

Comprehensive Study on Lake Malawi Ecology for Sustainable Utilization



Project Sites Zomba

1. Background of Project

Lake Malawi is highly recognized not only for its important functions in water transportation, irrigation, sightseeing and fishing, but also for its richness in valuable natural resources. In recent years, however, due to the deterioration of the environment and excessive fishing caused by a rapid increase in population, the quantity of fish in the lake has been seriously diminished, resulting in the deprivation of an affordable protein resource for the nation.

To sustain the fish resource, extensive research on ecology would be indispensable. This includes other academic approaches in natural science and in socio-cultural studies. However, such interdisciplinary research facilities are not adequately developed in Malawi, hence the accumulation of data and knowledge is insufficient for the purpose of policy planning by the government.

The Chancellor College, University of Malawi, is the most renowned institution for fishery and environmental studies in the country. It decided to carry out a comprehensive research on the fish ecology of Lake Malawi at the behest of the Government of Malawi and because of increasing international concern. The request of the cooperation was made to Japan that has a successful experience in a similar cooperation project in Lake Tanganyika in East Africa.

2. Project Overview

(1) Period of Contract

1 May 1998 – 30 April 2001

(2) Type of Cooperation

Research Cooperation

(3) Partner Country's Implementing Organization

Chancellor College, University of Malawi

(4) Narrative Summary

1) Overall Goal

The research system established by this project is fully utilized by researchers and policy-making

agencies for the resource management of lakes and swamps.

2) Project Purpose

Latest knowledge on the ecology of Lake Malawi is accumulated, and facilities for interdisciplinary research available for both researchers and local inhabitants are established.

3) Outputs

- a) Research system to study the ecology of Lake Malawi is established.
- b) Interdisciplinary research (fish molecule system learning, sociology, ecology) on the ecology of Lake Malawi is carried out.
- c) The local community participates in the research process.
- d) The research facilities (experiment ridge, field station) are expanded and improved.
- e) A database is established, making it possible for government agencies and inhabitants to share an overall knowledge of the ecology of Lake Malawi, and Related reports are published.
- f) Research results are conveyed to policy-making agencies as fundamental ideas in policy planning for feasible resource management.
- g) Teaching materials and course programs are prepared for undergraduate and graduate students.

4) Inputs

Japanese Side

Long-term experts	4
Short-term experts	20
Trainees received	6
Equipment	25 million yen

Malawian Side

Counterpart	10
Land and facilities	
Local cost	

3. Members of Evaluation Team

Team Leader:

Katsuhiro SASAKI, Planning Division, Regional Department (Africa, Mid-East and Europe), JICA

Technical Instruction:

Yasuo TAKAMURA, Professor, University of Kyoto

Cooperation Evaluation:

Megumi KOURA, Regional Department (Africa, Mid-East and Europe), JICA

Project Evaluation:

Seizou YAMADA, Katahira Engineering International, Limited.

4. Period of Evaluation

5 November 2000 – 13 November 2000

5. Results of Evaluation

(1) Relevance

A comprehensive study on the ecology of Lake Malawi is indispensable for maintaining the nation's supply of fish as an affordable source of protein. Reflecting a local need, this project holds relevance.

(2) Effectiveness

An interdisciplinary research organization called "Unit" was installed at the University of Malawi, and research facilities have been expanded. In addition to the inhabitants' participation in the research process, the availability of the research outcome increased by the distribution in the forms of illustrated books, subject manuals, internet, and others. Therefore, it is considered that the research facilities are now well-equipped for the active involvement of researchers and local community. On the other hand, due to a shortage of manpower and time, holding of seminars regarding the research results and preparation of educational materials and programs for the local community were not achieved. However, this did not influence the overall project effectiveness.

(3) Efficiency

The only research field that had long-term experts for the full project period was fish ecology. There has been a delay in dispatch of project coordinator and expert to other research fields. A set of equipment was supplied promptly, and its maintenance has been properly controlled.

The research results have been extended ahead of schedule due to the participation of local inhabitants.

(4) Impact

Because the relevant persons were adequately informed of the necessity, purpose and content of this project, the awareness level toward the problems was raised. It also successfully led to producing researchers who can contribute to the sustainable development of the country.

Although the research outcome had not yet been applied to actual policy-making at the time of project



Lake Malawi with the most varied species of fish in the world

evaluation, policy for conveyance to the government including seminars on the research results was decided.

(5) Sustainability

The supporting system of development of research facilities has been established by the Ministry of Finance and Economic Planning, the University of Malawi, the National Park Wildlife Section and the Fishery Department. The Government of Malawi assures the salaries of researchers and management costs, while counterparts are working towards acquiring the necessary funds to cover costs in addition to those above. However, it should be noted that it is essential to find a source to meet local costs, such as investigation trips and expendables. There is special concern over whether the maintenance cost of the DNA Sequencer can be continuously obtained. The maintenance management of other kinds of equipment and the arrangement of human resources are carried out properly, therefore, sustainability is highly expected.

6. Lessons Learned and Recommendations

(1) Lessons Learned

For interdisciplinary projects, which require involvement of a number of people, it is essential to coordinate the necessary tasks fully and in advance. Therefore, even small-scale projects should include a project coordinator from the beginning of the entire process. When planning, because a delay in supplying input is expected, it would be desirable to allow enough time for the implementation.

(2) Recommendations

For full utilization of the supplied equipment such as the DNA Sequencer, a concrete plan including fund management should be carefully prepared and implemented.