



THEMATIC ASSESSMENT REPORT
*THE UNITED NATIONS CONVENTION
ON BIOLOGICAL DIVERSITY*
(UNCBD)

NATIONAL CAPACITY SELF ASSESSMENT
(NCSA) PROJECT TIMOR LESTE

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LIST OF ACRONYMS

ARP	Agricultural Rehabilitation Project
CoPs	Conference of Parties
CHM	Clearing house Mechanisms
CDCU	Capacity Development Coordination Unity
CBF	Capacity Building Facility
CBM	Community Based Management
CITIES	Convention on International Threat and Endanger Species
EGSP	Environment Governance Support Programs
EEZ	Exclusive Economic Zone
GEF	Global Environment Facility
GoTL	Government of Timor-Leste
IBA	Important Bird Areas
IUCN	International Union for Conservation of Nature and Natural Resources
MAFF	Ministry of Agriculture, Forestry and Fisheries
MEA	Multilateral Environmental Agreement
NBSAP	National Biodiversity Strategy and Action Plan
NEAP	National Environmental Action Plan
NCSA	National Capacity Self-Assessment
NDCF	National Directorate of Coffee and Forestry
NDP	National Development Plan
NFP	National Focal Point
NGO	Non-Governmental Organization
NDT	National Directorate of Tourism
NDES	National Directorate of Environmental Service
NDCF	National Directorate of Coffee and Forestry
NDFA	National Directorate of Fisheries and Aquaculture
NC	National Consultant
PSM	Public Sector Management
PNA	Protected Natural Areas
SECTOPD	Secretariat of State for Environment Coordination, Territorial Ordering and Physical Development
SIP	Sector Investment Plan
SBSTA	Subsidiary Body on Scientific, Technical and Technological Advice
SWG	Sectoral Working Group
SWOT	Strength, Weaknesses, Opportunities and Threat
TWG	Thematic Working Group
TL	Timor Leste
UNTL	University National of Timor Leste
UNCBD	United Nations Convention on Biodiversity
UNDP	United Nations Development Program
UNTAET	United Nations Transitional Administration in Timor-Leste

Executive Summary

The Democratic Republic of Timor Leste (RDTL) has just become party to the United Nations Convention on Biological Diversity (UNCBD). However, there have been joint efforts between the Government of Timor Leste (GoTL) and the United Nations Development Program (UNDP) to take steps to prepare TL towards accession to the UNCBD and these efforts have literally been fruitful. In April 2006, the National Parliament of TL has passed resolution No. 34/04/01/2006 and legalized the ratification of the UNCBD.

The main objective of conducting the UNCBD thematic assessment is to identify priority issues, capacity constraints for these priority issues at systemic, institutional and individual level. It also looks at capacity development opportunities arise from identified capacity constraints to identify actions to remove the constraints.

The UNCBD focuses on 7 thematic areas and most of them correlate to the natural ecosystem and biophysical condition of TL, since TL has six major ecosystem types (marine and coastal zone; arid lowland areas; moist lowland areas; mountainous areas; highland plains and wetlands). Those six (6) ecosystem and natural types of TL is fall under the seven (7) thematic programs of the convention.

It is with this information in hand and information from the convention, the Thematic Working Group (TWG) for UNCBD has been able to identify priority areas and capacity constraints as well as determined opportunities for capacity development. The TWG was assisted by the National Consultant who participated in collecting and reviewing data and relevant documents as well as facilitates discussion and interviews. As a result five (5) priority thematic areas were identified and confirmed as priority for the implementation of the UNCBD in TL. These issues are ***agriculture biodiversity, forest biodiversity, inland water biodiversity, coastal/marine biodiversity and mountain biodiversity***. The TWG has also identified **six (6)** priority obligations issues as required by the convention. Those issues are: ***Effective national biodiversity planning, In-Situ conservation, Identification and monitoring component of biodiversity, financial mechanism, Research and technical training, Education and public awareness***.

The SWOT analysis was used to identify strengths and weaknesses to meet obligations of the UNCBD. The results of the SWOT analysis were used to identify weaknesses, interpreted as capacity constraints, from which specific capacity-needs were identified. The findings relating to constraints can be summarized as follows: The main systemic capacity constraints identified in the country are revolved around limited and inadequate policy and strategy framework either for conservation of biodiversity or environmental management in general. The legislative framework currently assigns responsibilities for the conservation of biodiversity among numerous institutions and often these have overlapping, and at times conflicting, mandates and jurisdiction.

TL will need to strengthen its individual capacity to perform key functions require by the convention such conceptualization and formulation of policies, legislation, program and its implementation. The challenges with capacity issues at systemic level revolve around the lack of legal and regulatory framework and structures, lack of finance and financial mechanism and inadequate human resources. Thus, effective mobilization of human capacity requires a solid and internalized understanding of the value of biodiversity, strong management skills, institutional knowledge, respectable working conditions, and necessary financing.

SECTION I: INTRODUCTION

1.1. Background

TL has just become party to the United Nations Convention on Biological Diversity (UNCBD) on 08 January 2007. However, there have been joint efforts between the Government of Timor Leste (GoTL) and the United Nations Development Program (UNDP) to take steps to prepare TL towards accession to the UNCBD and these efforts have literally been fruitful. Firstly, a Country Dialogue was initiated on the Global Environmental Facility (GEF) held in Dili in 2005. The objective was to provide opportunity for the GoTL to understand the benefits and procedure to access resources that the GEF provided to address national environmental issues, which will contribute to reduce global environmental problem.

Secondly, the Council of Ministers of the GoTL had approved in February 2006 to establish a Multilateral Environmental Agreements (MEA) Secretariat as a subordinate of the National Directorate for Environmental Services under the Secretariat of State for Environmental Coordination, Territorial Ordering and Physical Development (SSECTOPD) which is under the Office of the Prime Minister. The Secretariat will be responsible for the coordination of the implementation of MEAs, country participation in MEAs and capacity building of line agencies in relation to MEAs.

Finally, along with the approval on the establishment of the MEAs Secretariat, the GoTL has also proposed accession to the UNCBD together with the United Nations Framework Convention on Climate Change (UNFCCC) to the National Parliament of TL, to seek approval to become a party of both conventions. The National Parliament unanimously ratified both conventions on 11th of April 2006 and has passed resolution No. 34/04/01/2006 and legalized ratification of the UNCBD as national matter, which provides the legal based for the GoTL to accede to the UNCBD. The GoTL has shown its commitment to accede to the Convention through its participation, for the first time, in the Conference of Parties (COP) 8th meeting, recently held at Curitiba, Brazil.

1.1.1 National Obligation under the Convention

Strategically, under Article 6 (a) of the Convention countries are required to develop the National Biodiversity Strategy and Action Plan (NBSAP) to integrate biodiversity into all sectors program and plan as well as identify necessary action and measure for conservation of biodiversity and sustainable use of genetic resources. Enactment of legislation to regulate and promote sharing of benefits from the use of genetic resources (Article 15), and creation of incentive measures for conservation and sustainable use of biodiversity (Article 11) and reporting to the COP and the Secretariat (article 26).

1.1.2. Context of the Convention

The UNCBD focuses on seven (7) thematic programs such as marine and coastal biodiversity, agricultural biodiversity, forest biodiversity, island biodiversity, inland waters biodiversity, dry and sub-humid lands biodiversity and mountain biodiversity. There are several issues that cut across these focus themes, including access to genetic resources and traditional knowledge innovations and practices (Article 8(j)). Generally, TL has six major ecosystem type such as marine and coastal zone; arid lowland areas; moist lowland areas; mountainous areas; highland plains and wetlands. The natural ecosystem and biophysical condition of TL correlates with the

various thematic areas and cross-cutting issues set out as work programs under the Convention (*See Annex 1 - Ecology Map of Timor Leste*).

TL has a coastline approximately 700 km in length, and a potential exclusive economic zone (**EEZ**) of approximately 75,000 km², although the precise boundaries of this zone have not yet been determined (SIP/MAFF, 2005, Pg 36). Based on available data on changes in forest cover from 1972 to 1999, it is estimated that the rate of deforestation during this period was equivalent to 1.1% per year, four times higher than the global average of 0.3%. Within this period, it was estimated that about 114,000 hectares (35%) of dense forest were lost and 78,000 hectares (24%) of sparse forest were destroyed. Most alarming was an increase of more than 200,000 hectares of open areas (SLM ProDoc, Pg 7). As a result of deforestation, there is severe soil erosion, reduction in forest productivity and loss of biodiversity.

There are two native tree species that produce valuable timber, that is, Suren (*Tona sureni*) and Sandalwood (*Santalum Album*). Sandalwood has been harvested from TL since approximately 1,000 years ago and today only a few still remain standing as illegal logging poses a problem in the country (SIP/MAFF, 2005). The natural type of forest in TL is dominated by *Eucalyptus alba*, *Eucalyptus urophylla* and mixture of tree species; include some that are cultivated for timber production, such as *Pterocarpus indicus*.

The agriculture biodiversity in TL is spread over various ecological zones and are comprised of many species of agricultural varieties. TL is endowed with a unique heritage of diverse vegetables, fruits, crops, forages, tubers and cereals. For example, there are 20 known local varieties of nuts, 15 varieties of maize and several multipurpose tree species native to TL. There are also indigenous breeds of animals, including cattle, sheep, goats and birds. There are many wild animals, including fish and other aquatic life, which could be domesticated as sources of food. Inland waters biodiversity is found in several lakes, rivers and wetlands. The major freshwater lake of the country is Iralalalo in the District Lospalos and a few other lakes in Maubara, District Liquica and Tasitolu Lake, in Dili. There are 6 major river systems in TL. The biggest river system is Laclo River and Loes River.

Since the provisions of the Convention, its context and principles are closely related to the biophysical and the natural ecosystem of TL, as described above, the Convention itself was able to provide insight and guidance for TWG to identify priority issues for the country to implement the Convention. The TWG was able to base its work on the thematic areas and cross-cutting issues that has been the work program of the Convention.

1.2. Purpose and Scope

The assessment seeks to identify capacity constraints and actions to remove the constraints through identification of priority areas for action to facilitate better implementation of the Convention. Therefore, the main objective of the UNCBD thematic assessment is to identify:

1. Priority issues of the thematic area;
2. Capacity constraints for these issues at systemic, institutional and individual level;
3. Opportunities for capacity building to address the identified constraints.

1.3. Methodological Approach

Methodological approach for collecting and reviewing data were done through the review of relevant documents, consultations, discussions, interviews, and mini workshops.

Capacity assessment was carried out through SWOT analysis based on the context and key provisions of UNCBD, which were assessed from the point of view of capacity availability of TL to meet the convention's obligations. The SWOT analysis was used to identify strengths and weaknesses in action taken to meet obligations under UNCBD as well as to identify key constraints for capacity development. The key priority-setting criteria were set as: the scale of the problem at issue, its urgency and availability of practical means to address it. The identification of stakeholders was done through the stakeholder analysis matrix. Relevant stakeholders were then identified, capacities were evaluated and key problems identified.

SECTION II: STATUS OF BIOLOGICAL DIVERSITY IN TIMOR LESTE AND ITS MANAGEMENT

The current status of biological diversity and efforts to manage its component in TL is described as follows:

2.1. Mountain Biodiversity (Mountainous Areas)

These areas are characterized by steep terrain, with altitudes 600 m and above. The original vegetation is semi-evergreen forest, moist deciduous forest, or non-deciduous forest. Several sites are protected by UNTAET regulation 2000/19. Under this regulation, fifteen (15) specific natural areas are protected and has been designated as Protected Natural Areas (PNAs). The majority of PNAs comprises primary forest areas, coral reefs, mangroves, wetland habitat and mountain summits with approximate Montana elevation of above 2,000 meters.

Table 1: The 15 Protected Natural Areas (PNA)¹ in Timor Leste

Locations	Identified Sites	Approximate Area (Hectares)	Approximate Elevation (Meters)
Tutuala, Lautem	Jaco Island	1,365	
Tutuala, Lautem	Tutual Forest Area	26,365	
Lospalos, Lautem	Lore Forest Reserve	11,000	
Bagia, Baucau	Matebian Mountain	-	2000
-	Monte Mundo Perdido	22,000	
-	Diatuto Mountain	15,000	2000
Dili	Cristo Rei	1,558	
Manufahi	Clere Lake	3,000	
-	Cablaque Mountain	18,000	2000
Ainaro	Saboria Mountain	-	
-	Talobo Mountain	-	
-	Tatmailau Mountain	-	2000
Dili	Manacoco Reserve	-	
Liquica	Fatumasin Reserve	4,000	
Covalima	Tilomar Reserve	-	
Total	15 sites	102,288 (SIC.)	

The BirdLife International in collaboration with NDES has conducted Rapid Biodiversity Survey in Jaco Island and Lake Iralalaru areas, which was among the first PNAs to be proposed as a national park (Conis Santana National Park). The Park is located in southeastern TL, which encompasses the regions largest lake (Ira Lalaro) and the greatest expanse of lowland tropical rainforest (Trainor et al., 2004). The National Directorate of Coffee and Forestry (NDCF) is the lead agency responsible for the management of protected areas.

2.2. Forest Biodiversity (Moist Lowland and High plain Areas)

The BirdLife International has conducted inventories of globally threatened birds and internationally significant sites in TL. The inventory has identified nine Important Bird Areas (IBAs) in TL such as Tilomar, Tata Mailau, Fatumasin, Atauro Island, Sungai Clere, Lore, Monte

¹ Adopted from the compiling Data on Forestry in Timor Leste, National Directorate Coffee and Forestry, DDCF, 2005

Paitchau, Jaco Island and Mount Diatuto (IBAs is presented in annex 2). The status of TL bird varieties and their dependence on closed canopy tropical vegetation is presented in table 2.1 below.

Table 2.1: Status of East Timor's Birds and Their Dependence on Closed Canopy Tropical²

English Name	Species	RR	Forest Fertility
Timor Green Pigeon	<i>Treron psittacea</i>	RR	HIGH
Timor Imperial Pigeon	<i>Ducula cineracea</i>	RR	MOD
Timor Black Pigeon	<i>Turacoena modesta</i>	RR	MOD
Wetar Ground Dove	<i>Gallicolumba hoedtii</i>	RR	HIGH
Olive-headed Lorikeet	<i>Trichoglossus euteles</i>	RR	MOD
Olive-shouldered Parrot	<i>Aprosmictus jonquillaceus</i>	RR	MOD
Timor Leaf warbler	<i>Phylloscopus presbytes</i>	RR	Low
Timor Blue Flycatcher	<i>Cyornis hyacinthinus</i>	RR	MOD
Plain Fairy Warbler	<i>Gerygone inornata</i>	RR	Low
Yellow-eared Honeyeater	<i>Lichmera flavicans</i>	RR	Low
Timor Friarbird	<i>Philemon inornatus</i>	RR	Low

Red List categories for endangered species: CR – critically endangered, EN – endangered, VU – vulnerable, LR – lower risk (nt – near threatened, cd – conservation dependent), DD-data deficient. Restricted-range (RR): natural global distribution is less than 50,000 km² (less than twice the area of Timor Island).

As to management efforts, the NDES has issued a Decree Law on prohibited hunting and selling of birds and wild animal in TL. Tropical forests are in poor condition, and continue to be degraded and encroached upon, which places several species, birds and mammals, at risk. The following Table 2.2 shows those Endangered Terrestrial Species on the island.

Table 2.2: Endangered Terrestrial Species³

Taxonomic Name	English Name	IUCN/CITES
<i>Paradoxurus hermaphroditus</i>	Mentawai Palm Civet	VU
<i>Macaca fascicularis</i>	Long-tailed macaque	LR/nt, CITES
<i>Phalanger orientalis</i>	Northern common cuscus	CITES
<i>Hipposideros crumeniferus</i>	Timor leaf-nosed bat	DD
<i>Crocidura tenuis</i>	Timor shrew	VU
<i>Varanus timorensis</i>	Timor monitor lizard	CITES
<i>Crocodylus porosus</i>	Estuarine crocodile	CITES
<i>Python timoriensis</i>	Timor python	CITES

Red List categories for endangered species: CR – critically endangered, EN – endangered, VU – vulnerable, LR – lower risk (nt – near threatened, cd – conservation dependent), DD-data deficient.

There are ten endangered mammals and three endangered reptiles are found in TL. The majority of the mammals and the python are all forest dwellers, and the remaining two lizards inhabit wetlands.

There are two endangered tree species in TL. Sandalwood was formerly abundant, but has been severely over-harvested. The current government has undertaken efforts to conserve and support the sustained production of commercially important plant species through restoration and additional development of local seed resources and seed production stations. The MAFF/NDCF has made some progress in reforestation and community forestry. Government Initiated

^{2/3} adopted from the preliminary list of IMPORTANT BIRD AREAS IN EAST TIMOR: Interim list of priority sites for biodiversity conservation in Asia's newest country, by the Birdlife International – Asian Program, 2002.

Reforestation Activities of the NDCF, MAFF over the 2001 – 2003 is as set out in the following Table 2.3 and the important wild species in TL is given in Annex 3.

Table 2.3: Government initiated reforestation (2001 – 2003)⁴.

District	Total Seedlings Planted			
	2001/2002		2002/2003	
	Total Seedlings Planted	% Survival	Total Seedlings Planted	% Survival
Dili	25,000	52	5,000	52
Liquica	7,500	33	5,000	60
Ermera	5,000	80	7,500	70
Bobonaro	10,000	70	5,000	40
Suai	5,000	80	7,500	60
Ainaro	5,000	50	2,500	40
Manufahi	5,000	70	10,000	75
Aileu	2,500	80	4,000	87
Manatuto	5,000	60	5,000	60
Baucau	7,500	33	2,500	80
Lautem	5,000	90	12,000	67
Oecusse	3,000	50	5,000	60
Viqueque	4,000	55	5,000	54
Total/Average	89,500	59	76,000	64

1.3. Marine, Coastal, Wetland and Lakes

The Marine and Coastal zone of the island includes the mangrove and other specialized coastal vegetation, the shallow seas adjacent to land, coral reefs, and sea grass beds. The coastal resources are currently relatively unthreatened. Despite this, mangroves and coral reefs are protected by the UNTAET regulation 2000/19.

Some mangroves are also protected under traditional practices (tara bandu). The NDFA is currently undertaking a survey for the identification of marine protected areas in several districts that are located along coastal areas. A project on mangrove replanting is underway predominant and a small-scale mangrove rehabilitation program has commenced. The area is extremely important in the conservation of marine biodiversity and endangered marine species, such as turtles, dugong, and dolphins as shown in Table 3 below.

Table 3: Endangered Marine Species⁵

Taxonomic Name	Name English	IUCN/ CITES
Chelonia mydas	Green turtle	EN, CITES
Eretmochelys Imbricata	Hawksbill turtle	CR
Dermochelys Coriacea	Leatherback turtle	CR
Caretta caretta	Loggerhead turtle	EN
Lepidochelys Olivacea	Olive turtle	EN, CITES
Dugong dugon	Dugong	VU
Physeter catodon	Sperm whale	VU
Tursiops truncatus	Bottlenose dolphin	DD
Rhincodon typus	Basking shark	VU
Tridacna derasa	Southern Giant Clam	VU

Red List categories for endangered species: CR – critically endangered, EN – endangered, VU – vulnerable, LR – lower risk (nt – near threatened, cd – conservation dependent), DD-data deficiency.

⁴ Adopted from compiling Data on Forestry in Timor Leste, National Directorate Coffee and Forestry(DNCF), 2005

⁵ Adopted from the preliminary list of IMPORTANT BIRD AREAS IN EAST TIMOR: Interim list of priority sites for biodiversity conservation in Asia's newest country, by the Birdlife International – Asian Program, 2002.

SECTION III: STRATEGY AND POLICY FRAMEWORKS OF THE CONVENTION IN TIMOR LESTE

3.1. Legislation Framework

The Constitution of the Republic Democratic of Timor Leste establishes the fundamental values of the state. Article 61 on the environment states:

1. Everyone has the right to a humane, healthy, and ecologically balanced environment and the duty to protect it and improve it for the benefit of the future generations.
2. The State shall recognize the need to preserve and rationalize natural resources.
3. The State should promote actions aimed at protecting the environment and safeguarding the Sustainable development of the economy.

Article 139 (3) further states, “*the exploitation of the natural resources shall preserve the ecological balance and prevent destruction of ecosystems.*” In addition, legislation does also respond to contemporary international principles on conservation, such as those set out in international treaties, agreements and alliances, and which are outlined in Article 158 of the Constitution.

There are several UNTAET and Indonesian laws and regulations concerning environmental protection and biodiversity conservation that is still put into practice in the country. These laws and regulation are described in the following Table 4.1.

Table 4.1: UNTAET and Indonesian Legislation Framework for the Management of Biodiversity

Laws and Regulation	Agency Responsible	Constraints/Advantages
Law No. 5, 1990 on Conservation of Biological Resources and Their Ecosystems	MAFF/NDCF	Inexistence, but weak in implementation due to lack of enforcement, to some extent it is inconsistent with present situation.
Law No. 5, 1994 Concerning Biodiversity	NDES	Inexistence, but weak in implementation due to lack of enforcement, to some extent it is inconsistent with present situation.
Government Regulation No. 28, 1985 on Forest Protection	MAAF/NDCF	Inexistence, but weak in implementation due to lack of enforcement, to some extent it is inconsistent with present situation. Potential conflict between role of NDES and NDCF.
Government Regulation No. 51, 1993 on Environmental Impact Analysis (AMDAL)	NDES	Inexistence, yet implementation is challenged with Inadequate technical staff and no enforcement.
UNTAET Regulation No. 2000/17 on prohibits logging and the export of wood products	MAAF/NDCF	Inexistence, yet implementation is challenged with inadequate technical staff and no enforcement and lack of sectoral cooperation.
UNTAET Regulation No. 2000/19 on protects areas	MAFF/NDCF & NDES	Legal basis to formalize the national park and NPAs network. Need to update to determine further detail the extent of biodiversity consisting within those protected areas. Change in human population might have been affected some of those PA, it is therefore no longer representing a reserve system.

Apart from the aforementioned laws and regulations, there are also several other pieces of legislation of relevance to natural resources and the environment that have been drafted or

approved by the state authorities. These laws and regulations are set out in the following Table 4.2.

Table 4.2: Legal Framework of Proposed Laws Relevant to Environmental Management

Legislations	Promulgator Responsible	Status/Constraints/ Advantages
Draft Law on Environmental Impact Assessment (EIA)	Parliament/NDES	Awaiting government's approval
Draft Pollution Control and Hazardous Waste Law	Parliament/NDES	Awaiting government's approval
Law on Fisheries Licensing	Parliament/NDFA	Promulgated and in effect
Decree law on fishing crime	MAFF/NDFA	In Effect
Draft of Quarantine Law	Parliament/MAFF	Awaiting government's approval
Decree Law prohibited hunting & selling Birds & wild animals	NDSE	In Effect
Decree Law on the National Tasi Tolu Peace Park	NDSE	In Effect
Protected Areas	Undecided	Possibilities being discussed

3.2. Policy Frameworks

The GoTL has developed the first five year (2002-2007) National Development Plan (NDP) and set its vision for the country's key policy framework to be realized in 2020. Realizing its financial limitation, the GoTL adopted Sector Investment Programs (SIPs) in order to operationalise the NDP.

Despite the NDP, TL does not, as yet, have a state strategy and common policy regarding biodiversity conservation, since there are no regulations and policy documents developed specifically as measure to address biodiversity and conservation issues in the country. Therefore, early legislative measures, such as the Laws and Regulation from previous administrations, including revisions done by the transitional authorities, namely, UNTAET Regulation No 17/2000 and 19/2000, does represent an effort to integrate issues of sustainable development and conservation, which fall within the context of the UNCBD. In addition, existing customary laws, such as those under *tara bandu* provide grassroots examples of the types of policies that could contribute to sound environmental management.

3.3. Institutional frameworks and their responsibility

Since there is no clear institution that holds overall responsibility for biodiversity resources and its management in the country, the following institutions, including academic and NGOs have been identified as important to involve in the implementation of the Convention. They are:

1. Capacity Development Coordination Unit (CDCU),
2. National Directorate of Environmental Services (DNSMA),
3. Ministry of Agriculture Fisheries and Forestry (MAFF) with the following directorates and divisions,
 - National Directorate of Fisheries and Aquaculture (NDFA),
 - National Directorate of Coffee and Forestry (NDCF),
 - National Division of Quarantine as well as National Division of Agriculture Research,
4. National University of Timor Leste (UNTL), and
5. Haburas Foundation.

The stockholder analysis matrix, which is illustrated reason for inclusion and the possible roles that each institution, mentioned above, can play, is described in *Annex 6: Institutional arrangement and their responsibility*.

SECTION IV: PRIORITISATION AND CAPACITY ASSESSMENT

4.1. Prioritization Issues

The significant issues relevant to the Convention have been prioritized based on biophysical and ecological profiles found in TL (*marine and coastal zone; arid lowland areas; moist lowland areas; mountainous areas; highland plains; and wetlands*). Those natural characteristics present in TL, as discussed earlier, are also closely related with the thematic areas and cross-cutting issues under the Convention. It is with this information that the UNCBD TWG has been able to identify thematic issues and determine priority issues relating to biodiversity. Through out the process of identification of issues, prioritization of issues and prioritization of capacity constraints assessment, the TWG was assisted by a national consultant.

To consider different points of view on issues relevant to the Convention, stakeholders who had been identified were involved at a number of meetings (*list of individual stakeholder is presented in annex 5*). The TWG were presented key interim results at those meetings and discussions were held through mini workshops. The TWG was then assigned the specific task, that is, to further elaborate thematic issues and priority issues for action. The National Consultant assisted by collecting and reviewing data and relevant documents. Data gathering was done through consultations, discussions, interviews and questionnaires. As a result, the following five thematic issues were identified and confirmed as priorities issues for the implementation of the Convention in TL as set out in Table 6.1 below.

Table 6.1: Biodiversity priority thematic issues

Thematic area	Priority Issues
Agricultural Biodiversity	Need Scientific information to orientate agriculture towards sustainable patterns and knowledge of the impact of different policies, agricultural practices and technologies on agricultural biodiversity.
Forest Biodiversity	Need Understanding of underlying causes of Forest biodiversity loss as well as measures to mitigate them including forest management systems e.g. enforcement of forestry laws.
Inland Water Biodiversity	Need for clear policy, and institutional frameworks for the management of inland water ecosystems as well as adoption of an integrated ecosystem approach to inland water systems.
Coastal and Marine Biodiversity	Need An integrated ecosystem approach to sustainable use of coastal and marine biodiversity, improved marine protected areas and community involvement in fisheries management, and data on the taxonomy, status and biological characteristics of fish species and habitats.
Mountain Biodiversity	Need Adequate wildlife policy and capacity for wildlife as well as protected area management plans, comprehensive data on the status and trends of wildlife and habitats, community and private sector initiatives in protected area management.

Along with the priority issues identified for action, above, a number of cross-sectoral policies and institutional issues were also prioritized, including, mainstreaming and integration of biodiversity issues into sectoral programs, policies and strategies for conservation and sustainable use of genetic and other resources as measures to promote economic growth and poverty reduction.

The TWG then ranked the prioritized obligations according to the scale of the problem, level of concern, and ability to address the issue is set out in the following Table 6.2.

Table 6.2: Priority Obligation Matrix

Numbers	Obligations	Scale of problem	Level of Concern	Ability to Address	Priority Ranking
1	Effective National Biodiversity Planning	N	H	L	1
2	In-situ conservation of biodiversity	N	H	L	1
3	Identification and Monitoring of components of biodiversity	N	H	L	1
4	Financial Mechanism	N	H	L	1
5	Scientific research and technical training	N/R	H	L	1
6	Education and public awareness	N	H	L	1
7	Implement the Catagena Protocol on Biosafety	N	M	L	2
8	Control of Alien Invasive Species	N/R	M	L	2
9	Promotion of access and benefit sharing	N/R	M	L	2
1 L - local, N - national, T – trans-boundary or G - global. 2 L - low, M - medium or H - high. 3 Ranking from 1 to 3 of the problem(s) being faced by the country (1= most severe problem, 2= second most problem)					

Those priority convention's obligations that are ranked as 1 (one) were used to identify capacity constraint that Timor Leste face and establishing the capacity development needs at the individual, institutional and systemic levels for addressing the priority issues that had been identified.

4.2. Capacity Assessment

The TWG further developed the thematic profiles by The SWOT (Strength, Weakness, Opportunity, and Threat) analysis was used to help identify strengths and weaknesses to meet obligations under the Convention. The SWOT was conducted through a number of meetings organized by the consultant and the TWG. The SWOT was carried out using the headings derived from identified priority obligation issues as set out in table 8.2.

The results from the SWOT analysis were used to identify weaknesses, interpreted as capacity constraints, from which the specific capacity-related needs and priorities were identified. Detail of the SWOT analysis on capacity assessment is described in the following section.

4.2.1. SWOT Analysis for Capacity Assessment

Outline of Effective National biodiversity planning

Strengths	Weaknesses
UNCBD Acceded; GoTL commitment; Appointment of Focal Point for UNCBD;	Lack of biodiversity consideration in sectoral planning and policies; Weak / no comprehensive biodiversity policy and legislation; Weak framework for cooperation in matters related to biodiversity; Inexistence of strategic document for efficient policy planning; Limited system level resources;
Opportunities	Threats
Opportunities for New Policies and Legislation to enhance sustainable use of Biodiversity ; Current Cultural Value on Biodiversity will facilitate easier adoption of legislation ;	Lack of political will ; Environmental regulation split between a number of institutions; Lack of fund to develop integrated planning; Lack of coordination stakeholders in the sector

The analysis result reveals that the country has insufficient capacity to ensure national commitments to develop effective NBSAP under the Convention. Lack of biodiversity consideration in sectoral planning and limited system level resources including a lack of financial resources, institutional, and coordination means that formulation of the NBSAP will presumably be dependent on external financing, such as through the Convention's financial mechanisms or donor agencies.

Absence of strategic documentation and lack of coordination among stakeholder to incorporate responsibilities into the every day functions of the Focal Points also means that while they may have the technical capacity and experiences they are not afforded the time to facilitate the preparation of NBSAP and therefore might rely a lot on external consultants. Insufficiently expressed political will appears to be one of the most critical constraints. Many reasons could be identified for this including the existence of a higher national interest for other sectors, but also insufficient understanding of the issues, which results in uncertainty of the decision-makers in their actions.

Outline In-situ conservation of biological diversity

Strengths	Weaknesses
(UNTAET) regulation No. 19/2000, on 15 specific protected natural area 9 Important bird areas (IBAs) Law No. 5, 1990 on Conservation of Biodiversity and Their Ecosystems; Existence of relevant sectoral law and Regulation; Forestry policy is drafted	Lack of human resources capacity for biodiversity conservation; Low institutional capacity government and NGOs for the conservation of biodiversity; Poor biodiversity data and information on the 15 PNAs; Lack of Funds and No biodiversity conservation legislation
Opportunities	Threats
National Park project underway; Donors interest and bilateral cooperation in place; Convention Provisions for Developing countries; Improved Coordination between Focal Points;	Lack of Popular Support due to political climate Environmental regulation split between departments; No legislation for biodiversity and Law Enforcement; Unclear land titling/tenure system

While there is no legislation for biodiversity conservation, the UNTAET regulation 2000/19, provides a basis for building a framework that provides protection strategy for In-Situ conservation of biodiversity in TL. However, the lack of human resources and limited funding for biodiversity conservation, leads to the lack of information on the natural values containing in those protected areas.

Insufficient human capacity with skills in environmental management particularly in biodiversity conservation along with the lack of financing and political will challenges In-Situ conservation efforts. In addition, the legal and regulatory framework is not in place for some category of protected areas. Other constraints include the issues of land titling, disputes over ownership of land in some areas and information on ownership is difficult to obtain and full of uncertainty.

Outline Identification and Monitoring components of biodiversity

Strengths	Weaknesses
Individual Commitment is high for self improvement in identification and monitoring; Existing Institutional Framework in place; Active involvement of NGO and CBO;	Lack of capacity for assessment, identification and monitoring ; No comprehensive baseline data, criteria and indicators; Lack of biodiversity assessment and monitoring program; Lack of taxonomic expertise for biodiversity characterization and conservation;
Opportunities	Threats
International Research Collaboration; Convention provisions and requirements; Donors interest	No Research Body In Place to lead Biodiversity research; Lack of Funding as National Problem;

In general, lack of capacity for assessment, identification and monitoring components of biodiversity leads to insufficient formulation of programs and policies concerning biodiversity conservation. However, it is not the single most constraining factors. Poor baseline data and indicators on the extent of biodiversity present in the country and overall lack of information on the environment and biodiversity such as extent of forest cover, hydrology, water catchments and wetland areas, hinders conservation efforts in the country.

Identification and monitoring of component of biodiversity requires sufficient expertise in the areas of research and taxonomy, and TL lacks persons with these skills. Lack of research institutions to lead research on biodiversity and limited incentive and financial mechanisms devoted for identification and monitoring of biodiversity in the country are considered as threats that could potentially hamper the sustainable use and benefit sharing arising from utilization of the country's genetic resources.

Outline Financial Mechanism

Strengths	Weaknesses
National budgetary consider funding for environment	No strategy, policy or program on measures for conservation; Lack of a national financial mechanism; No capacity building measures in financial mechanism;
Opportunities	Threats
International Funding Mechanisms in place e.g. GEF Donor Willingness to support well motivated programs;	Alternative Priorities weakening; Poor Biodiversity conservation efforts amongst communities;

Poor strategy, policy and program on incentive measures for biodiversity conservation resulting from lack of adequate funding mechanisms, is the most significant factors that could contribute to prevent implementation and realization of the objectives of the Convention. Existing government budgets devoted for environmental management is very limited and considered insufficient. This is the most critical problem for government departments to obtaining funding for projects, their management and implementation. Though the government is aware of its contribution in certain project, quite often the project funds are used to cover and supplement human resources and material needs. In addition, no capacity building measure has been taken to build capacity in financial mechanism for environmental management.

Outline scientific research and training

Strengths	Weaknesses
Individual Commitment is high in conducting research Existing research Institutional in place; Involvement of NGO; Community structures exist as facilitators for relevant research on local knowledge;	Lack of data in the structure and function of ecosystems; Lack of Expertise /Activities no grass roots skills base; Lack of Training Materials to assist in underpinning education programs; Lack of Integration of Traditional Knowledge with Formal Environmental research framework; Lack of research and training capacity;
Opportunities	Threats
Regional Networks & Initiatives Exist for Research Collaboration;	No Research Body In Place to lead Biodiversity research; Lack of Funding for Biodiversity Education and research;

There was no reference to research on issues of conservation and biodiversity as covered by the Convention in TL. Lack of expertise and poor research activity at the grassroots level has been partly blamed as the cause of the lack of data on conservation of biodiversity in the country.

The absence of appropriate research and training capacity is evidenced by a limited pool of tertiary qualified staff in key governmental institutions. There were no organizational

responsibilities for carrying out research in biological matter, although there is research and monitoring in some governmental institution, yet without an overall framework to facilitate inter-sectoral integration. In addition, the lack of financial consideration for biodiversity education and research is the major threat to ongoing efforts for the conservation of biodiversity resources in the country.

Outline of education and public awareness

Strengths	Weaknesses
NGO and Community based organizations has strong access to large sections of the community; Public Awareness Campaigns identified;	Lack of effective enforcement of the laws especially with regards to wildlife and poor understanding of biodiversity conservation; Lack of funding for education and public awareness Inadequate environmental education campaign efforts poor / little biodiversity teaching in schools Lack of educated and trained teachers/trainers
Opportunities	Threats
Media Program available to network communities; Increased NGO Involvement ;	High cost of using media Environmental issues are not priority

Lack of effective enforcement of the laws especially with regards to wildlife and poor understanding of biodiversity conservation led to destruction of component of environment in general. Many NGOs have good access to large sections of the community, and these are strengths that any public awareness and education can be built on. Despite numerous initiatives of governmental departments and NGOs to address this issue, funding availability is a significant obstacle.

Lack of committed funds will mean delay to the commencement of public awareness and education projects and its continuity. While, media programs are available to connect communities, it is considered as having a high cost. However, despite the numerous campaigns conducted by the relevant ministries and NGOs to raise public awareness on the importance of environmental protection, specifically in the thematic areas of biodiversity and climate change, there is still a perceived lack of awareness at the desired level. One of the major obstacles for such a situation might be the lack of educated and trained teachers/trainers.

4.2.2. Finding of Capacity Assessment

In general, there is a significant need to increase national capacity in most of the evaluative categories (effective national biodiversity planning, in situ conservation, research and training, public awareness and education, and financial mechanisms). These requirements have not been addressed at a national level, receives less attention in terms of the national response. The results of the capacity assessment have been consolidated to facilitate examination of some of the systemic, institutional and individual capacity requirements that considered necessary to fulfill the commitments required under the Convention. Details of capacity assessment finding at the three levels are described as follows:

Systemic level

The main systemic capacity constraints identified in the country revolves around limited and inadequate policy and strategy framework for conservation of biodiversity and environmental management in general. Lack of incentive structures for sustainable management of biodiversity, public awareness and involvement in biodiversity issues along with lack of proper systems to manage biodiversity related information are also additional constraints.

Another constraint is the financial shortage. A good example is the fact that due to restrictive/centralized budgetary policies. The legislative framework currently assigns responsibilities for the conservation of biodiversity to numerous institutions. Often these have overlapping, and at times conflicting, mandates and jurisdiction. Adding that, NDES has overall mandate to protect and preserve the environment in the country. However, the comprehensive body of legislation and the existing policies also need to be reviewed to ensure harmonization, which means they need to wear many hats.

Institutional Level

At the institutional level, the existing mechanisms and responsibilities to implement the obligations of the convention are assigned to the MAFF and NDES. There are very few government agencies with specialized focus on biodiversity. The same applies in the NGOs sector. Only a few of them consider biodiversity conservation as their main priority issue. NGO such as Haburas Foundations is focused on environmental awareness and advocacy activities and give less attention to management issues. Most of the institutions are more or less sufficiently and inadequately staffed, but the main obstacle for their proper functioning in the biodiversity conservation arena is the lack of skilled and qualified staff. Insufficient equipment and infrastructure to facilitate day to day activities, as well as longer term monitoring, data management and evaluation are main constraints found at the institutional level.

Individual Level

TL needs to strengthen the capacity of its individuals to develop skill sets that facilitate efforts to conceptualize and formulate policies, draft legislation and develop program and implement the programs. There is a need to invest further in capacity relating to trade policy and legal mechanisms, information management and skills relating to negotiations around issues covered under the Convention, such as, negotiating skills and reporting. Apart from that, enhancement of human capacity in disciplines, such as, environmental economics, taxonomy, data collections and information management, trade policy and law, are important.

Overall Capacity Constraints

Based on the capacity constraints, the TWG identified numerous constraints that TL faced in its efforts to implement the Convention's obligations. These constraints are summarized in Table 7.1 below and the details of capacity constraint to meet the priority obligation and thematic program is presented in a matrix, which is given in **annex 7**. It describes the overall constraint to meet priority thematic issues and overall capacity constraints to meet the priority convention obligation.

Table 7.1: Overall Capacity constraints to meet the convention obligations

Priority Obligations	Capacity Constraints
Effective National Biodiversity Planning	Lack of biodiversity consideration in sectoral policies and legislation; Inexistence comprehensive biodiversity policy and legislation; Weak framework for cooperation in matters related to biodiversity
In-situ conservation of biological diversity	Lack of human resources capacity for biodiversity conservation; Low institutional capacity of public and NGO for the conservation and sustainable use of biodiversity
Identification and Monitoring components of biodiversity	Lack of capacity for assessment, identification and monitoring of components of biodiversity; No comprehensive baseline data, criteria and indicators to measure and monitor biodiversity; Lack of a biodiversity assessment and monitoring program and systems; Lack of taxonomic expertise for biodiversity characterization
Financial Mechanism	No explicit strategy, policy or program on incentive measures for biodiversity conservation; Lack of a national incentive program; No capacity development / building in

Priority Obligations	Capacity Constraints
	incentive measures
Scientific, research and training	Lack of data structure and function of ecosystems and relevant socio – economic and policy planning capacity and data management
Education and public awareness on biodiversity	Lack of effective enforcement of the laws especially with regards to wildlife; Poor understanding of biodiversity conservation; Inadequate environmental education and teaching in schools;

4. 3. Capacity Building Opportunities

Taking into account the constraints to implementing the Convention identified above, the TWG reviewed the list of priorities that had been developed. Within these wider common areas of capacity constraints, capacity development objectives were formulated following a series of consultations with the TWG. The end product of the above-mentioned exercise has been a matrix containing six (6) areas of capacity constraints, considered as priority issues and several capacity development opportunities and a large number of constraints. The matrix allows these to be structured in a way that will assist in formulating a strategy and action plan. Capacity development needs matrix is presented in **annex 8 (eight)**.

The TWG did not proceed with developing a Strategy or Action Plan for all the capacity constraints and opportunities identified as summarized in Annex 8 (eight). This was because the list of capacity constraints and opportunities identified was extremely long and would have made the development of any kind of meaningful strategy very difficult. Instead, it was decided to prioritize these constraints and opportunities into five strategic areas. These strategic areas formed the basis of project concept development to tackle immediate capacity needs so that the overall objective of the Convention can be achievable. The project concepts in relation to strategic areas are set out in Table 7.2 below.

Table 7.2: Project concepts for capacity building in biodiversity

Strategic Area to be addressed	Project Concepts	Objectives	Priority Actions	Details
Limited skills in inventory, monitoring and assessment	Develop and strengthening capacity for biodiversity assessment and monitoring	To develop the requisite human resources for the effective implementation and monitoring of the NBSAP	Short-term training for different target groups on monitoring and evaluation Specialised long-term training in taxonomy, botany, ecology and marine biology Training of Wildlife staff and NGOs Networking and information sharing Seminars and workshops	This activity is consistent with CBD for effective implementation of the biodiversity and wildlife policy. DNSMA will be the lead agency, collaborating with the NDCF, NDFA and Division of Agricultural Research
Inadequate research and training	Coordinating Biodiversity research within designated protected areas	To establish a functioning central biodiversity research co-ordinating unit	Provision of infrastructure and equipments. Support the functioning of a central biodiversity research coordination unit. Training for staff on various research methodology	DNSMA will be the lead agency, collaborating with the NDCF, NDFA and Division of Agricultural Research

SECTION V: CONCLUSION AND RECOMMENDATIONS

5.1. Concluding Remark

The challenges faced by TL in its efforts to implement the Convention revolve around the lack of legal and regulatory structures, lack of finance and financial mechanism at the national level and poor or inadequate human resources. Lack of understanding on biodiversity conservation issues at the national level might be the reason that allocation of funds for biodiversity has been sidelined. Human capacity is cited as a generic constraint among stakeholders. While increased funding may improve the local skill-base and availability of resources, mobilizing existing capacity is a key concern.

Effective mobilization of human capacity requires a solid and internalized understanding of the value of biodiversity, strong management skills, generation of institutional knowledge, respectable working conditions, and necessary finance. An integrated approach to biodiversity conservation will help ensure that TL's obligations under the Convention are met.

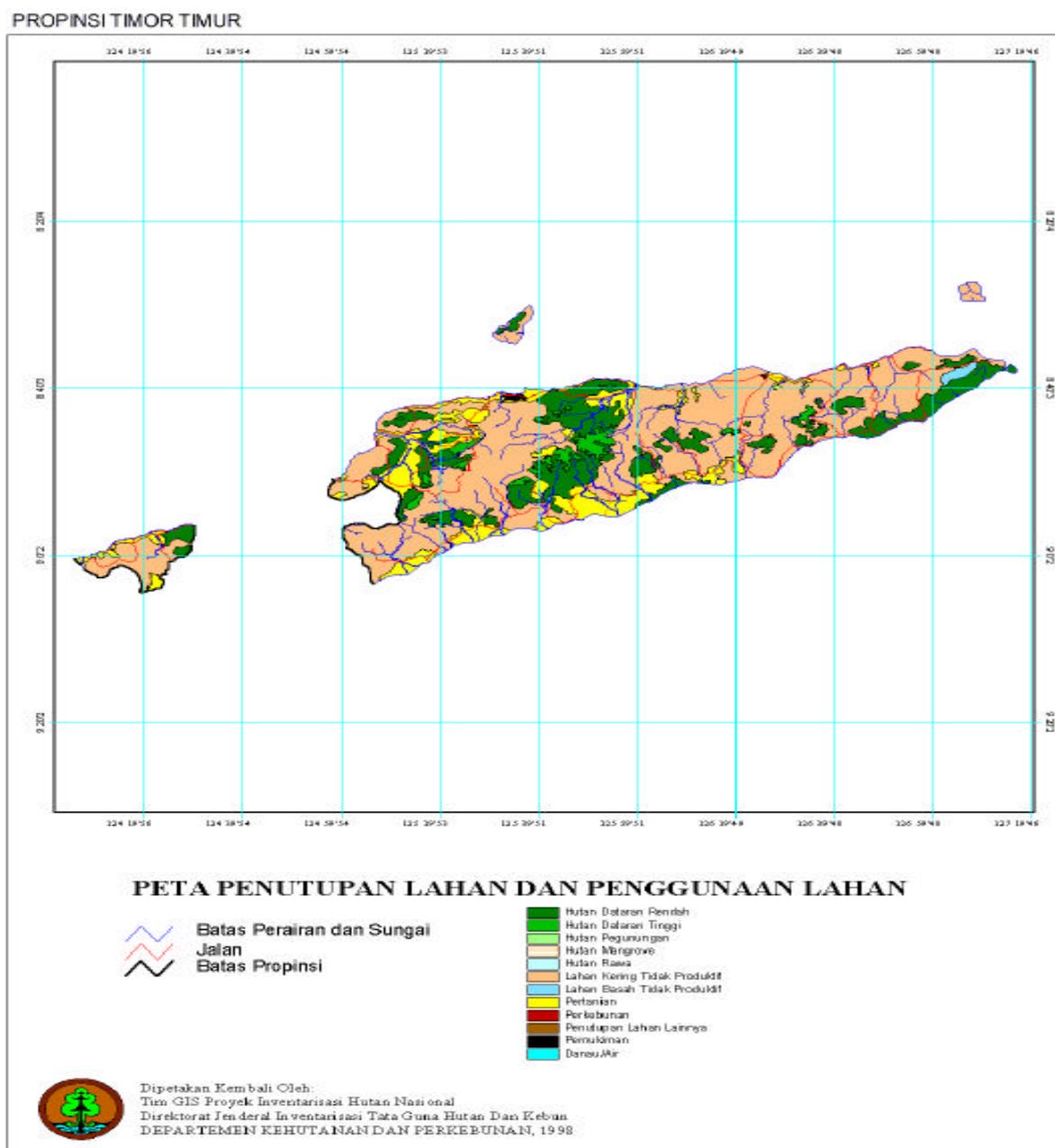
5.2. Recommendation

- Capacity building effort should be concentrated on the capacity of GoTL to perform key requirements of the convention that is formulation of program, strategy and action plan, including implementation and monitoring at individual, systemic and institutional levels. This needs to be done to ensure effective preparation of national biodiversity strategies and action plans consistent with the provisions of the convention.
- The GoTL should consider reaching effective national biodiversity planning. The National Directorate of Environmental Service must be strengthening in order to develop and implement the National Biodiversity Strategy and Action Plan (NBSAP) effectively. The SIP environmental sector should be taken as an opportunity to integrate programs on capacity building issues for biodiversity conservation, as a foundation to develop and implement the NBSAP. The GoTL should consider implementing the capacity building opportunities for biodiversity within the six (6) thematic issues with a set of capacity building issues to achieve conservation and sustainable use of biodiversity components in the country.
- Sectoral laws that are primarily aimed at regulating the use of natural resources, but nevertheless also cover biodiversity protection are Law on Fisheries Licensing, Decree law on Fishing Crime and Decree Law on prohibited hunting and selling birds and wild animals in TL. Integration of those laws and regulation in the implementation has been recognized as insufficient. Therefore, harmonization of inter-sectoral laws and regulation should be considered to fully integrate biodiversity protection and conservation into all sectoral programs, policies and activities to ensure sustainable use of genetic and other resources.

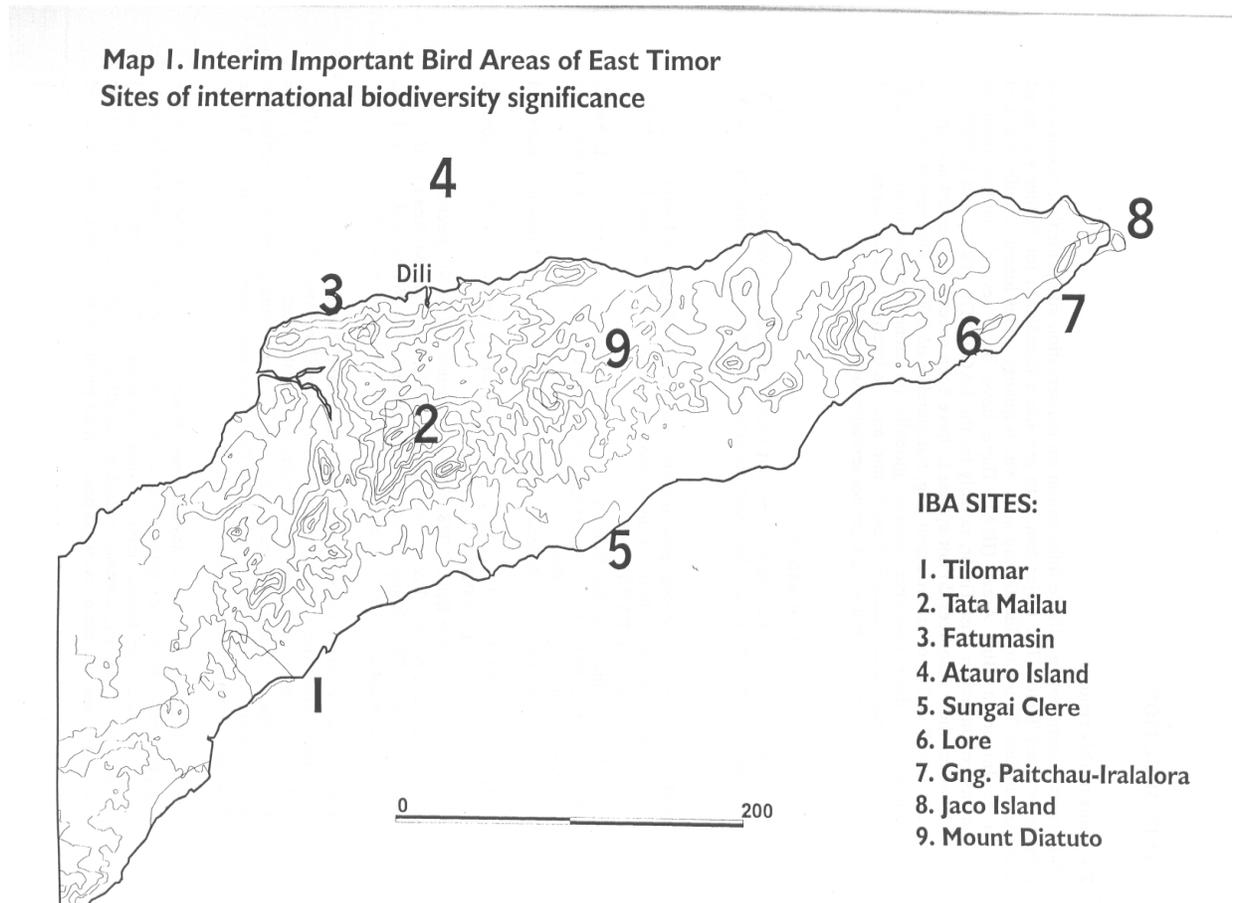
LIST OF REFERENCE

- A Guide for Self-Assessment of Country Capacity Needs for Global Environmental Management, Global Environment Facility (2002). Washington D.C., U.S.A.
- Agriculture, Forestry and Fisheries. Priorities and proposed Sectoral Investment program, MAFF, 2005. Dili, Timor Leste.
- Asian Development Bank, (2000). Technical Assistance to East Timor for Environmental Assessment Capacity Improvement, Dili, Timor Leste.
- Directorate of Environment, RDTL (2005). Natural resources and Environment: Priorities and Proposed Sector Investment Program. Dili, Timor Leste
- FAA 118/119, (2004). Conservation of Tropical Forest and Biological Diversity in Timor Leste. Dili, Timor Leste.
- Government of Timor Leste (2005). Draft Public Sector Capacity Development Program Design Framework. Dili, Timor Leste
- GEF/UNDP (2000): Capacity Development Initiative: Country Capacity Development Needs and Priorities, Regional Report for Asian.
- Globally threatened bird discovery underlines calls for first national park for Timor-Leste, online <http://www.birdlife.org/print.html?url>
- Guterres, A. (2003). Planning for fisheries development in East Timor, in Agriculture: New Directions for a New Nation — East Timor (Timor-Leste) Edited by Helder da Costa, Colin Piggin, Cesar J da Cruz and James J Fox . Dili, Timor Leste.
- H, Larry, (2004). Environmental Assessment, Final Report, Ainaro Manatuto Community Activation Project (AMCAP). Dili, Timor Leste.
- Important Bird Areas in Asia, Key Sites for Conservation, Birdlife Conservation Series No.13, on line <http://www.birdlife-asia.org>.
- MAFF/GoTL, Proposal MSP (2006). Capacity Building and Mainstreaming of Sustainable Land Management in Timor-Leste. Dili, Timor Leste
- Nunes, M. (2003). Forest conservation and fauna protection in East Timor, in Agriculture: New Directions for a New Nation — East Timor (Timor-Leste) Edited by Helder da Costa, Colin Piggin, Cesar J da Cruz and James J Fox . Dili, Timor Leste
- Sandlund, O.T., Bryceson, I., de Carvalho, D., Rio, N., da Silva, J., Silva, M.I
- P. A. Dan and H.M. Kristofer, (2004). Preliminary Studies on the Biodiversity of Mamal and Aquatic Insect in East Timor, Dili, Timor Leste.
- Sandlund, O.T., Bryceson, I., Carvalho, D., (2001). Assessing Environmental Needs and Priorities in East Timor, UNDP, Dili and Norwegian Institute for Nature Research, Trondheim.
- Trainor, C. R, (2002). A preliminary list of IMPORTANT BIRD AREAS IN EAST TIMOR: Interim list of priority sites for biodiversity conservation in Asia's newest country. BirdLife International-Asia Program
- UNDP Timor Leste (2002). East Timor Human Development Report, Ukun Rasik A'an The way ahead. Dili, Timor Leste.
- United Nation Transitional Administration in Timor Leste (UNTAET), (2000). Regulation Number 2000/19 on Protected Places, Dili, Timor Leste.
- United Nations, (1992). United Nation Convention on Biological Diversity text. New York, USA.
- UNDP Timor Leste, (2003). Timor-Leste, Poverty in a New Nation: Analysis for Action. Dili, Timor Leste.

Annex 1: Ecological Map of Timor Leste



Annex2: Map of Important Bird Areas (IBAs) in Timor Leste



- Reprinted from **A preliminary list of IMPORTANT BIRD AREAS IN EAST TIMOR: Interim list of priority sites for biodiversity conservation in Asia's newest country**, Trainor, C. R, 2002. BirdLife International-Asia Program

Annex 3: Important wild species in Timor Leste

Reptiles	Mamals	Insects	Birds	
1. Buaya Muara (<i>Crocodylos porosus</i>)	1. Rusa Timor (<i>Cevos Temorensis</i>)	1. Kupu-kupu (Semua jenis Kupu- kupu)	1. Ayam hutan (<i>Gallus-gallus</i>)	27. Sriguntuing Wallacea (<i>Dicrurus densus</i>)
2. Biawak Timor (<i>Varanus Timorenses</i>)	2. Kuskus (<i>Phalanger Sp</i>)		2. Gosong Sula (<i>Magapodius bernsteinii</i>)	28. Burung Ara Timor (<i>Sphecotheres viridis</i>)
3. Biawak coklat (<i>Varanus couldii</i>)	3. Musang		3. Puyuh Coklat (<i>Coturnix ypsilophora</i>)	29. Gagak Kampung (<i>Corvus macrorhynchos</i>)
4. Sanca Tomor (<i>Phyton timorensis</i>)	4. Kera ekor Panjang (<i>Macaca fascicularis</i>)		4. Kareo Padi (<i>Amauornis phoenicurus</i>)	30. Decu Timor (<i>Saxicola gutturalis</i>)
5. Sanca Hijau (<i>Chondro python viridis</i>)			5. Mandar kelam (<i>Gallinula tenebrosa</i>)	31. Anis Gunung (<i>Turdus poliocephalus</i>)
6. Kadal Kebun (<i>Draco Sp</i>)			6. Merpati Hutan Timor (<i>Turacoena modesta</i>)	32. Anis timor (<i>Zoothera peronii</i>)
7. Toke (<i>Gymnodactilus lateralis</i>)			7. Tekukur Biasa (<i>Streptopelia chinensis</i>)	33. Ceret Kuning (<i>Bradypterus seebohmi</i>)
8. Penyu (Semua jenis Penyu serta bagian-bagiannya)			8. Uncal kelam (<i>Macropygia magna</i>)	34. Celucuk Timor (<i>Buettikoferela bivittata</i>)
9. Semua jenis Kura-kura			9. Delimukan zamrud (<i>Chalcophaps indica</i>)	35. Cikrak Timor (<i>Phyloscopuspresbytes</i>)
			10. Perkam laut (<i>Ducula Bicolor</i>)	36. Opior Timor (<i>Heleia muelleri</i>)
			11. Perkam Timor (<i>Ducula cineracea</i>)	37. Sikatan Timor (<i>Ficedula timorensis</i>)
			12. Walik Putih (<i>Ptilinops cinctus</i>)	38. Sikatan bakung (<i>Cyornis hyacinthimus</i>)
			13. Punai Timor (<i>Tretorn psittacea</i>)	38. Kipasan Belang (<i>Rhipidura javanica</i>)
			14. Perkici Pelangi (<i>Trichoglossus haematodus</i>)	39. Kipasan dada Hitam (<i>Rhipidura rufifrons</i>)
			15. Perkici Timor (<i>Trichoglossus euteles</i>)	40. Kacilan Timor (<i>Pachycephala Orpheus</i>)
			16. Kakatua kecil Jambul Kuning (<i>Cacatua sulphurea</i>)	41. Kacilan emas (<i>Pachycephala simplex</i>)
			17. Nuri Raja kembang (<i>Aposmicus jongquilaceus</i>)	42. Cikukua Timor (<i>Philemon inornatus</i>)
			18. Nuri Pipi Merah (<i>Gerolffoyus geoffoyii</i>)	43. Cikukua Tanduk (<i>Philemon buceroides</i>)
			19. Bubut Ayam (<i>Centropusphasianinus</i>)	44. Meliphaga dada lutik (<i>Meliphaga reticulata</i>)
			20. Bubut Kai (<i>Centropus spilopterus</i>)	45. Isap Madu Timor (<i>Lichmera flavicans</i>)
			21. Pungkok Coklat (<i>Ninox scutulata</i>)	46. Myzomela Timor (<i>Myzomela vulnerata</i>)
			22. Burung Serak (<i>Tyto Sp</i>)	47. Elang Bondol (<i>Haliastur Indus</i>)
			23. Cekakak kalung Coklat (<i>Halcyon sancta</i>)	48. Elang laut Perut putih (<i>Haliaeetus leucogaster</i>)
			24. Tiong Lampu Ungu (<i>Euristomus azureus</i>)	49. Elang Ular jari Pendek (<i>Circaetus gallicus</i>)
			25. Kirik-kirik Laut (<i>Merops philipinus</i>)	50. Elag Alap coklat (<i>Accipiter fasciatus</i>)
			26. Kirik-kirik Australia (<i>Merops ornatus</i>)	51. Elang alap Kelabu (<i>Accipiter novaehollandine</i>)

Annex 4: Questionnaires design for UNCBD NCSA Project Timor Leste

Please tick (yes/No) on the statements under the various headings which you think are applied at your institutions

Systemic
1. Is the overall policy framework within your organization/institution is conducive? Yes/no
2. Is the overall legal and regulatory framework within your institutions is appropriate in place and are these effectively implemented? Yes/no
3. Is institutional framework of your institution clearly defined? Yes/No
4. Are the required human, financial and information resources of your institution adequately available? Yes/No
5. Do your institutions interact and work together with different institutions effectively? Yes/No
Institutional
1. Are your institutions clearly defined and understood its institutional missions and mandates? Yes/No
2. Are your institutions effectively structured and managed? Yes/No
3. Do your institutional processes such as planning, quality management, monitoring and evaluation, etc. work effectively? Yes/No
4. Are the human resources of your institution adequate, sufficiently skilled, and appropriately deployed? Yes/No
5. Are there sufficient financial resources available for your institution to effectively operate? Yes/No
6. Are material requirements for your institution such as buildings, offices, vehicles, computers, etc., adequate? Yes/No
Individual
1. Are jobs within your institution correctly defined and are the required skills available? Yes/No
2. Is at your institution the appropriate learning taking place? Yes/no
3. Are individuals able to advance and develop professionally for career progression? Yes/No
4. Is responsibility effectively delegated and are individuals held accountable? Yes/No
5. Is there adequate access to needed information? Yes/no
6. Are individuals in contact and exchanging knowledge with appropriate peers? Yes/No
7. Is performance effectively measured? Yes/No
8. Are these sufficient to promote excellence? Yes/No

Annex 5: List of individual stakeholders

	Government Department	Name	Section/Position
1	National Directorate of Environmental Service	Carlos Concecao	Pollution Control unit
		Flamino Xavier	Biodiversity unit
		Vasco Leitao	Advisor
		Mario Ximenes	MEAs Coordinator
2	Ministry of Public Work	Raul Mausaco	Vice Ministry
		January da Costa	Director
		Joao de P	Chief of Engineers
3	Ministry of Development	Tomas Gosmao	Staff
		Antonio da Costa	Staff
4	Natural & Minerals Resources	Vicente Pinto	Director
		Jaime Mesquita	Staff
5	Tourism Department	Ivania Gonzalves	Staff
		Francisca da Silva	Staff
6	Disaster Management Office	Lorenzo Xavier	Staff
		Francisco Rosario	Staff
		Jane Mocellin	Adviser
7	Capacity Development Coordination Units (CDCU)	Fausto Gama	Interim Director
		Eusebiou C J	Director
8	Ministry of Agriculture Fisheries and Forestry (MAFF)	Francisco Benevides	Vice Ministers
		Oscar M.G	Staff
		Jose Antalmo	MAFF/Forestry
		Manuel da Silva	MAFF/Forestry
		Fernando Santana	MAFF/Forestry
		Pacoal Candido	MAFF/Forestry
		Jasinto Soares	MAFF/Forestry
		Mario Godinho	MAFF/Forestry
		Narciso Carvarlho	MAFF/Fisheries
		Agustinho La'o	MAFF/Fisheries
		Cathy Molnar	Adviser (protected Areas)
		Mario Nunes	Director Forestry
		Lorenzo Fontes	Director Research
		Jiem Biscoe	Advisor (Research)
		Robert Williams	Seed of Life project
		Rui Soares	Director of Quarantine
Lucio Lay	Staff of Quarantine		
	NGOs	Respondent	Section/Position
9	Haburas Foundation	Antonio Lima	Staff
		Fernando Da Costa	Staff
	ACADEMICS	Respondent	Section/Position
10	University National of Timor Leste		
		Eduardo Serao	School of Veterinary/UNTL
		Marcal Gosmao	School of Agronomy/ UNTL
		Antonio Gutteres	School of Agronomy/UNTL

Annex 6: Institutional arrangement and their responsibility

Institutions	Reason for inclusion	Possible roles	Project implemented/in progress related to biodiversity
CDCU	Central body in GoTL to coordinate and oversee, monitor and evaluate capacity development Activities.	Provide policy direction to Development Partners on capacity needs issues	Completed a Medium Terms Capacity Development Strategy 2005/6 – 2007/8, For the implementation of public sector investment Program.
DNSMA	The NDSE has the leading role in coordinating and responsible for the protection and conservation of biodiversity and environmental mgt in the country .	Implementation of the BD Convention and other Multilateral Environmental Agreements (MEAs) and NFP for BD and FCC Conventions	Decree Law on prohibited hunting and Selling birds and wild animals in TL; Currently Conducting Biodiversity data Collection in district within the country; conducting small scale biodiversity survey within Protected areas; NCSA for global environment facility
MAFF/NDFA	Promoting and development of the nation's aquatic resources in sustainable manner	Management, monitoring and control of the valuable marine resource lies within the seas of the country	Rehabilitate the fisheries port facilities at Hera Port. Australian Timor-Leste Fisheries Management Capacity Building Project; Coastal habitat mapping and environmental Study Marine Protected Areas Survey
MAFF/NDCF	Promoting and development of biodiversity Conservation and protection of forest resources	Protection and enhancement of biodiversity and watersheds Conservation for sandalwood and other Forest genetic resources In-situ conservation, community based natural areas networks	Reforestation and community based forestry Project. local inventory of sandalwood resources project, preliminary catalogue of biological resources of the PNAs ; National community-based Protected Area project; Conis Santana National Park project.
MAFF/Quarantine Division	Assumed national obligation in relation to protection of alien invasive species and conservation of biodiversity of the country under the UNCBD	Monitoring and controlling the entry of crops, and other goods that might bring pest into the country. Implementing Cartagena Protocol on Biosafety. Control of Alien Invasive Species	Project draft of quarantine regulation
MAFF/Research Division	Derivation and dissemination of important technical, management and other information	Provide extension and research and development; Promote public education and awareness, Coordinate for SBSTTA in relation to the implementation of the Convention.	Introduction of Joainha species (<i>Cryptognatha nodiceps</i>), to fight coconuts outbreak caused by <i>Aspidiotus destructor</i> , Implementing experiment on Vetiver grass for soil conservation
UNTL	As scientific institution, the university is important to the implementation of the UNCBD, particularly in terms of research and training, scientific studies and data collection	The Agriculture Faculty particularly the School of Agronomy is can conduct researches relating to biodiversity	Trial of Macuna on farm trial and seed production, local maize collection, ecological test of various sweet potato varieties, ground nut collection, Chromolena Research and local cassava collection,
Haburas Foundation	Non governmental Organization, that concentrating their On environmental issues.	Promotion and encouragement of understanding of the importance of biodiversity	Environmental education, management and advocacy as well as networks for popular education and sustainable agriculture

Annex 7: Capacity Constraints Matrix

Priority Thematic Issues	capacity constraints	Priority Convention Obligations	Constraints to meet Obligation
Forest Biodiversity	<ol style="list-style-type: none"> 1. Understanding of underlying causes of Forest biodiversity loss as well as measures to mitigate them. 2. Understanding of the ecosystem approach to forest management 3. Forest management systems as well as enforcement of forest laws 	In-situ conservation of biological diversity	<p>Lack of human resources capacity for biodiversity conservation and sustainable use</p> <p>Low institutional capacity of public, NGO, CBO and agencies for the conservation and sustainable use of biodiversity</p>
Coastal and Marine Biodiversity	<ol style="list-style-type: none"> 1. An integrated or ecosystem approach to sustainable use of coastal and marine biodiversity 2. Initiatives in aquaculture 3. Improved marine and coastal protected areas 	Financial Mechanism	<p>No explicit strategy, policy or program on incentive measures for biodiversity conservation and sustainable use</p> <p>Lack of a national incentive program</p> <p>No capacity development / building in incentive measures</p>
Mountain Biodiversity	<ol style="list-style-type: none"> 1. Adequate wildlife policy for protected area management 2. Adequate capacity for wildlife management for protection of critical species, habitats and heritage 3. Comprehensive data on the status of wildlife and habitats 4. Community and private sector initiatives in PNAs 	<p>Technical research and training</p> <p>Education and Public Awareness</p>	<p>Lack of data in the structure and function of ecosystems</p> <p>Lack of relevant socio – economic and policy planning capacity</p> <p>Lack of effective enforcement of the laws especially with regards to wildlife and poor understanding of biodiversity conservation</p> <p>Inadequate environmental education campaign efforts</p> <p>No / little biodiversity teaching in schools</p>
Agricultural Biodiversity	<ol style="list-style-type: none"> 1. Good farming practices that conserve agricultural biodiversity 2. Scientific information to orientate agriculture towards sustainable patterns. 3. Knowledge of the impact of different policies, agricultural practices and technologies on agricultural biodiversity 	Effective National Biodiversity Planning	<p>Lack of biodiversity consideration in sectoral policies and legislation</p> <p>Weak / no comprehensive biodiversity policy and legislation</p> <p>Weak framework for cooperation in matters related to biodiversity</p>
Inland Water Biodiversity	<ol style="list-style-type: none"> 1. Need for clear policy, and institutional frameworks for the management of inland water ecosystems 2. More knowledge of the status and management practices of inland water systems 3. Adoption of an integrated ecosystem approach to inland water systems 	Identification and Monitoring of components of biological diversity	<p>Lack of capacity for assessment, identification and monitoring of components of biodiversity</p> <p>No comprehensive baseline data, criteria and indicators so biodiversity can be measured and monitored</p> <p>Lack of a biodiversity assessment and monitoring program and systems</p> <p>Lack of taxonomic expertise at the national level for biodiversity characterization, conservation and sustainable use.</p>

Annex 8: Capacity development opportunities for priority thematic issues

Priority issues/capacity constraints	Capacity needs for priority issues in biodiversity		
	Individual	Institutional	Systemic
FORESTRY BIODIVERSITY			
Principal causes loss of forest biodiversity and measures to mitigate them	Train staff in forest biodiversity assessment and monitoring. Train local communities in forestry activities.	Create appropriate enabling institution with sufficient resources to address emerging forest biodiversity issues.	Revive the hegemony over the traditional wisdom of “Tara Bandu” to control forest biodiversity.
Lack of understanding of the ecosystem approach to forest management	Promote ecosystem approach in forest biodiversity projects. Involve communities and NGOs in forest biodiversity project.	Create an enabling institutional environment to promote the ecosystem approach through pilot projects.	Adapt existing or develop guidelines for the ecosystem approach to forest biodiversity Management.
COASTAL AND MARINE BIODIVERSITY			
Lack of integrated ecosystem approach to sustainable use of coastal and marine biodiversity	Train personnel in relevant field Transfer skills and public awareness Initiate field project in ICMA techniques	Develop interagency links for Information exchange. Set up appropriate Institutional with adequate funding.	Develop national guidelines for ecosystem approach in marine and coastal biodiversity for integrated coastal mgt approach.
MOUNTAIN BIODIVERSITY			
Lack of adequate capacity for wildlife management	Training in management skills and teaching skills	Put in place in house formal training structure and provide skills transfer	Provide resources, change policy to make people pass on skills
Inadequate protection for critical species, habitat and heritage	Ecological and taxonomic skills and ecological survey skills	Provide management committee with multi sectoral representation	Enact legislation for critical species and habitat and increase protection capacity
Lack of a clear policy, and institutional frameworks for the management of Wildlife.	Training in policy review, and formulation Training in institutional setting to define mandates.	Put in place policy to ensure wildlife policy and law issues are considered in relevant sectoral plans and policies.	Provide an integrated policy and legislative environment for wildlife within the framework of the national development plan.
No comprehensive data on the status and trends of wildlife	Skills in survey techniques and taxonomy	Increased links and collaboration with relevant organizations overseas	Creation of better enabling environment for overseas experts to work in Timor Leste.
AGRICULTURAL BIODIVERSITY			
Lack of good farming practices that conserve agricultural biodiversity	Involve stakeholders in sustainable farming practices to improve soil structure and productivity, and improve agricultural	Strengthen MAFF, NGOs, and communities with resources, materials equipment to undertake SA	Put in place appropriate policies, laws and program including incentives to promote good and sustainable farming practices

Priority issues/capacity constraints	Capacity needs for priority issues in biodiversity		
	Individual	Institutional	Systemic
	biodiversity	Practices.	
Poor farming practices leading to loss of agricultural biodiversity	Information and awareness raising Train extension agents through training of trainers Train in range of mgt practices, and fertilizer use.	Strengthen Division of Agri. Research centre to better provide agri. extension to capacitate NGO and communities	Introduce legislation, policy including incentives for agricultural practices that promote agricultural biodiversity
Lack of scientific information to orientate agriculture towards sustainable production patterns	Train personnel data collection and analysis include crop/livestock research methods. Involve local people in demplot to improve knowledge and practices.	Strengthen and provide structure for seed/gene banks, agricultural research and provide necessary resources.	Policy, legislative and administrative measures in consolidate existing facilities and provide with necessary resources
INLAND WATER BIODIVERSITY			
Poor knowledge of the status of inland water ecosystems as well as data about the status of wetlands	Train in data collection, storage, dissemination. Raise awareness and empower communities to control, police and monitor threats	Strengthen existing structure or create appropriate ones and provide with adequate resources and disseminate data on inland waters.	Establish and strengthen the national institution responsible inland waters, through appropriate policy and legislative measures and appropriate funding.