

THE MINUTES OF MEETING
BETWEEN
THE JAPANESE MID-TERM EVALUATION TEAM
AND
THE AUTHORITIES OF THE GOVERNMENT
OF
THE REPUBLIC OF MALAWI
ON
THE JAPANESE TECHNICAL COOPERATION
FOR
THE PROJECT ON AQUACULTURE AND TECHNICAL DEVELOPMENT OF
MALAWIAN INDIGENOUS SPECIES

The Japanese Mid-term Evaluation Team (hereinafter referred to as 'the Team') organized by Japan International Cooperation Agency (hereinafter referred to as 'JICA') and headed by Mr. Hajime KAWAMURA, visited the Republic of Malawi for the purpose of evaluating, jointly with the Malawian Evaluation Team headed by Mr. G.C. MKONDIWA, Principal Secretary, Ministry of Natural Resources and Environmental Affairs, the Project on Aquaculture and Technical Development of Malawian Indigenous Species (hereinafter referred to as the Project) from October 1 to 12, 2001.

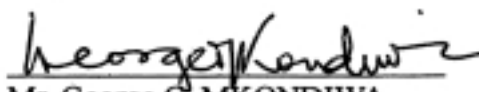
During its stay, the Team has carried out a field survey and held a series of meetings with the Malawian authorities.

As a result of the survey and meetings, both sides agreed to report to their respective Governments the matters referred to, in the documents attached hereby.

Lilongwe, October 11, 2001



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Team Leader,
Mid-term Evaluation Team,
JICA



Mr. George C. MKONDIWA
Principal Secretary,
Ministry of Natural Resources and
Environmental Affairs
Project Director

The Midterm Evaluation Report for the Project

1 INTRODUCTION

Based upon the Record of Discussions (hereinafter referred to as "the R/D") signed on January 28, 1999, the Government of Japan and the Government of the Republic of Malawi have been implementing the Project since April 1, 1999. The Project is scheduled to be implemented for five (5) years at the National Aquaculture Center, Domasi (hereinafter referred to as "NAC") and is to complete on March 31, 2004.

At the mid-term of the Project, JICA dispatched the mid-term evaluation team to Malawi to evaluate the Project jointly with Malawian authorities and to give advice to the Project in elaborating implementation plans for the remaining period.

2 MEMBERS OF THE EVALUATION TEAM

2-1. Japanese Side

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2-2. Malawian Side

Mr. George C. MKONDIWA

Principal Secretary,
Ministry of Natural Resources and
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Mr. Shaibu MAPILA	Director of Fisheries Fisheries Department Ministry of Natural Resources and Environmental Affairs
Mr. Orton M. KACHINJIKA	Chief Fisheries Research Officer, Fisheries Department Ministry of Natural Resources and Environmental Affairs
Mr. Michael KAPELETA	Principal Fisheries Officer, Fisheries Department Ministry of Natural Resources and Environmental Affairs
Mr. Hastings CHIPONGWE	Economist, Ministry of Natural Resources and Environmental Affairs

3 OBJECTIVES OF THE EVALUATION

Objectives of the evaluation of the Project are as follows:

- (1) To evaluate achievement in accordance with the original plan described in the R/D, Tentative Schedule of Implementation (TSI), Plan of Operation, Annual Work Plan and Project Design Matrix (PDM); and
- (2) To recommend and suggest necessary measures to be undertaken after the midterm review of the cooperation and the Project to the authorities of the respective Governments.

4 METHODOLOGY OF THE EVALUATION

The evaluation was conducted based on Project Design Matrix for evaluation (PDME) as attached at Annex I through Project Cycle Management (PCM) methods.

5 RESULT OF EVALUATION

5-1. Accomplishments of the Project

The Team and the Malawian Evaluation Team received the progress report from the Project as attached at Annex IV. Significant accomplishments of inputs and activities are summarized below.

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5-1-1. Accomplishment of Inputs to be taken by the Government of Malawi

(1) Provision of land, building and facilities of NAC

- a. Project Offices
- b. Laboratories
- c. Experimental Fields

(2) Allocation of counterparts

Twelve (12) counterpart personnel were allocated to the Project during the cooperation period.

(3) Allocation of local cost

Approximately MK 10.26 million (equivalent to approximately US\$ 153 thousand) that includes MK 10 million (equivalent to approximately US\$ 149 thousand) of Counter Value Fund was allocated for the Project (up to the middle of August). (Conversion rate: US\$1.00=MK67)

5-1-2. Measures to be taken by the Government of Japan

(1) Dispatch of Experts

a. Long-term experts

Nine (9) long-term experts covering five (5) areas of cooperation were dispatched.

b. Short-term experts

Six (6) short-term experts covering six (6) areas of cooperation were dispatched.

(2) Provision of machinery and equipment

The machinery and equipment equivalent to approximately 36.1million yen (equivalent to approximately US\$ 301thousand) were provided for the Project.

(3) Training of Malawian counterpart personnel

Four (4) Malawian counterpart personnel were trained in Japan and two (2) counterpart personnel were trained by the third country training programme.

(4) Local expenditure

Approximately 16.2 million yen (equivalent to approximately US\$ 135 thousand) was allocated for project activities. (Conversion rate: US\$1.00=¥ 120)

5-2. Accomplishments of Activities

The accomplishments of the activities are in Annexes II, III and IV.

5-3. Accomplishments of Outputs

The outputs of the Project are summarized as follows:

5-3-1. Reproductive ecology and spawning habits of new aquaculture species are clarified (Output 1.1)

Peaks of spawning season for 4 new species were investigated. The results show that water temperature is one of the major factors for success in induced breeding.

5-3-2. Brood stock rearing techniques of new aquaculture species are established (Output 1.2)

The ability to rear and produce the new fish species in aquaculture was shown by the fact that spawners of four new aquaculture species were produced from wild subadults.

5-3-3. Induced spawning and larvae/fry rearing techniques for new aquaculture species are established (Output 1.3)

A seed production manual is yet to be published. A technical report was prepared and published. Further data or information on seed production is needed.

5-3-4. Appropriate fish species and farming methods for variable physical, technical and socio-economic conditions are clarified. (Output 2.1)

Criteria for determination of appropriate fish farming methods and a production target for each farming operation for *Oreochromis shiramus* were set with a 65% satisfactory level at Domasi. These include integration with livestock, fertilization using manure and the definition of production cycles. Further research is required to obtain precise data. Similar trials are being conducted at Kasinthula which has different climatic conditions.

5-3-5. Constant seed production of Clariid catfish is achieved. (Output 2.2)

A Clariid catfish seed production facility will be constructed at Domasi, NAC Headquarters. Manual for seed production has not yet been prepared although a technical report was published.

5-3-6. Techniques developed at NAC are verified at selected fish farms. (Output 2.3)

Verification and determination of existing aquaculture techniques on the selected farms started one and a half years ago. Preliminary results indicate that it is possible to clarify the productivity under different socio-economic situations of farmers with different types of inputs.

5-3-7. Farmers' willingness and interest in fish farming is promoted. (Output 2.4)

A SADC Fisheries Exhibition and Seminar was organized. Three Open Field Days for farmers and extension staff have been held. NAC has experienced an increased number of inquiries from farmers. This shows that interest of farmers in aquaculture has been enhanced.

5-3-8. Mechanism to continue activities that are initiated by the project is established. (Output 3)

A revolving fund was established in April 1999. Fish sales contribute to 20% of the total income of the revolving fund. Skills of counterpart staff at NAC have been improved through their participation on project activities. However, there is need for continued practice.

5-4. Accomplishment of the Project Purpose

Project purpose consists of the following two issues.

5-4-1. To establish seed production techniques for new aquaculture species
(Project Purpose 1)

Up to 68% survival rate, from hatch out to 30 days, has been achieved for Ningwi and Ntchila seed production. Fry rearing experiments for new aquaculture species are on going.

5-4-2. To establish appropriate fish farming techniques for existing aquaculture fish species (Project Purpose 2)

The results of on-station trials have defined optimum fish production levels by using integrated systems. On-farm research has proved these results on small scale farms. Further experiments on-farm are being carried out to standardize and establish appropriate fish farming techniques for different farming systems.

6-1. Analysis by Evaluation Items

6-1-1. Efficiency

Input of Japanese experts (both long term and short term) was largely appropriate whereas the disposition of counterparts in on-farm research and rearing technique was delayed. Now all of the necessary counterparts are in place and working together with experts.

Rehabilitation of Kasinthula farm was delayed and fish food ingredients for rearing experiments at Kasinthula are difficult to obtain due to shortage of cereals in the country.

Equipment and facilities provided in the project are being used efficiently by and large for the project purposes. However, some equipment such as nutrient measurement

equipment and optical instruments that are necessary to carry out experiments are not sufficiently provided.

It is observed that counterpart training in Japan and third country gives good working incentive and this leads to the smooth implementation of the project.

6-1-2. Effectiveness

Establishment of seed production techniques for new aquaculture species is attributed to the findings and techniques developed in the Outputs 1.1 and 1.2.

Although techniques developed at NAC have not been fully transferred because of the necessity of further experiments at NAC, production at selected farms has increased through on-farm research activity.

6-1-3. Relevance

The aim of the National Fisheries and Aquaculture Policy is to provide a framework for increased fish supply and income. The present project is working to achieve this and therefore it is relevant.

6-1-4. Sustainability

There is a committed government support for aquaculture development as an alternative means of fish production. Basic infrastructure and auxiliary facilities have been put in place at the National Aquaculture Center (NAC) and satellite stations. Counterparts have been trained on the job by Japanese experts as well as attended training courses both in Japan and third countries. This leads to the development of skills, which is important for post-project period. In addition, the preparation of technical manuals is going on and this will facilitate the dissemination of aquaculture technique to the people of Malawi.

7 Conclusion and recommendations

7-1. Conclusion

At the mid-way point of the project period, technologies for seed production of new aquaculture species have been attained with appropriate inputs of human resources and equipment. Development of rearing technique has been hindered by several factors such as a delay in pond rehabilitation, difficulty with procurement of fish feeds. However as the infrastructure is being improved, work progress is expected to be on schedule. On-farm research is carried out steadily in spite of several difficulties such as security, poor provision of fish feed and low education level of small-scale farmers. Reliable data is being collected through further research on sites.

7-2. Recommendations

Further research is recommended to gather sufficient reliable data for refining the techniques by taking into account the natural and socio-economic conditions of Malawi. Besides, special attention should be paid to the investigation of the maximum growth

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