International Cooperation			• coordinate external relations and cooperation with regional and international organizations
Ministry of Agriculture and Forestry			• Agricultural Revitalization Program calls for concentrated investment in infrastructure

Ministry of Social Welfare, Women and Child Affairs			• service sector, to build unified, secured, civilized, advanced Sudanese nation
			• proposed preparation of National Strategy for combating poverty
			  o determine national indicators of poverty
			  o specify neediest regions, assist needy families

State Council for Environment and Natural Resources			• coordinate and follow up effort to ensure public participation • coordinate formulation and implementation of conservation policies • foster environmental monitoring, protection, and regulation
Wildlife Conservation General Administration			• formulate national wildlife policies, coordinate with provincial wildlife departments on implementation • coordinate with international organizations on matters related to treaties
Antiquities and Museums National Corporation			• control movement of cultural property
Dams Implementation Unit			• formulation and execution of resettlement and compensation policies
Civil Society			• Sudanese Red Crescent works in disaster (mainly flood) management • Sudanese Environmental Conservation Society has broadest scope

Appendix H: International Agreements

H.1. Bilateral Agreements

Sample of Bilateral Agreements	
Egypt - Ethiopia	
Framework for General Cooperation between Egypt and Ethiopia in 1993	The first bilateral framework for cooperation signed between Egypt and Ethiopia regarding the Nile issues, after the colonial period. It stipulated that future negotiations between Ethiopia and Egypt, with respect to the utilization of the water of the Nile, would be based on the rules and principles of international law. The agreement was catalytic to improving relations between the two countries. With respect to Nile waters, the Framework underlines the following: • Neither country should engage in activities detrimental to the other's interests. • Nile waters should be protected. • International laws should be respected. • Both countries should consult and cooperate on implementing projects to increase the flow and reduce the waste of Nile waters. This non-binding framework agreement was signed under the Ethiopian transitional government
Memorandum of Understanding creating Ethiopia-Egypt Council of Commerce December 2009	Bilateral commitment to enhance the trade and investment ties between the two countries, including agriculture, industrial development and trade (protecting and encouraging investments); new agreements were signed to address double taxation avoidance and removing obstacles to trade. The agreement includes multiplying the amount of frozen meat and living cattle imported from Ethiopia. This Memorandum of Understanding was agreed under the terms that include the construction of three medium sized dams on the Eastern Nile Basin to generate electricity for industry as long as it does not affect Egypt's Nile water quota.
Memorandum of Understanding on 20 sectoral points, March 2010	The Ethio-Egyptian Joint Ministerial Commission signed cooperation agreements in the areas of agriculture, trade, health, transit of live animals and beef meat, economic development, information science, technology, education, air service, media and communications among others. The agreement increased trade partnership projects with Egyptian investors significantly boosting the economic relations of the two nations and enhancing trade relations of the two countries by encouraging Egyptian investors to Ethiopia.
Ethiopia - Sudan	
Treaty between Britain and Ethiopia in 1902	This was signed on May 15, 1902, between Britain, representing the Sudan, and Ethiopia, to determine the boundary between Ethiopia and the Sudan. It also contained a provision relating to the water of the Nile. Ethiopia agreed, under Article III of the agreement, not to construct or permit construction on the Blue Nile and its tributaries, of any works that would arrest their flow,

	without the prior agreement of the government of Britain. (Interpretation of the treaty, and translation concerns not fully resolved)
Memorandum of Understanding on General Cooperation, Communications and Transportation, 2003	This agreement builds on prior un-specified agreements and MoUs between Sudan and Ethiopia, including those on general cooperation, communications and transportation, and specific to power trade agreements
Memorandum of Understanding on Free Trade Area between Ethiopia and Sudan, 2010	Relations between Ethiopia and Sudan continue to emerge as strong interrelated partnerships. There has been a recent series of Memoranda of Understanding pertaining to economic, social and infrastructure development, diplomatic ties, and measurement standards. The intention is to increase the work toward creation of a "free trade area" between Ethiopia and Sudan.
Egypt - Sudan	
Nile Water Agreement in 1929	This was concluded between Egypt's then Prime Minister Mohammad Mahmud and the British High Commissioner Lord George Lloyd. The agreement took the form of two letters dated May 7, 1929 and a report by the Water Committee. Britain signed the agreement on behalf of Sudan, Uganda and Tanganyika (present Tanzania), the three of which were countries under British occupation. The most prominent stipulations were that: • Without the prior agreement of the Egyptian government, no works, either for irrigation or power generation purposes, and no arrangements of any kind should be attempted affecting the Nile, its tributaries or the lakes where it originates in Sudan, or in the other countries under British occupation. • No works and/or arrangements were allowed that could reduce the amount of water reaching Egypt, change the date on which it was due or lower its levels in any way that would be harmful to Egypt. • Egypt's natural and historical rights to waters of the Nile were protected under the agreement.
Egypt and the Sudan Nile Agreement in 1959 (*Also referred to as the Nile Water Treaty of 1959, or the '59 Agreement*)	Signed by Egypt and Sudan in November 1959, it ensures Egypt's right to 48 billion meters3 of water a year as well as Sudan's right to 4 billion meters3. The two countries also agreed to the establishment in Egypt of the Aswan High Dam and in Sudan of Roseires reservoir on the Blue Nile. The Agreement further provides for the sharing by both countries of the 22 billion cubic meters of water that could have been lost to spill and evaporation had it not been for the establishment of the Aswan High Dam (Egypt's share is put at 14.5 billion meters3 (bringing the country's total quota to 55.5 billion meters3), Sudan's at 7.5 billion meters3 (its total quota is 18.5 billion meters3). Egypt and Sudan moreover agreed to a number of projects which aim at reducing water wasted in Bahr al-Jabal, Bahr al-Zaraf, Bahr al-Ghazal, the Sobat and the White Nile. Any losses from upstream developments would be split 50/50, as would any net gains in water quantity. Under the Agreement, an organization (The Nile Water Authority) was established jointly by Egypt

	and Sudan to handle Nile water issues, both operate within each country Ministry of Water Resources and Irrigation (Egypt) and Ministry of Irrigation and Water Resources (Sudan) Established the Permanent Joint Technical Commission for Nile Waters (PJTC)
Agreement promoting political and economic integration, 1974	Signed by both Presidents to support integration between countries and enhance trade
Egyptian Sudan Integration Scheme, 1982	Established: • The Supreme Council for Integration, • The Nile Valley Parliament, and • The Egypt-Sudan Integration Fund
Multiple Trade Agreements (1993 - 2003	A trade exchange protocol (signed March 1993) An agreement (signed November 2003) whereby Egypt would import frozen meat from Sudan; Agreement on facilitating the purchase of Sudanese camels by Egypt; and, Agreement on the establishment of a free trade zone in Juba
Joint Projects (ongoing)	A number of joint projects are being implemented in the fields of transport, roads and irrigation. The most important are: • The Coastal Egypt-Sudan Highway. • The Aswan-Wadi-Halfa-Dongola Highway. • Developing and restructuring railroads to facilitate the movement of individuals and commodities. • Extending the electricity grid to north Sudan. • Cooperating in the area of water resources and reviving the Jonglei Canal project. • Clearing the southern part of the River Nile. • Developing Sudan's irrigation and sewage network.

H.2. Multilateral Environmental Agreements

Agreement Name and Year		Status*		
		Egypt	Ethiopia	Sudan
Agreement on the Conservation of African-Eurasian Migratory Waterbirds	1999	S: 1997 R: 1999		S: 1996 R: 1996
Kyoto Protocol	1997	R: 2005	R: 2005	R: 2004
United Nations Convention to Combat Desertification (UNCCD)	1994	S: 1994 R: 1995 E: 1996	S: 1994 R: 1997 E: 1997	S: 1994 R: 1995 E: 1996
Lusaka Agreement on Co-operative Enforcement Operations Directed at Illegal Trade in Wild Fauna and Flora	1994		S: 1994 E:1996	
United Nations Framework Convention on Climate Change (UNFCCC)	1992	S: 1992 R: 1994 E: 1995	S: 1992 R: 1994 E: 1994	S: 1992 R: 1993 E: 1994
Convention on Biological Diversity	1992	S: 1992 R: 1994	S: 1992 R: 1994 E: 1994	S: 1992 R: 1995 E: 1996
The Rio Declaration on Environment and Development	1992	S	S	S
Agenda 21	1992	S	S	S
Bamako Convention on the Ban of the Import into Africa and the Control of Transboundary Movement and Management of Hazardous Wastes within Africa	1991	S: 1991	1991	S
Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal	1989	C: 1993	C: 2000	C: 2006
Montreal Protocol on Substances that Deplete the Ozone Layer	1987	S: 1987 R: 1988 E: 1993	C: 1994 E: 1995	C: 1993 E: 1993
Vienna Convention for the Protection of the Ozone Layer	1985	S: 1985 R: 1988 E: 1988	C: 1994 E: 1995	C: 1993
UN Convention on the Law of the Sea	1982	S: 1982 R: 1983 E: 1994	S	R: 1985

Convention on the Conservation of Migratory Species of Wild Animals, Bonn (CMS)	1979	S: 1979 R: 1982 E: 1983[1]	E: 2010[2]	[3]
Convention of International Trade in Endangered Species Wild Fauna and Flora (CITES)	1973	C: 1978 E: 1978	C: 1989 E: 1989	R: 1982 E: 1983
Convention Concerning the Protection of the World Cultural and Natural Heritage, Paris	1972	R: 1974 E: 1975	R: 1977	R: 1974
Biological and Toxin Weapons Convention (BTWC)	1972	S: 1972	E: 1975	
Convention on Wetlands of International Importance Especially as Waterfowl Habitat, Ramsar	1971	R: 1988 E: 1988		E: 2005
African Convention on the Conservation of Nature and Natural Resources, Algiers	1968	S: 1968 R: 1972 E: 1972	S: 1968	S: 1968 R: 1973 E: 1973
Phyto-sanitary Convention for Africa, Kinshasa	1967	E: 1968	E: 1974	

Appendix I: Financial Institution Safeguards

I.1. World Bank

Operational Principles of Environmental Assessment
1. Use a screening process for each proposed project, as early as possible, to determine the appropriate extent and type of environmental assessment (EA) so that appropriate studies are undertaken proportional to potential risks and to direct, and, as relevant, indirect, cumulative, and associated impacts. Use sectoral or regional environmental assessment when appropriate.
2. Assess potential impacts of the proposed project on physical, biological, socio-economic and physical cultural resources, including trans-boundary and global concerns, and potential impacts on human health and safety.
3. Assess the adequacy of the applicable legal and institutional framework, including applicable international environmental agreements, and confirm that they provide that the cooperating government does not finance project activities that would contravene such international obligations.
4. Provide for assessment of feasible investment, technical, and siting alternatives, including the "no action" alternative, potential impacts, feasibility of mitigating these impacts, their capital and recurrent costs, their suitability under local conditions, and their institutional, training and monitoring requirements associated with them.
5. Where applicable to the type of project being supported, normally apply the Pollution Prevention and Abatement Handbook (PPAH).1 Justify deviations when alternatives to measures set forth in the PPAH are selected.
6. Prevent and, where not possible to prevent, at least minimize, or compensate for adverse project impacts and enhance positive impacts through environmental management and planning that includes the proposed mitigation measures, monitoring, institutional capacity development and training measures, an implementation schedule, and cost estimates.
7. Involve stakeholders, including project-affected groups and local nongovernmental organizations, as early as possible, in the preparation process and ensure that their views and concerns are made known to decision makers and taken into account. Continue consultations throughout project implementation as necessary to address EA-related issues that affect them.
8. Use independent expertise in the preparation of EA where appropriate. Use independent advisory panels during preparation and implementation of projects that are highly risky or contentious or that involve serious and multi-dimensional environmental and/or social concerns.
9. Provide measures to link the environmental assessment process and findings with studies of economic, financial, institutional, social and technical analyses of a proposed project.
10. Provide for application of the principles in this Table to subprojects under investment and financial intermediary activities.
11. Disclose draft EA in a timely manner, before appraisal formally begins, in an accessible place and in a form and language understandable to key stakeholders.

The WB's Operational Policies (OP) give guidance on EA requirements and ensure that operations of Bank financed projects do not lead to adverse impacts or cause any harm. The Environmental Assessment process includes the process of mitigating and managing environmental and social impacts throughout project implementation. The Bank's Environmental Assessment Sourcebook

provides technical guidance on these issues. Other operational safeguards that may potentially be triggered by ENSAP project preparation include:

- OP 4.01 (Environmental Assessment)
- OP 4.04 (Natural Habitats)
- OP 4.09 (Pest Management)
- OP 4.11 (Cultural Property)
- OP 4.12 (Involuntary Resettlement)
- OP 4.20 (Indigenous People)
- OP 4.36 (Forests)
- OP 4.37 (Safety of Dams)
- OP 7.50 (Projects in International Waterways)
- OP 7.60 (Disputed Areas)

I.2. African Development Bank

The Borrower's Responsibilities

- Provide baseline environmental and social information to facilitate the screening process;
- Prepare TOR for ESA studies with appropriate consultations, unless OPs decide to do so;
- Retain independent environmental and social expertise to prepare ESIA for Category 1 projects;
- Conduct meaningful consultations and ensure follow-up during ESIA preparation;
- Prepare an ESMP for Category 2 projects, unless OPs decide to do so;
- Consult on Category 2 projects as requested by OPs;
- Approve ESA studies (ESIA Report and ESMP) prior to Project Appraisal and Bank review;
- Finalize ESIA Report and prepare ESMP according to Bank's comments (Category 1);
- Finalize ESMP according to Bank's comments (Category 2);
- Ensure compliance to ESMP during project activities (construction and operations);
- Continue to consult with relevant stakeholders throughout project implementation;
- Monitor environmental and social impacts of project activities;
- Report to OPs on ESMP implementation and ongoing consultations;
- Propose changes to ESMP whenever non-compliance to agreed requirements or unexpected impacts are noted.

I.3. Equator Principles Financial Institutions

Principle 1: Review and Categorization

When a project is proposed for financing, the EPFI will, as part of its internal social and environmental review and due diligence, categorize such project based on the magnitude of its potential impacts and risks in accordance with the environmental and social screening criteria of the International Finance Corporation (IFC).

Principle 2: Social and Environmental Assessment

For each project assessed as being either Category A or Category B, the borrower has conducted a Social and Environmental Assessment ("Assessment") process2 to address, as appropriate and to the EPFI's satisfaction, the relevant social and environmental impacts and risks of the proposed project (which may include, if relevant, the illustrative list of issues as found in Exhibit II). The Assessment should also propose mitigation and management measures relevant and appropriate to the nature and scale of the proposed project.

Principle 3: Applicable Social and Environmental Standards

For projects located in non-OECD countries, and those located in OECD countries not designated as High-Income, as defined by the World Bank Development Indicators Database, the Assessment will refer to the then applicable IFC Performance Standards and the then applicable Industry Specific EHS Guidelines ("EHS Guidelines"). The Assessment will establish to a participating EPFI's satisfaction the project's overall compliance with, or justified deviation from, the respective Performance Standards and EHS Guidelines.

The regulatory, permitting and public comment process requirements in High-Income OECD Countries, as defined by the World Bank Development Indicators Database, generally meet or exceed the requirements of the IFC Performance Standards and EHS Guidelines. Consequently, to avoid duplication and streamline EPFI's review of these projects, successful completion of an Assessment (or its equivalent) process under and in compliance with local or national law in High-Income OECD Countries is considered to be an acceptable substitute for the IFC Performance Standards, EHS Guidelines and further requirements as detailed in Principles 4, 5 and 6 below. For these projects, however, the EPFI still categorizes and reviews the project in accordance with Principles 1 and 2 above.

The Assessment process in both cases should address compliance with relevant host country laws, regulations and permits that pertain to social and environmental matters.

Principle 4: Action Plan and Management System

For all Category A and Category B projects located in non-OECD countries, and those located in OECD countries not designated as High-Income, as defined by the World Bank Development Indicators Database, the borrower has prepared an Action Plan (AP) which addresses the relevant findings, and draws on the conclusions of the Assessment. The AP will describe and prioritize the actions needed to implement mitigation measures, corrective actions and monitoring measures necessary to manage the impacts and risks identified in the Assessment. Borrowers will build on, maintain or establish a Social and Environmental Management System that addresses the management of these impacts, risks, and corrective actions required to comply with applicable host country social and environmental laws and regulations, and requirements of the applicable Performance Standards and EHS Guidelines, as defined in the AP.

For projects located in High-Income OECD countries, EPFIs may require development of an Action Plan based on relevant permitting and regulatory requirements, and as defined by host-country law.

Principle 5: Consultation and Disclosure

For all Category A and, as appropriate, Category B projects located in non-OECD countries, and those located in OECD countries not designated as High-Income, as defined by the World Bank Development Indicators Database, the government, borrower or third party expert has consulted with project affected communities in a structured and culturally appropriate manner.4 For projects with significant adverse impacts on affected communities, the process will ensure their free, prior and informed consultation and facilitate their informed participation as a means to establish, to the satisfaction of the EPFI, whether a project has adequately incorporated affected communities' concerns.

In order to accomplish this, the Assessment documentation and AP, or non-technical summaries thereof, will be made available to the public by the borrower for a reasonable minimum period in the relevant local language and in a culturally appropriate manner. The borrower will take account of and document the process and results of the consultation, including any actions agreed resulting from the consultation. For projects with adverse social or environmental impacts, disclosure should occur early in the Assessment process and in any event before the project construction commences, and on an ongoing basis

Principle 6: Grievance Mechanism

For all Category A and, as appropriate, Category B projects located in non-OECD countries, and those located in OECD countries not designated as High-Income, as defined by the World Bank Development Indicators Database, to ensure that consultation, disclosure and community engagement continues throughout construction and operation of the project, the borrower will, scaled to the risks and adverse impacts of the project, establish a grievance mechanism as part of the management system. This will allow the borrower to receive and facilitate resolution of concerns and grievances about the project's social and environmental performance raised by individuals or groups from among project-affected communities. The borrower will inform the affected communities about the mechanism in the course of its community engagement process and ensure that the mechanism addresses concerns promptly and transparently, in a culturally appropriate manner, and is readily accessible to all segments of the affected communities.

Principle 7: Independent Review

For all Category A projects and, as appropriate, for Category B projects, an independent social or environmental expert not directly associated with the borrower will review the Assessment, AP and consultation process documentation in order to assist EPFI's due diligence, and assess Equator Principles compliance.

Principle 8: Covenants

An important strength of the Principles is the incorporation of covenants linked to compliance. For Category A and B projects, the borrower will covenant in financing documentation:

a) to comply with all relevant host country social and environmental laws, regulations and permits in all material respects;
b) to comply with the AP (where applicable) during the construction and operation of the project in all material respects;

c) to provide periodic reports in a format agreed with EPFIs (with the frequency of these reports proportionate to the severity of impacts, or as required by law, but not less than annually), prepared by in-house staff or third party experts, that i) document compliance with the AP (where applicable), and ii) provide representation of compliance with relevant local, state and host country social and environmental laws, regulations and permits; and
d) to decommission the facilities, where applicable and appropriate, in accordance with an agreed decommissioning plan.

Where a borrower is not in compliance with its social and environmental covenants, EPFIs will work with the borrower to bring it back into compliance to the extent feasible, and if the borrower fails to re-establish compliance within an agreed grace period, EPFIs reserve the right to exercise remedies, as they consider appropriate.

Principle 9: Independent Monitoring and Reporting

To ensure ongoing monitoring and reporting over the life of the loan, EPFIs will, for all Category A projects, and as appropriate, for Category B projects, require appointment of an independent environmental and/or social expert, or require that the borrower retain qualified and experienced external experts to verify its monitoring information which would be shared with EPFIs.

Principle 10: EPFI Reporting

Each EPFI adopting the Equator Principles commits to report publicly at least annually about its Equator Principles implementation processes and experience, taking into account appropriate confidentiality considerations.

Appendix J: Summary of ENSAP Project Portfolio

1. Watershed Management Project	
Start Date	30 April 2009
Closing Date	31 December 2014
Description	Will establish sustainable management of selected watersheds on the Eastern Nile. This will help raise agricultural productivity; protect the environment; reduce erosion and siltation that can clog dams and irrigation canals; and lay the groundwork for future sustainable development-oriented investments.
Objectives	- Develop and sustain a mechanism for generation and exchange of information and expertise for decision making on the management of the natural resources of the Eastern Nile. - Decrease population pressures and increase land productivity so that sustainable livelihoods and land use practices can be secured for the target populations.
2. West Delta Water Conservation and Irrigation Rehabilitation Sub-Project	
Start Date	21 June 2007
Closing Date	30 June 2011
Description	Will develop and expand irrigated agriculture and improve the productivity of existing small- and large-scale agriculture through more efficient use of water. Will also promote the engagement of the private sector and help improve access to markets and credit. Increased agricultural productivity will, in turn, lead to greater food security through higher-value crops, increase rural employment opportunities, and improve the livelihoods and incomes of both men and women in rural areas.
Objectives	Improve the livelihood and increase the income of people in the West Delta region of Egypt through: (i) mitigating further environmental degradation caused by excessive drawdown of the groundwater resources; and (ii) establishing a framework for financial sustainability of irrigation infrastructure in the use of water resources.
3. Ethiopia Irrigation and Drainage Sub-Project	
Start Date	21 June 2007
Closing Date	31 October 2015
Description	Will develop and expand irrigated agriculture and improve the productivity of existing small- and large-scale agriculture through more efficient use of water. It will also promote the engagement of the private sector and help improve

	access to markets and credit. Increased agricultural productivity will, in turn, lead to greater food security through higher-value crops, increase rural employment opportunities, and improve the livelihoods and incomes of both men and women in rural areas.
Objectives	Increase sustainable agricultural output and productivity in project areas through three technical components: (i) Irrigation Development; (ii) Agricultural and Market Development; and (iii) Irrigation Management.
4. Ethiopia Power Export Project (formerly the Ethiopia-Sudan Interconnection Project)	
Start Date	20 December 2007
Closing Date	31 December 2011
Description	Will connect the power grids of Ethiopia and Sudan to facilitate cross-border energy trade and optimize existing and planned generation capacity. This is needed in order to overcome the severe electricity shortage in both countries, which is a major constraint to poverty reduction and economic growth. It is a first step toward greater regional power trade.
Objectives	- Short term objective: Facilitate, through high voltage transmission line, cross-border power trade between Ethiopia and Sudan, and thus optimize utilization of existing and planned generation capacity. - Long term objective: promote regional power trade through coordinated planning and development of power generation and transmission interconnections in the context of multi-purpose water resources development on the Eastern Nile region.
5. Flood Preparedness and Early Warning	
Start Date	1 June 2007
Closing Date	30 June 2010
Description	The Eastern Nile (EN) comprises major river systems that exhibit substantial inter and intra-annual variations of stream flows with almost 80-85% of the rainfall occurring during the months June - September. Thus, concomitant with negligible flood storage in the region (except for Aswan Dam) and low capacity for national and regional flood management, the countries in the EN region are vulnerable to floods. The extensive floodplains of Sudan and areas of Ethiopia are particularly at risk. These major floods directly result in loss of livelihoods, particularly for the poor who frequently inhabit the vulnerable floodplain areas, and can cause significant economic damages.
Objectives	- Reduce human suffering and damages, as well as capture the benefits of excess flood waters resulting from flooding in the Eastern Nile. - Establish a regional institutional basis and strengthen the existing capacities of the EN countries in flood forecasting, mitigation and management, promoting regional cooperation.

6. Eastern Nile Planning Model (ENPM)	
Start Date	1 July 2009
Closing Date	30 October 2012
Description	An essential element for cooperation on the Eastern Nile is the development of a shared knowledge base and appropriate analytical tools, used effectively to support decision making among multiple stakeholders. Currently, the knowledge base is fragmented and inconsistent, sharing of information is minimal, and there is lack of shared, modern, flexible analytical tools to envision various development scenarios and analyze their implications from economic, environmental and social viewpoints.
Objectives	The project is intended to strengthen the knowledge, modeling, and stakeholder interaction capacity of regional and national institutions to plan for water resources investments in a regional context, with appropriate regard to economic, environmental and social aspects.
7. Baro-Akobo-Sobat Multipurpose Water Resources Development Project	
Start Date	
Closing Date	
Description	Baro Akobo–Sobat sub-basin is characterized by high river flows, extensive flooding, high evaporation and seepage rates and land degradation. Being a post conflict zone, the area exhibits high incidence of poverty and livelihood insecurity. The sub-basin is also one of the most important, environmentally sensitive wetlands of the region. River regulation, flood management, water conservation, enhancing fisheries and agricultural production and environmental protection are some of the measures envisaged to address these problems.
Objectives	Promote social and economic development, enhancing food and energy security and reduction of rural poverty through sustainable management of the water resources of the sub basin. The specific aims of the project at this stage are to generate data and information for analysis of technical, social and economic parameters vital for formulation and implementation of integrated water resources development in the Baro-Akobo-Sobat sub-basin.
8. Eastern Nile Power Trade Investment Program Study (ENPTP)	
Start Date	September 2006
Closing Date	December 2008
Description	Three main axes : - Development of a strategy to establish a power pool. - Pre - feasibility studies of three major hydro schemes. - Coordinated regional power and transmission investment programme

	(feasibility studies of interconnection).
Objectives	- Cheap and reliable supply of electricity for economic growth, employment generation and poverty alleviation. - Create a framework for power generation and transmission in the eastern Nile basin countries. - Taking environmental and social issues into consideration

9. Joint Multi-Purpose Program(JMP)	
Start Date	
Closing Date	ongoing
Description	The trans-boundary nature of the Eastern Nile offers a unique opportunity for cooperative development and management. A program of cooperative development on the Eastern Nile with joint institutions and infrastructure in Egypt, Ethiopia, and Sudan can have major forward linkages into regional relations and trade in the sub-region and provide transformational socio-economic benefits. Regional and multi-sector infrastructure projects achieve economies of scale and enable access to wider markets, producing synergistic effects and increased benefits relative to national and single purpose projects. Moreover, cooperation will enable the joint management of risk of water-related impacts (in particular floods, droughts and climate change) and the joint development of productive opportunities
Objectives	Undertake cooperative and sustainable development & management of shared water resources: – Increase Access to Hydro-power – Improve management of watershed – Productive agricultural use of water resources – Water conservation improvement – Flood/drought preparedness improvement – Effective join EN institution establishment

Appendix K: Documents Consulted

Reference Number	Publication Date	Title of Report/Study	Produced By
1.	May 2001	Transboundary Environmental Analysis	NBI
2.	2008	Eastern Nile Planning Model, Integration with IDEN Projects to Deal with Climate Change	ENTRO
3.	Sept. 2008	Social Assessment Manual (SAM)	ENTRO SDCO
4.	Jan. 2009	Guidelines of Principles and Procedures for Environmental Impact Assessment	EEAA
5.	March 2010	Evaluation of the Environmental Policy and Impact Assessment Process in Ethiopia	
6.	July 2010	Sectoral Evaluation of EIA Practice in the Sudan	
7.	Jan. 2010	Note on Structuring the Environment Management Process at ENSAP	ENTRO
8.	Feb. 2008	Environmental Assessment Framework for Regional Power Projects in Nile Basin Countries	NBI
9.	July 2010	Terminal Evaluation Report	NTEAP
10.	May 2005	Transboundary Environmental Assessment Guidelines for Shared Ecosystems in East Africa	EAC
11.	Jan. 2009	Impact Assessment Guidelines	EC
12.	1995	Agreement on the Cooperation for the Sustainable Development of the Mekong River Basin	MRC
13.	1995	Mekong Agreement and Procedural Rules	MRC
14.	2007	Case Study of Transboundary Dispute Resolution	OMVS
15.	Jan. 2003	Lake Chad Global Environmental Facility Project Document	LCBC
16.	Oct. 2003	Integrated Envrionmental and Social Impact Assessment Guidelines	AfDB
17.	July 2006	The "Equator Principles"	
18.	June 2001	Environmental and Social Assessment Procedures for Public Sector Operations	AfDB
19.	Sept. 2003	Strategic Impact Assessment Guidelines	ADB
20.	May 2009	Strategy for Addressing Environmental and Social Safeguards under the Proposed NBI Institutional Strengthening Project	NBI

Appendix L: Individuals Consulted

- Dr Nadir Awad (Consultant- PIES)
- Dr Osman Mirghani Ali (University of Khartoum (IES)
- Hassan Mohamed Hassan (Consultant World Bank/Darfur Land Commission)
- Prof Asim Elmoghrabi (Consultant- PIES)
- Dr Salah Shazali (ENTRO SOO)
- Dr Mohamed Elmuntasir (ENTRO EMS)
- Mr. Alemayehu Tafesse (Env. Specialist, Ethiopia)
- Mr. Yonas T/Michael (Env. Specialist, Ethiopia)
- Mr. Zemene Worku (Env. Specialist, Ethiopia)
- Mr. Nega Abrha (Env. Specialist, Ethiopia)
- Dr. Nicholas Azza (Nile-SEC)
- Ms. Emerita Mugorewicyeza (Nile-SEC)
- Dr. Ekhlass Gamal El Din – Environmental Expert- EEAA
- Dr. Ithar Khalil-Environmental Consultant – Ex NTEAP NPC
- Dr. Moomen El Sharkawy – Social Expert
- Dr. Mohamed Mohidien- Social Expert
- Dr. Tarek Genena- Environment Specialist- Consultant
- Dr. Mohamed El Muntasir- Environmental Specialist- ENTRO EMS
- Dr. Wubalem Fekade- SDO-ENTRO

Photo: Shutterstock

ONE RIVER ONE PEOPLE ONE VISION

NILE BASIN INITIATIVE
INITIATIVE DU BASSIN DU NIL

Nile Basin Initiative Secretariat
P.O. Box 192
Entebbe - Uganda
Tel: +256 417 705 000
+256 417 705 117
Email: nbisec@nilebasin.org
Website: http://www.nilebasin.org
Facebook: /Nile Basin Initiative
Twitter: @nbiweb

Eastern Nile Technical Regional Office
Dessie Road
P.O. Box 27173-1000
Addis Ababa - Ethiopia
Tel: +251 116 461 130/32
Fax: +251 116 459 407
Email: entro@nilebasin.org
Website: http://ensap.nilebasin.org

Nile Equatorial Lakes Subsidiary Action Programme Coordination Unit
Kigali City Tower
KCT, KN 2 St, Kigali
P.O. Box 6759, Kigali Rwanda
Tel: +250 788 307 334
Fax: +250 252 580 100
Email: nelsapcu@nilebasin.org
Website: http://nelsap.nilebasin.org

NBI MEMBER STATES

Burundi · DR Congo · Egypt · Ethiopia · Kenya · Rwanda · South Sudan · The Sudan · Tanzania · Uganda

/Nile Basin Initiative @nbiweb

#NileCooperation; #NileBasin; #OneNile