

## TRANSBOUNDARY DIAGNOSTIC ANALYSIS FOR THE LAKE BAIKAL BASIN

### Perceived strengths and weaknesses, and suggestions for enhancement

#### A. Background – GEF Practices for the TDA Process

The purpose of a **Transboundary Diagnostic Analysis** (TDA) is to identify and prioritize transboundary waters problems, translating complex linkages and issues into manageable components. Working in a participatory way with national, regional and international experts, the TDA identifies the relative importance of the sources and causes of transboundary waters problems. The TDA is a science-based, non-negotiated document.

The TDA process typically starts with a thorough, factual **analysis** of existing information about the status of the environment and socio-economic situation, which is used to identify initial priority issues that have an impact of **transboundary** nature. Once the impacts are analysed, a second **prioritization** process is undertaken to decide on the final issues that need to be addressed. A **causal chain analysis** enables the identification of the most significant **immediate, sectoral and root causes** of key water resource and environmental issues in the Basin. A **governance** analysis further informs the TDA process by analyzing the legal, institutional and policy frameworks at a national and regional level, and their interaction with the transboundary water basin.

During the preparation phase of the Lake Baikal project, a preliminary TDA was prepared, which provides extensive data and information, but is not yet sufficient as the basis for a SAP. The preliminary TDA does not include a causal chain analysis (CCA) that relates transboundary issues with their immediate physical causes and their environmental and socio-economic underlying causes. Furthermore, a governance analysis remains to be implemented. In addition, the amount and quality of baseline data for some topics can be improved, and several technical topics remain to be further explored (e.g. climate change, fisheries, landuse, invasive species).

The Global Environmental Facility (GEF)-funded, United Nations Development Programme (UNDP)-supported project on Integrated Natural Resource Management in the Baikal Basin Transboundary Ecosystem aims to revise and enhance the preliminary TDA in order to provide the necessary basis for the elaboration of a Strategic Action Programme (SAP). The TDA revision process will start with a workshop (Ulan-Ude, 18-19 September 2012), followed by additional inputs on prioritised subjects by a Scientific Advisory Group (SAG) and other experts. The overall aim is to finalise the revised in time for approval by the Steering Committee during their planned meeting in February 2013.

Note that the TDA is not intended as a static document that can be shelved once it is finalised. Instead, the TDA will need to be updated with periodic reports as new information about the status of the transboundary basin emerges. As such, it is expected that a “State of the Lake Baikal Basin” report will be produced to update the TDA by the end of project year 4. Furthermore, building on the findings from the TDA, the project will support the participatory process of drafting the SAP in project year 3, and its implementation in year 4.

#### B. Annotated TDA Contents for the Lake Baikal Basin

A Transboundary Diagnostic Analysis should follow a logic order of contents that includes relevant background information, an overview of the current status of the environment, prioritized challenges for

biodiversity protection and sustainable management of natural resources, a causal chain analysis, government analysis, and other data relevant to establishing a basis for the subsequent elaboration of a SAP<sup>1</sup>. It is recommended to make the document appealing to a wide audience, and include informative graphs as well as other illustrations of key topics discussed in the TDA.

The following section includes an annotated overview of the items that are present or absent in the preliminary TDA, and suggestions for enhancement following GEF overall standard practises for transboundary water basins, and the Lake Baikal Basin in specific.

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[Insert flags of Russia and Mongolia, logos of donors and supporting partners]

# TRANSBOUNDARY DIAGNOSTIC ANALYSIS FOR THE LAKE BAIKAL BASIN

Joint Actions to **Protect Biodiversity** and Reduce Pollution in the Lake Baikal Basin Through Integrated Transboundary Water Basin Management [this could be a subtitle, or suggestion as title for the SAP]

**Table of contents** [Clearly lists the titles of the sections of the document and the relevant page numbers]

**Acknowledgements** [Individuals, organizations and institutions whoever made contributions to the formulation of the TDA are clearly acknowledged]

**Executive Summary** [Concise summary covering key contents and findings of the TDA]

## 1. Introduction

### 1.1. Lake Baikal

[brief, general overview of Lake Baikal, its location, and its significance for the region. Could include info currently presented in 2.1. General Characteristics of the preliminary TDA]

### 1.2. Need for action

[explanation of why there is a need for biodiversity protection and integrated management in the basin. Some of this info is already available in preliminary TDA section 1.1.]

### 1.3. Purpose of the TDA

### 1.4. Boundaries and conditions of the TDA [countries included in the Lake Baikal basin, boundary of the catchment, thematic scope]

### 1.5. Description of the TDA process [preliminary TDA section 1.2]

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<sup>1</sup> One of the best examples available is the TDA of Land-based Sources and Activities in the Western and Indian Ocean: <http://iwlearn.net/iw-projects/1247/reports/transboundary-diagnostic-analysis-of-land-based-sources-and-activities-in-the-western-indian-ocean-region-2009/view>

## **2. Biophysical Characteristics of the Lake Baikal Basin**

- 2.1. Physical Characteristics [preliminary TDA section 1.2]
  - 2.1.1. Geographical location
  - 2.1.2. Climatic conditions
  - 2.1.3. Geology and geomorphology
  - 2.1.4. Catchment characteristics and hydrological conditions
- 2.2. Ecological Characteristics
  - 2.2.1. Terrestrial habitats
  - 2.2.2. Lacustrine habitats
  - 2.2.3. Mineral and energy resources
  - 2.2.3. Biodiversity
  - 2.2.4. Fisheries ecology

## **3. Socio-economic Situation**

- 3.1. General Socio-economic Characteristics
  - 3.1.1. Socio-economic background of the Baikal region
  - 3.1.2. Demographic characteristics
- 3.2. Socio-economic Sectors [this could be presented in order of importance]
  - 3.2.1. Fisheries
  - 3.2.2. Tourism
  - 3.2.3. Industry
  - 3.2.4. Agriculture
  - 3.2.5. Hydropower
  - 3.2.6. Mining
  - 3.2.7. Urbanisation and industrial development
- 3.3. Valuation of Ecosystem [if there are sufficient financial resources available to the project, an ecosystem valuation could be implemented]
  - 3.3.1. Estimated value of key ecosystem services in the Lake Baikal basin
- 3.4. Conclusions

## **4. Assessment of Major Transboundary Challenges**

- 4.1. Introduction
  - 4.1.1. Identification and prioritisation of major perceived problems and issues
  - 4.1.2. Approach and methodology
- 4.2. Problem Area 1: Water and Sediment Quality Degradation due to Pollution
  - 4.2.1. Overview [concise overview of the problem, effects on ecosystem, biodiversity, and human health (see 6.1 preliminary TDA), graphic presentation of hotspots if available]
  - 4.2.2. Microbial contamination
    - 4.2.2.a. Problem statement [this can include elements from preliminary TDA 6.5. on disposal of municipal wastewater (sewage), runoff from urban and agricultural areas, etc.]
    - 4.2.2.b. Transboundary elements
    - 4.2.2.c. Root-cause analysis
  - 4.2.3. Eutrophication
    - 4.2.3.a. Problem statement
    - 4.2.3.b. Transboundary elements
    - 4.2.3.c. Root-cause analysis
  - 4.2.4. Solid waste

- 4.2.4.a. Problem statement
- 4.2.4.b. Transboundary elements
- 4.2.4.c. Root-cause analysis
- 4.2.4. Chemical pollution
  - 4.2.4.a. Problem statement [see preliminary TDA 6.2 on POP's and heavy metals, 6.3. on mercury pollution, pollution through mining, etc.]
  - 4.2.4.b. Transboundary elements
  - 4.2.4.c. Root-cause analysis

Additional suggestions for sections on transboundary challenges:

#### Physical Alteration and Destruction of Habitats

[see preliminary TDA 6.6.2.]

#### Loss of Biodiversity through Unsustainable Fisheries, Hunting and Poaching

[see preliminary TDA 6.6.3.]

#### Loss of Biodiversity through Biological Invasions

[see preliminary TDA 6.6.1. on alien ichthyofauna]

#### Climate Change

[see preliminary TDA 6.6.1. on the effects of warming on surface water and small aquatic ecosystems in the Baikal basin. Note that CC is typically considered an overarching problem, which affects almost all environmental and socio-economic sectors, and as such it should be addressed throughout the TDA]

### 5. Governance Analysis

- 5.1. Introduction and overview
  - 5.1.1. Background
  - 5.1.2. Governance in the context of integrated water basin management
- 5.2. Governance Analysis of Main Transboundary Challenges
  - 5.2.1. Overview of governance issues related to the key TDA issues
  - 5.2.2. Stakeholders involved in IWBM governance
- 5.3. Governance Frameworks and Institutions
  - 5.3.1. International and regional Conventions
  - 5.3.2. Legal and policy frameworks
  - 5.3.3. Institutional frameworks
- 5.4. The Role of Civil Society
  - 5.4.1. International and regional civil society organisations
  - 5.4.2. National civil society organisations
- 5.6. Financial Mechanisms
  - 5.6.1. International and regional context
  - 5.6.2. National context
- 5.7. Public Involvement, Education and Environmental Awareness
- 5.8. Conclusions

### 6. Final Analysis and Conclusions

- 6.1. Introduction

- 6.2. Overall Synthesis of Transboundary Challenges
- 6.3. Summary of Transboundary Challenges
  - 6.3.1. ....
  - 6.3.2. ....
  - 6.3.3. ....
- 6.4. Overview of Governance Challenges Related to IWRM
- 6.5. Prioritization of Transboundary Challenges and Related Causes
- 6.6. The Way Forward: Framework for a Strategic Action Programme

## 7. Reference List

[Alphabetic overview of key references for the TDA, e.g. scientific papers, reports, etc. This can be arranged according to topic/chapter/type of reference, etc]

## Annexes

- Annex 1. Main Contributors to the TDA
- Annex 2. Overview of Sectors, Stakeholder Groups and Governing Institutions Involved in IWBM
- Annex 3. Criteria for Prioritisation of Transboundary Challenges
- Annex 4. Results of the Prioritisation Exercise
- Annex 5. Framework for SAP Development [including indicators for M&E]

## Acronyms

IWBM	Integrated Water Basin Management
SAP	Strategic Action Programme
TDA	Transboundary Diagnostic Analysis
UNDP	United Nations Development Programme
UNOPS	United Nations Office for Project Services
Etc, etc.	