

# Terminal Evaluation

## Asia

### 1. Outline of the Project

**Country:**

Myanmar

**Project title:**

Seed Bank Project in the Union of Myanmar

**Issue/Sector:**

Agriculture

**Cooperation scheme:**

Project-type Technical Cooperation

**Division in charge:**

Livestock and Horticulture Division, Agricultural Development  
Cooperation Department

**Total cost:**

541 Million Yen

**Period of Cooperation**      1 June 1997 - 31 May 2002

**Partner Country's Implementing Organization:**

Central Agriculture Research Institute (CARI)

**Supporting Organization in Japan:**

Ministry of Agriculture, Forestry and Fisheries  
National Institute of Agro Biological Sciences

**Related Cooperation:**

Grant Aid; "Project for the Establishment of the Seed Bank"

### 1-1 Background of the Project

There are many precious plant genetic resources in Myanmar. In particular, it was suspected that many different types of wild rice existed, but this had not been explored. Moreover, as a result of the spread of high yielding varieties in recent years, cultivation of traditional varieties had decreased, which might result in the loss of genetic resources. Under the circumstance, in 1986, the Myanmar Government requested Grant Aid and Technical Cooperation from the Japanese Government to support the Seed Bank Project aimed at collecting, characterizing, evaluating, and preserving and utilizing genetic resources.

The facility and its related equipment provided by the grant aid were delivered in February 1990, but the implementation of technical cooperation was suspended because of the turmoil in the political situation; i.e., the nation's armed forces suppressed the democratic campaign; the military regime stayed in power even after losing in the general election in 1990. After the release of Ms Aung San Suu Kyi and signs of democratization, Japan resumed the suspended cooperation projects and other project related to basic human needs. This Project, one of those, was launched on the 1st of June in 1997.

### 1-2 Project Overview

This Project provided machinery and materials, and transferred techniques to the staff of the Seed Bank through training in Japan and at the Project site. The purpose of these activities was (1) exploring and collecting, (2) classifying and evaluating, (3) preserving and multiplying, (4) managing the data of, and (5) establishing a system to exchange, "genetic resources and information".

#### (1) Overall Goal

Agricultural productivity and production in Myanmar are improved through plant breeding using genetic resources introduced in the Project.

#### (2) Project Purpose

The system for genetic resources management, exploration and collection, classification and evaluation, preservation and multiplication, data management of plant genetic resources, and exchange of genetic resources and information is established in the seed bank.

### (3) Outputs

- 1) Acquiring knowledge and technologies for exploration and collection.
- 2) Acquiring knowledge and technologies for classification and evaluation.
- 3) Acquiring knowledge and technologies for preservation and multiplication.
- 4) Improving management and utilization of data.
- 5) Improving systems for the exchange of genetic resources and information.

### (4) Inputs

Japanese side:

Long-term Experts	7	Equipment	67 Million Yen
Short-term Experts	13	Local Cost	53 Million Yen
Trainees received	14	Others	4 Million Yen

Myanmar side:

Counterparts	32		
Local Cost	8.066 Million Kyat (158 Million Yen)		

## 2. Evaluation Team

### Members of Evaluation Team

Team Leader: Noriaki NIWA, Director, Livestock and Horticulture Division, Agricultural Development Cooperation Department, JICA  
Preservation and Multiplication/Classification and Evaluation: Tsukasa NAGAMINE, Head, Plant genetic resources Lab., Genebank, National Institute of Aerobiological Sciences  
Cooperation Evaluation: Katsumi YAMAGUCHI, Cooperation Coordinator, Technical Cooperation Division, General Food Policy Bureau, ministry of Agriculture, Forestry and Fisheries  
PCM Evaluation: Yoshiaki NISHIKAWA, Associate Professor, Kurume University  
Planning Evaluation: Makoto SHINKAWA, Livestock and Horticulture Division, Agricultural Development Cooperation Department, JICA

**Period of Evaluation** 21 October 2001 - 30 November 2001 **Type of Evaluation:**  
Terminal Evaluation

## 3. Results of Evaluation

### 3-1 Summary of Evaluation Results

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#### (1) Relevance

The "Myanmar Agenda 21" based on the government policy of Myanmar, states the introduction of new crop varieties and cultural practices compatible with agro-ecological conditions in each area. The Seed Bank management system, which was established in this Project, is an absolutely necessary step to utilize the genetic resources effectively. Hence, the Project Purpose is consistent with the policy of the country.

Since the introduction of the Convention of Biological Diversity, the international environment in genetic resources has been changing rapidly. However, the Seed Bank is still the core in the conservation system for cultivated/wild species, and the system to manage generic resources is necessary for future breeding work in the county. Therefore, the Seed Bank was suitable as the implementing organization.

#### (2) Effectiveness

Through the Project, the counterparts and researchers of CARI recognized the importance of genetic resources in agricultural usage and Myanmar's domestic situation of genetic resources. Almost all of the Outputs were achieved, as knowledge and

information were transferred in areas of exploration and collection, classification and evaluation, preservation and multiplication, data management of plant genetic resources, and exchange of genetic resources and information. The basic system for the management of the genetic resources was established in the Seed Bank. These indicate that the Project Purpose was achieved.

### (3) Efficiency

The dispatch of experts and their instruction were coordinated appropriately. The Myanmar side contributed well to the efficient operation of the Project, selecting most of the counterparts from the full-time staff of the Seed Bank and making efforts to avoid reshuffling them. On the other hand, there were some problems, too. As the technical cooperation was initiated seven years after delivering the facilities with Grant Aid, both the building and the equipment had become old and damaged by the time of the launch of the Project. The equipment was not maintained properly due to the unstable supply of electricity and the shortage of technicians/engineers.

### (4) Impact

Some of the genetic resources collected in the Project are considered to take a long time before they contribute to an increase of BLB (Bacterial leaf blight) resistant species productivity. Therefore, the impact in terms of the Overall Goal has not been achieved yet. However, there were a number of side-impacts, as follows:

- 1) The established management system of plant genetic resources has led to a better understanding of the importance of conservation and utilization of plant genetic resources by officials concerned in Ministry of Agriculture and Irrigation, particularly in the Myanmar Agriculture Service. The necessity of establishing a national committee on Genetic Resources, which should be comprised of the members from the government agencies concerned and developing appropriate method of managing resources, were recognized.
- 2) The preservation and multiplication works, which used to be conducted in each division of CARI, were transferred to the Seed Bank. This reduced the workload and enabled them to concentrate on their own work.
- 3) There is an exchange of information between the staff of the Seed Bank and the staff and the students of Yezin Agricultural University (YAU). The exploration has been carried out by the extension officers as well as by farmers. The recognition of the Seed Bank is spreading among people on various social levels.

### (5) Sustainability

The established system of the Seed Bank is now able to provide the necessary service to the agricultural research institutes in Myanmar. It is considered that the Seed Bank has sufficient sustainability, because the Myanmar side was in charge of Project costs during the implementation of the Project, and the government also understands the significance of this Project. The activities of the Seed Bank are expected to be activated even more, because establishment of the National Committee on Plant Genetic Resources management is planned. The technical level of the staff was enhanced as planned, and it is necessary for the government to secure the necessary budget and increase the number of the staff to maintain the seed bank. The Bank will require attaining the necessary techniques through cooperation with other institutes such as CARI and YAU in the future.

## **3-2 Factors that promoted realization of effects**

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### (1) Factors concerning Planning

The Seed Bank is the only seed bank in Myanmar. It is an indispensable to making the effective use of genetic resources, and is suitable as the implementing organization.

### (2) Factors concerning the Implementation Process

Myanmar had faced a political change, which delayed the launch of Technical Cooperation for over seven years after Grant Aid. During these years, the Myanmar side maintained the facilities by itself. This experience fostered their confidence, which contributed to Sustainability.

## **3-3 Factors that impeded realization of effects**

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### (1) Factors concerning Planning

N/A

### (2) Factors concerning the Implementation Process

It was difficult to gain information about recent research at the Project site, because it is inaccessible via the Internet, telephone and fax, and there are a very limited number of books. The insufficient infrastructure for power supply also hindered Project activities.

### **3-4 Conclusion**

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There was a delay in some parts of the Project, but the Project Purpose (to establish the basic management and operation system for plant genetic resources management in the Seed Bank) will mostly be achieved within the Project period. To encourage the sustainable management by the Myanmar side, the evaluation team concludes that it is appropriate to terminate the Project in March 2002 as planned. Because the Government of Myanmar fully acknowledges the importance of the Seed bank, it is highly Sustainable.

### **3-5 Recommendations**

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- (1) In order to ensure cross-sectional management of the relevant research institutions, a national committee on planning genetic resources management should be established immediately for the preservation, utilization and domestic and foreign transfer of genetic resources.
- (2) The Seed Bank should maintain the research collaboration with CARI and YAU, in order to keep and develop the Project achievements, such as the evaluation of the BLB resistant rice plant.
- (3) A research plan to breed resistant varieties should be formed.
- (4) The situation of the instability of power supply and telecommunications should be improved, which is very important to ensure appropriate operation of the Seed Bank.

### **3-6 Lessons Learned**

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It takes time for a research type cooperation project to affect the final beneficiaries, such as local farmers. In planning this kind of project, JICA should consider how to benefit the local people, who should the players, and what are their roles.

### **3-7 Follow-up Situation**

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