

Pollution Control and Other Measures to Protect Biodiversity in Lake Tanganyika

Strategic Action Plan

Zambia

The National Sectoral Problem Review
Objectives, Background and Guidelines

12 May 1998

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Proposed Workshop Agenda

Day 1

1. Chairpersons Introductory Remarks
2. An Introduction to the Project
3. An Introduction to the Strategic Action Plan
4. Background Materials
Biodiversity, Critical Habitats and Threatened Species
Fishing
Sediment

Day 2

5. Background Materials (continued)
Water Quality
Wildlife Management
Catchment and Land Use
Institutional Structures for Environmental Management
6. Define Major Biodiversity Problems
7. Identify Major Causes and General Action Areas
8. Divide into Groups to discuss details of General Action Areas
9. Group Discussions of Specific Problems and Proposed Actions within each General Action Area

Day 3

10. Continued Group Discussions
11. Initial prioritisation of proposed actions within the General Action Area
12. Presentation of Group Conclusions

Day 4

13. Identification of linked actions between the General Action Areas.
14. Initial overall prioritisation of proposed actions.
15. Compile draft analytical matrix Major Biodiversity Problems, General Action Areas and Proposed Actions .

Day 5

16. The Next Steps - The National Environmental Priorities and Strategies Review - determine the scope of the workshop in light of the conclusions of this workshop.
17. Identify further information requirements

18. Identify individuals and institutions who will prepare background materials for the workshop.

1. Background - The Strategic Action Plan

The “Lake Tanganyika Biodiversity Project” - LTBP - is jointly owned by the four countries surrounding the Lake, Zambia, DR Congo, Burundi and Tanzania.

The full title of the project is “Pollution Control and Other Measures to Protect Biodiversity in Lake Tanganyika”. This emphasis is reflected in the project document, which has as the first immediate objective “...*establish a regional long-term management plan for pollution control, conservation and maintenance of biodiversity in Lake Tanganyika.*”.

Since the project document was prepared, the planning ideas incorporated in this immediate objective have been encapsulated in the concept of a Strategic Action Plan - SAP. Fundamental to this is the recognition that management plans have to be revised in response to changing circumstances, there can be no final plan. The SAP therefore establishes an agreed planning and management process, and prioritises initial interventions based on present knowledge.

1.1 Proposed Development of the SAP

Following the decision of the Steering Committee in January 1998 to proceed with the formulation of a regional Strategic Action Plan, the Environmental Council of Zambia held a special National Working Group Planning Meeting, (Lusaka 27/28 April).

The meeting fixed dates for the Zambian workshops, agreed on the scope of the discussions and proposed an expansion of the consultation process to include wider representation from the communities, from local government, from the private sector and from national and international organisations..

Zambian National Working Group Planning Meeting
(Completed April 1998)

Zambian National Sectoral Problem Review
(June/July 1998)

Zambian National Environmental Priorities and Strategies Review
(August/September 1998)

Regional Technical Advisory Committee Planning Meeting for the SAP
(Proposed July 1998)

Regional Transboundary Diagnostic Analysis¹
(Proposed October 1998)

Regional Draft Strategic Action Plan
(Proposed January 1999)

¹ The Project uses GEF terminology: a Transboundary Diagnostic Analysis, is a regional prioritisation focused on the management of threats to shared - i.e. *Transboundary* - resources.

Signed Strategic Action Plan
(Scheduled by the Steering Committee March 1999)

The next step of the process is the National Sectoral Problem Review, the subject of this paper, which will take place over a five day workshop at the end of June.

2. Objectives of the National Sectoral Problem Review

The Objective of the National Sectoral Problem Review is:

To define the main biodiversity problems of the lake, identifying the sectoral causes of those problems in the management of the lake and catchment, and to review the priority management actions that Zambia can take to resolve those problems.

Considerations

- The biodiversity value of the lake includes the biodiversity value of the adjacent shore and wetlands (As an example the biodiversity value is taken to include resident and migratory bird species dependant on lake resources).
- The potential management zone is the lake and the lake catchment.
- The emphasis of the problem review is on the impacts on lake and shore biodiversity resulting from human activities within the lake and catchment.
- The review will also address the feasibility of management interventions to counteract the threats to biodiversity that result from the impacts of human activities.
- Given that the lake is a shared resource, it is clear that activities in one country can result in problems in other countries territorial waters. The review will include transboundary problems affecting Zambia, resulting from activities in the other countries, and conversely activities in Zambia that affect the lake as a whole.

3. Background Materials

The workshop will be building on the considerable volume of existing knowledge and evaluations, to update and prioritise possible management interventions to counteract threats to the lake resources.

As a starting point Baseline Reviews were prepared by the project and the information presented at the regional Project Inception Workshop held in 1996. During this workshop, countries gave an initial indication of the priority of the problems that threatened the lake resources. Each country has copies of these reports.

Since then, the project has initiated a number of special studies, and with improved information from other sources, the National Working Group have assigned tasks to identified members to prepare background information reports for the workshop.

The background materials will therefore use the baseline reviews as a starting point, expanding them to include new information and threats and opportunities for improved management that have developed over the intervening period.

The background presentations will go beyond a lists of present activities or lists of species; it must highlight key points of the system, identifying threatened species and habitats and those activities that are the root cause of those threats.

Background materials are expected to include projections of future trends, based on demographic and economic changes in the catchment and on the lake shore.

3.1 Main Topics of Background Materials

The National Working Group identified key topics that will form the basis for discussion at the workshop.

- **Lake and Shore Biodiversity** - Habitats; Ecosystems; Species Composition / Distribution; Indicator Species; Utilisation; Threatened Species; Threatened Habitats; Introductions of Exotic Species; Water Hyacinth; Ornithology of the Lake and Shore.
- **Fishing** - Biology; Catch and Trends; Fishing Practices; Regulation; Ornamental Trade; Socio-Economics; LTR; Processing/ Marketing; Fishing Impact on BD.
- **Sediment** - Sources/Types/Quantity; Hydrological Data; Sediment Load; Sediment Impacts on BD; Land Use; Industrial and Civil Works; Deforestation; Land Cover.
- **Water Quality** - Eutrophication; River Water Quality; Shipping Pollution; Dangerous Cargo; Regulation; Sewage Treatment; Sanitation; Solid Waste Disposal; Harbour Oil Spills; Fertilisers/Pesticides Runoff; Water borne disease; Water Abstraction; Pollution Impact on BD.
- **Wildlife Management** - Parks Management; Encroachment; Regulation; Fishing Permits; Tourism; Non-Park Wildlife; Poaching.
- **Catchment Land Use** - Settlement Patterns; Population Trends; Migration; Agricultural Systems; Forestry; Natural Woodlands; Wetlands; Mining/Quarries; Mineral Resources; Minor Economic Activities; Cultural heritage.
- **Institutional Structures for Environmental Management.**

The topics specifically excluded such problem areas as Global Warming, as local management initiatives are largely irrelevant in tackling such issues.

4. Problem Analysis

In order to ensure that the outputs from the National Reviews can be drawn together to form a regional overview, there must be some consistency in the approach to problem analysis.

Effectively, the national exercise will be an internal Transboundary Diagnostic Analysis of major problems.

In view of this it suggested that the workshop uses, or modifies, the formal matrix analysis which consists of three stages:

1. **Identification of Major Biodiversity Problems**, with an analysis of the their transboundary implications, identification of the underlying institutional causes, and identification of general areas where action is proposed to counteract these problems.
2. **Proposed Actions**, for each general action area, identify the stakeholders, including those responsible for formal and informal management, identify areas of uncertainty - and hence areas requiring further investigation during or prior to management interventions, and finally proposing specific actions to counteract problems or reduce uncertainties.
3. **Detailed Information Supporting Proposed Action**, including a time frame for the proposed action, details of the present situation and expected outcome, an indication of who will be involved and finally an indication of the priority of the intervention.

5. Major Problems, Causes and Actions

Although it is the responsibility of the workshop to define the Major Biodiversity Problems and subsequently the proposed actions to counter those problems, an initial perception of the major problems is indicated by the main topics of the background materials being prepared for the workshop.

The main “problem” topics are identified as Fishing, Sediment, Water Quality, Wildlife Management, Catchment Land Use and Institutional Structures.

However, in themselves these are not necessarily biodiversity problems; fishing itself is not a problem, it is a benefit to lake shore communities and to national economies, although overfishing may damage biodiversity.

Using fishing as an example, the following shows four key stages of the analysis:

1. ***The Main Biodiversity Problem*** - *is declining fish stocks.*
2. ***The Main Cause*** - *may be inadequate regulation or management of fishing.*
3. ***The General Action Area*** - *may be Reduction of Fishing Pressure.*
4. ***The Proposed Action*** - *may be the implementation of closed seasons.*

6. Prioritisation

Building on from this analysis is the need for prioritisation.

The purpose of the Strategic Action Plan, and the national inputs to the SAP, is to provide a prioritised framework for action.

The concept can be best presented by posing the following questions:

If Zambia has enough resources to carry out one action to protect the biodiversity value of the lake, what would it be?

And then what would the second action be?...

By posing these questions, it can be seen that the prioritisation is of management interventions, which may not be the same as the prioritisation of threats.

The priority of the management intervention is a combination of the scale of the threat and the ability to counteract that threat. If there is no management intervention that can counteract the threat, then it is clearly not a priority for action.

Low Priority Example

At one extreme, “Global Warming” may be the major threat to the lake resources, however as there is no management intervention that can be implemented by Zambia or the other lake shore countries, counteracting global warming is not a priority.

High Priority Example

Solid waste dumped from shipping in Mpulungu is resulting in environmental damage and habitat destruction. The harbour authorities and the district council could provide waste storage facilities at the harbour and a solid waste disposal/treatment facility.

If this could be done now, using existing resources, then this could have a high priority.

6.1 Prioritisation and Resources

The example above gives a high priority to an action that can be undertaken with existing resources. However, one of the recognised functions of the SAP is to “leverage” additional funding for actions supporting the biodiversity conventions and the management of international waters.

It is expected that in general funding will go to national agencies, implementing national programmes, within and supporting the regional framework of the SAP.

In recognition of this the prioritisation exercise should also pose the following questions:

If a donor agency offers Zambia additional funding and resources to carry out just one action to protect the biodiversity value of the lake, what would it be?

And then what would the second action be?...

6.2 Institutional Development

Although the most immediate priority may be given to a direct action, as a precursor to many of the actions needed to counteract problems may be the development of institutional capacity to manage that action.

As an example, the fisheries department may be supported by adequate legislation that could reduce fishing pressure through existing licensing systems, but may need more trained manpower to ensure that these regulations are adhered to.

Approaching problems from the opposite end of regulation, Environmental Education is seen as a major tool in changing communities perceptions and actions. Local NGOs, the fisheries department, local schools and other organisations may need support in developing their capacity to work in Environmental Education with communities.

On the basis of this a second category of priority may be defined, priorities for institution building to create the capacity to undertake a priority action.

6.3 Research, Monitoring and Evaluation

Following on from this, it is clear that at a third level the constraint to taking an action may be lack of knowledge². Unless the position of critical spawning sites are known, it is difficult to protect them through implementing closed seasons.

The LTBP project is undertaking research through counterpart institutions in Zambia and the other lake shore countries to reduce the uncertainties in undertaking actions to improve the management of the lake and catchment resources. The Special Studies will continue to generate improved knowledge during the project period, as will other research activities carried out by other institutions in Zambia and elsewhere.

However, the analysis may show that there are still many areas where lack of knowledge is still a constraint to the sustainable management of the lake resources, and further research is called for.

Specific research programmes, seeking to generate information to improve management of threats to biodiversity, may be given priority.

In parallel with this, as many of the present and proposed management interventions - and priority actions - are based on incomplete knowledge, Monitoring and Evaluation of selected interventions will become a priority.

Clearly if a closed season is implemented, fish stocks will need to be monitored to show whether the intervention is effective in protecting biodiversity and increasing fish stocks.

Priority must be given to monitoring and evaluation that is directly supporting regular management actions.

² However, even where there is a lack of knowledge, immediate precautionary actions may need to be taken. The ***Precautionary Principle*** is embodied in the Rio Convention "...lack of full scientific certainty should not be used as a reason for postponing measures to avoid or minimise such a threat."

6.4 Legislative Instruments, Policies and Strategies

Although it is proposed that the main discussion of Legislation, Policies and Strategies will be left to the second national workshop, it is worth briefly mentioning them here as they form the framework for management.

In many cases existing legislation or policy may not be appropriate for supporting the improved management of the lake.

As an example, environmental assessments may not be required for certain types of industrial development that pose no major risks in inland areas, while if constructed on the lake shore could result in major environmental damage. An example of this could be oil storage facilities, which might need different approaches to managing spillage in the two different environments.

A priority may therefore be in revising regulatory instruments or in changing sectoral policies to promote better management practices.

Annex 1

Analytical Problem Matrix

An Example

Biodiversity Problems, Institutional Causes and General Action Areas - An Example

Major Biodiversity Problems	Transboundary / Shared Resource Implications	Main Institutional Causes	General Action Areas	
Declining Fish Stocks	Although some fish species are very local, most subsistence and commercial fisheries are common to all four countries.	Lack of effective regulatory mechanisms. Inadequate implementation of existing regulations. Insufficient information on sustainable yields	Reduction of fishing pressure.	1

Action Areas and Proposed Actions - *An Example*

Action Area 1 Reduction of Fishing Pressure

	Problem	Stakeholders	Uncertainties	Proposed Action
1.1	No protection of spawning areas.	Local Communities Commercial Fisheries National Parks Fisheries Department	Incomplete knowledge of spawning areas and/or seasons.	Negotiate closed areas and seasons with local communities and commercial fisheries, where specific spawning grounds are known or suspected as being important. Establish By-laws to define management of closed areas and seasons, to confirm user rights for open seasons. and to establish penalties for infringement. Carry out further biodiversity surveys to establish other critical spawning grounds.

Detailed Information Supporting Proposed Actions - *An Example*

	Proposed Action	Time Frame	Present Situation and Expected Outcome	Action Agencies	Priority
1.1.1	Negotiate closed areas and seasons with local communities and commercial fisheries, where specific spawning grounds are known or suspected as being important.	1999-2001	Present: Initial areas identified by Special Studies. Expected: Closed Seasons and User Rights agreed with local communities and commercial fisheries.	Department of Fisheries, with the support of Biodiversity and Socio-Economics Special Studies	