TRANSBOUNDARY DIAGNOSTIC ANALYSIS FOR THE LAKE BAIKAL BASIN

REVISION OF TRANSBOUNDARY DIAGNOSTIC ANALYSIS FOR THE BAIKAL BASIN

- JOINT FACT FINDING EXERCISES FOR TDA DEVELOPMENT -

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ABBREVIATIONS AND ACRONYMS

CBO	Community Based Organisation
CCA	Causal Chain Analysis
EA	Ecosystem Approach
EcoQO	Ecosystem Quality Objective
GA	Governance Analysis
GEF	Global Environment Facility
IW:LEARN	GEF International Waters learning and knowledge exchange network
M&E	Monitoring and Evaluation
NGO	Non Governmental Organisation
PIP	Public Involvement Plan
SAP	Strategic Action Programme
TDA	Transboundary Diagnostic Analysis

WEBSITES WITH USEFUL BACKGROUND INFORMATION

- IW:LEARN TDA-SAP Manuals
  http://manuals.iwlearn.net/tda-sap-methodology-1
- Caribbean Large Marine Ecosystem Project, online Causal Chain Analysis
  www.clmeproject.org/contenido/contenido.aspx?catID=570&conID=956
- Kura-Aras Project TDA/SAP Online Academy
  http://www.kura-aras.org/Welcome.html

1. METHODOLOGICAL APPROACH TO JOINT FACT FINDING

The GEF TDA/SAP approach comprises two main components:

1. Analytical Component – TDA (technical analysis of problems, impacts, causes)
2. Strategic Component – SAP (strategic thinking, planning, and implementation)

The foundation of the analytical component is built on joint fact finding exercises, during which a technical team consisting of experts with diverse relevant backgrounds focuses on the following tasks:

- Identify and prioritise the transboundary problems
- Gather and interpret information on the environmental impacts and socio-economic consequences of each problem
- Analyse the immediate, underlying, and root causes for each problem, and in particular identify specific practices, sources, locations, and human activity sectors from which environmental degradation arises or threatens to arise.

During the exercises to update and revise the TDA for the Baikal transboundary basin, we will combine working group sessions with plenary discussion sessions. During the group sessions, participants will be placed into smaller working units, each with stakeholders from both riparian countries representing diverse expertise.

Each working unit will have i) Facilitation Leader who takes note of the time limits, guides the discussion in the right direction, ensures that the opinion of each individual participant is taken into account; and ii) Secretary responsible for making notes and presenting the results during the plenary session.

2. IDENTIFICATION OF TRANSBOUNDARY ISSUES AND IMPACTS

2.1 BACKGROUND INFORMATION

The majority of GEF-funded IW projects are concerned with environmental issues (challenges, concerns, problems) that are transboundary (see Box 1 for an overview of common transboundary problems in international water basins).

Any form of human-caused degradation in the natural status of a water body that concerns more than one country can be defined as a transboundary issue.

The transboundary impact may be damage to the natural environment (e.g. algal blooms) and/or damage to human welfare (e.g. health problems). In general, many of the issues in transboundary water basins can be classified under one of the headings presented in Box 1. Impacts of transboundary issues can be environmental or socio-economic, and they can be either direct or indirect.

- **Environmental impacts** are defined as the effects of a transboundary problem on the overall integrity of an ecosystem, or on parts of that ecosystem.
- **Socio-economic consequences** are defined as changes in the welfare of people attributable to the problem or its environmental impacts.

The environmental and socio-economic impacts are expected to **change over time**, and either get worse if the problems persist or improve if specific interventions are implemented to solve the problems. As such, it is important to have insight in the **baseline situation** for each priority problem. Changes in the status of indicators will later be used during **Monitoring and Evaluation** processes to measure the success of project interventions as identified in the SAP.

2.2. EXERCISE

Review the list of potential transboundary concerns and specific issues. Is the list complete or are there concerns/issues missing? Are all concerns and specific issues correctly formulated?

Provide information about the geographical scope of each specific issue:

Very widespread / pervasive	Affects the ecosystem throughout the entire Lake Baikal basin
Widespread	Affects the ecosystem in many parts of the basin
Localized	Affects the ecosystem in several parts of the basin
Very localized	Affects the ecosystem only in very limited parts of the basin

For each specific issue, provide information about the environmental impacts and the socio-economic consequences.

Box 1 - Common transboundary problems

Major Concern I. Freshwater Flow Modifications

1 Excessive withdrawals of surface and/or groundwater for human uses
2 Changes in freshwater availability
3 Changes in flow regimes from structures

Major Concern II: Pollution

4 Pollution of existing drinking water supplies
5 Microbiological pollution
6 Nutrient overenrichment
7 Hydrocarbon pollution
8 Heavy metal pollution
9 Radionuclide pollution
10 Suspended solids/accelerated sedimentation
11 Excessive salinity
12 Thermal pollution

Major Concern III: Habitat and community modification

13 Loss of ecosystems or ecotones
14 Modification of ecosystems or ecotones
15 Invasive Species

Major Concern IV: Exploitation of fisheries & other living resources

16 Over-exploitation
17 Excessive bycatch and discards
18 Destructive fishing practices
19 Decreased viability of stocks through contamination and disease
20 Impact on biological and genetic diversity

Major Concern V: Fluctuating Climate

21 Freshwater flow fluctuations such as drought and floods
22 Fluctuating ocean circulation patterns
23 Sea level change (including saltwater intrusion)

3. PRIORITISATION OF TRANSBOUNDARY ISSUES

3.1 BACKGROUND INFORMATION

Prioritisation of transboundary issues will take place using a simple rating form (Table 1).

The participants will be divided in working groups (each group including experts on a diversity of topics, from both riparian countries).

Each group will focus on a specific set of issues that were identified during the previous stage of the joint-fact finding exercise.

The criteria for prioritisation are: i) severity; ii) scope; and iii) overall rating.

3.2. EXERCISE

Per working group, conduct a prioritisation exercise, by rating the severity and scope of each transboundary issue. Take into account the following criteria:

- Expected future risk of the problem
- Relationship with other transboundary problems
- Expected multiple benefits that might be achieved by addressing the problem
- Lack of perceived progress in addressing or solving the problem at national level
- Recognised multi-country water conflicts
- Reversibility / irreversibility of the problem

Fill in the table provided for the prioritisation exercise, using the criteria outlined in Box 2.

BOX 2 CRITERIA FOR PRIORITISATION

SEVERITY: The **level of damage to the Lake Baikal transboundary basin** that can reasonably be expected within 10 years under current circumstances - given continuation of the problem.

4: Very High Likely to destroy or eliminate part of the ecosystem
3: High Likely to seriously degrade part of the ecosystem
2: Medium Likely to moderately degrade part of the ecosystem
1: Limited Likely to only slightly impair part of the ecosystem

SCOPE: Most commonly defined spatially as the **geographic scope of impact on the ecosystem** integrity that can reasonably be expected within 10 years under current circumstances given the continuation of the problem.

4: Very High Likely to be very widespread or pervasive, and affect the ecosystem throughout the entire Lake Baikal basin
3: High Likely to be widespread in its scope and affect the ecosystem in many parts of the basin
2: Medium Likely to be localized in its scope and affect the ecosystem in a few parts of the basin
1: Limited Likely to be very localized in its scope and affect the ecosystem only in very limited parts of the basin

OVERALL RATING: The overall rating is derived by combining the results of the severity and the scope. If you are of the opinion that the overall rating does not reflect the actual situation, then you might prefer to revise the severity of the scope rating.

NB: It is important that you can provide technically sound, objective arguments for your ratings.

		SCOPE			
		4: Very high	3: High	2: Medium	1: Limited
SEVERITY	4: Very high	8	7	6	5
	3: High	7	6	5	4
	2: Medium	6	5	4	3
	1: Limited	5	4	3	2

4. CAUSAL CHAIN ANALYSIS

4.1 BACKGROUND INFORMATION

Causal Chain Analysis (CCA), often also called a Root Cause Analysis, traces the cause-effect pathways of a problem from the environmental and socioeconomic impacts back to its root causes. A causal chain is a series of statements that link the causes of a problem with its effects.

The purpose of a CCA is to identify the most important causes of priority problems in international waters, so that they can be targeted by appropriate policy measures for remediation or mitigation.

Understanding the linkages between issues affecting the transboundary basin and their causes will help stakeholders and decision makers in supporting sustainable and cost-effective interventions.

Causal chains developed as part of the TDA typically consist of 3 broad categories of causes:

Immediate causes Direct, primary, technical causes of the problem. They are predominantly visible and tangible (e.g. increased nutrient inputs, changes in land use), and with distinct areas of impact (with the exception of causes such as atmospheric deposition or climate change).

Underlying causes Contribute to the immediate causes. They can broadly be defined as underlying resource uses and practices, and their related social and economic causes. Governance related causes are often identified as underlying causes.

Resource uses and practices will tend to fall into areas such as:

- Land uses (reclamation/drainage operations, deforestation, agriculture)
- Damaging or unsustainable practices (Intensive livestock production, absence of/or outdated water treatment technology, destructive fisheries practices)
- Uses of water (diversion, storage etc)

The social and economic causes tend to fall into areas such as:

- Increased sectoral development
- Lack of investment, operation and maintenance
- Poor awareness or education
- Governance failures - legislation, regulation, enforcement

To identify underlying causes it is necessary to understand which sector they fall in (e.g. within agriculture or industry), and the governance framework within which they operate.

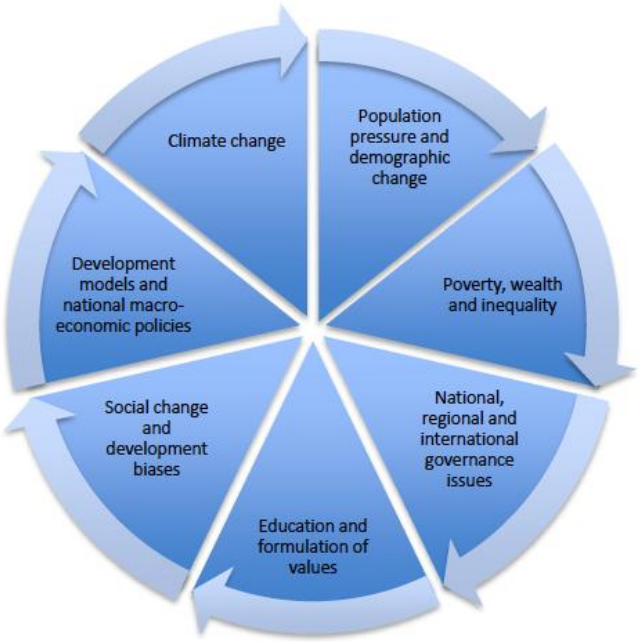
Unfortunately, different sectors often act independently. This makes it very difficult to achieve a coordinated inter-sectoral response. Although both policymaking and information are generally sharply divided between sectors, their environmental impacts are not.

Root causes

Linked to the underlying social and economic causes and sectoral pressures. Often related to fundamental aspects of macro-economy, demography, consumption patterns, environmental values, and access to information and democratic processes.

Many of these may be beyond the scope of GEF intervention, but it is important to document them for two reasons:
1. Some proposed solutions might be unworkable if the root causes of the problem are overwhelming.
2. Actions taken nearer to the root causes are more likely to have a lasting impact on the problem.

Root causes can be divided into the following categories:



In terms of importance to the degradation of the aquatic environment, root causes are often the most difficult to assess. Within each of the above categories, the underlying causes or pressures will link to numerous social/economic/governmental causes, at scales and levels that may vary significantly from region to region.

For example, in the case of eutrophication, a root cause might be a cultural change in diet – such as an increase in meat consumption – that leads to a market demand for cheap meat, and the intensification of animal farming resulting in higher nitrogen and phosphorus emissions. Clearly the GEF would not be able to intervene here, but it is important to understand the driving force for this causal chain when deciding whether or not to intervene at all.

The key generic sectors that are important for transboundary water basins are listed here:

- Industry
- Mining
- Urbanisation
- Energy Production
- Transport & Infrastructure
- Agriculture
- Fisheries & Aquaculture
- Tourism & Recreation
- Defence
- Health

4.2. EXERCISE

Per working group, conduct a causal chain analysis. For each priority transboundary problem, identify and list:

a. Key sectors that are of relevance for the problem
b. Immediate causes
c. Underlying resource uses and practices that contribute to each immediate cause
d. Underlying social, economic, legal, and political causes of each immediate cause
e. Link the resource uses and practices, and social, economic, legal and political causes
f. Determine the root causes

5. GOVERNANCE ANALYSIS

5.1 BACKGROUND INFORMATION

Stakeholders are defined as any party that is involved and/or affected by an environmental problem and/or its solution.

Stakeholders play a crucial role in the TDA-SAP process.

Consequently, a wide range of stakeholders are typically involved in the TDA-SAP process, including:

- Government
- Regulatory Agencies
- Communities
- Industry
- International and National Non Governmental Organisations (NGO's)
- Community-based organisations (CBO's)

> Governance is the exercise of economic, political and administrative authority to manage a country's affairs at all levels. It comprises the mechanisms, processes and institutions, through which citizens and groups articulate their interests, exercise their legal rights, meet their obligations and mediate their differences. (UNDP, 2001)

The TDA-SAP process includes three different steps in the overall governance analysis:

1. **Stakeholder Analysis** to verify interests of groups and individuals and to assemble information on affected populations
2. **Institutional Analysis** to understand the formal and informal mechanisms of actual decision-making
3. **Legal and Policy Analysis** to provide the bases for recommending legal and policy reforms

Each step requires specific expertise and a dedicated amount of time. During this workshop, we will only focus on the first step: the stakeholder analysis. The institutional, legal and policy analysis will be conducted by a legal expert, whose outputs will be reviewed by the SAG prior to finalising and submitting the TDA to the PSC.

The present exercise aims to obtain an overview of the relevant governing institutions per relevant sector, and the associated stakeholder groups that are the cause of each problem and/or are impacted by the problem.

5.2. EXERCISE

Per working group, conduct a stakeholder analysis, by filling in the Excel file provided. The exercise includes three steps: i) For each sector, determine the key governing institution(s); ii) Determine which stakeholder groups are linked to each sector; iii) For each identified transboundary issue, determine if the stakeholders are the cause of the problem and/or if they are impacted by the problem.

BOX 3	**CATEGORIES OF STAKEHOLDER GROUPS**
Government institutions	Central and local government as well as municipal bodies. Central government stakeholders encompass Ministries such as fisheries, environment, tourism, transport, energy. Local governmental stakeholders are usually local policy makers in environmental matters, often key actors in the control of possible damage to the environment; for example, city sewage, planning and construction work.
Business (public and private)	This includes anything from a hotel chain to an oil and gas exploration company. Sectors commonly involved are fishing, aquaculture and mining. Businesses may be privately owned and operated, fully owned and controlled by the governments, or have shared ownerships. Associated organisations, such as trade organisations or chambers of commerce are also included.
NGOs / CBOs	This group is by far the most diverse. It includes non-governmental organizations, community organizations, research institutions, schools, media channels, international donor agencies, concerned individuals and, in some cases, religious institutions. NGOs focus not only on such issues as environment and human rights, but can also act as advocates for specific interest groups, such as oil or logging companies. International conventions recognise the basic right of all people to a healthy environment, and the need for authorities to provide fair and open decision-making processes, with public access to information, and participation. NGO's and CBO's typically play an important role in raising awareness for these issues.

BOX 4 **GUIDING PRINCIPLES FOR STAKEHOLDER INVOLVEMENT DURING THE TDA/SAP PROCESS**

Clarity

The process should be administered in a way that is easily understood by all stakeholders.

Respect

The process should be conducted in a manner that demonstrates respect for all stakeholders by:

- Respecting diverse cultures, perspectives, values, and interests.
- Recognizing the right of individuals to participate in decisions that affect them.
- Interacting with all stakeholders honestly, openly, and ethically.
- Seeking to bridge differences.
- Acknowledging stakeholders' professional codes of practice.
- Adhering to commitments and protocols agreed upon for the process.

Commitment

The process should demonstrate commitment to stakeholder involvement by:

- Incorporating input from all participants.
- Following through on commitments made during the process.
- Maintaining a constructive, problem solving focus.

Timeliness

The process should demonstrate that time is a valuable and limited resource by:

- Sharing information early and often in order to assist all stakeholders to prepare and to act knowledgeably.
- Providing early and adequate notice of opportunities for involvement.
- Negotiating, where possible, appropriate timelines for all stakeholders.
- Establishing and adhering to realistic deadlines.
- Responding in a timely fashion to questions and requests.

Communication

The process should be based upon effective communication which fosters understanding through:

- Careful listening.
- Honest and open explanations.
- Use of plain language.
- The timely exchange of information .

Responsiveness

The process should demonstrate responsiveness by:

- Recognizing that stakeholder involvement is a dynamic process.
- Building flexibility into the process from the beginning.
- Designing and using feed-back mechanisms.
- Evaluating and modifying the process on an on-going basis.

Accountability

The process should demonstrate accountability by:

- Encouraging stakeholder representatives to solicit input from their members, and to communicate progress and decisions regularly.
- Providing all information in writing and in advance of formal hearings.