

# Terminal Evaluation

## Asia

### 1. Outline of the Project

**Country:**

Indonesia

**Project title:**

The Dairy Technology Improvement Project in the Republic of Indonesia

**Issue/Sector:**

Animal Industries

**Cooperation scheme:**

Project-type Technical Cooperation

**Division in charge:**

Livestock and Horticulture Division, Agricultural Development Cooperation Department

**Total cost:**

809 Million Yen

**Period of Cooperation**

3 March 1997 - 2 March 2002

**Partner Country's Implementing Organization:**

Provincial Livestock Services of West Java

**Supporting Organization in Japan:**

Agricultural Production Bureau, Ministry of Agriculture, Forestry and Fisheries (MAFF)

**Related Cooperation:****1-1 Background of the Project**

The consumption of milk in Indonesia has increased steadily. Milk plays a key role especially in improving infant nutrition. However, the production technology at the farmer level was still low, because capacity of instructors providing technical guidance to farmers was insufficient. As dairy cattle were poorly managed, the heredity characteristics of milk cows were not being fully exhibited, and the quantity of milk secretion was extremely low. Under these circumstances, the Government of Indonesia requested the Government of Japan to provide Project-type Technical Cooperation to increase the supply of high quality milk to consumers and the income of the farmers.

**1-2 Project Overview**

This Project researched and analyzed the status quo of each technology for feeding and management of dairy cattle, reproductive health management and forage production and utilization. It also transferred relevant techniques to the selected farmers in the target areas and at BPT-HMTs in Cikole and Bunikasih.

**(1) Overall Goal**

Dairy technology and productivity at farmers' level is improved.

**(2) Project Purpose**

The integrated technical services system for suitable dairy technology is established.

**(3) Outputs**

- 1) Technology for feeding and management of dairy cattle is improved.
- 2) Technology for reproductive health management is improved.
- 3) Technology for forage production and utilization is improved.
- 4) Training for technical staff as well as selected farmers is improved.

#### (4) Inputs

Japanese side:

Long-term Experts	10	Equipment	159 Million Yen
Short-term Experts	16	Local Cost	89 Million Yen
Trainees received	22	Others	14 Million Yen

Indonesian side:

Counterparts	26	Equipment	
Land and Facilities			
Local Cost		1,794.047 Million Rupee (24 Million Yen)	
Others		1,768.137 Million Rupee (24 Million Yen)	

## 2. Evaluation Team

### Members of Evaluation Team

Team Leader: Noriaki NIWA /Director, Livestock and Horticulture Div., Agricultural Development Cooperation Dept., Japan International Cooperation Agency (JICA)  
Dairy Farming: Shigeru KUDO /Director, Livestock Breeding Div., Niikappu Station, National Livestock Breeding Center, Independent Administrative Institution  
Agricultural Administrative Cooperation/Extension and Training: Katsuhiko KAMIKITA /Section Chief, International Affairs Office, Administrative Div., Agricultural Production Bureau, Ministry of Agriculture, Forestry and Fisheries (MAFF)  
Program Evaluation: Chiaki KATAI/Staff, Livestock and Horticulture Div., Agricultural Development Cooperation Dept., (JICA)  
Evaluation Analysis: Shigeru TAKESHITA /Urban and Regional Planner, Regional Planning International Co., Ltd.

**Period of Evaluation** 1 October 2001 - 13 October 2001  
**Type of Evaluation:** Terminal Evaluation

## 3. Results of Evaluation

### 3-1 Summary of Evaluation Results

#### (1) Relevance

In order to increase the income of small-scale farmers, the Indonesian government regards the improvement of dairy technology and productivity of milk as one of the prioritized areas in the policy as described in the existing national development plan (PROPENAS, 2000-2004). Provincial Livestock Services of West Java has a strategic plan, which states the target in the growth of milk production. Thus, the Project activities are relevant to the government policy both at national and provincial level.

#### (2) Effectiveness

The technology transfer to the counterparts, the staff of the Provincial Livestock Services in the following fields, has almost been completed: Feeding and management of dairy cattle, reproductive health management and forage production and utilization. The counterparts' personal have been conducting such activities as seminars for the dissemination of the technology to the municipal engineers both at the district and provincial level, to dairy cooperatives and selected farmers, and developing teaching materials suitable for the trainees'. Meanwhile, considering the Project Purpose, the utmost achievement made by counterpart personnel was the "establishment of integrated dairy technology", even though they accomplished a certain level of achievement through Project activities.

### (3) Efficiency

The timing of the inputs was appropriate and the provided equipment was used efficiently. A sufficient number of counterparts was allocated from the commencement of the Project, and only a few of them were transferred to other departments. Therefore, the dispatched experts could transfer their techniques smoothly. The trainees have been trying to re-transfer the acquired technology to others as training instructors. Due to the economic crisis in 1997, the Indonesian side could not fully provide funding to cover the local cost and the Japanese side had to offset this. But even with these negative components, the Project was managed efficiently in general.

### (4) Impact

At the BPH-HMTs, the quantity of milk was increased dramatically. As the technology is disseminated, the production of cow milk is expected to increase not only in West Java Province but also across the whole country.

Average milk quantity per cow a day

	1997	2000
<b>BPT-HMT Cikole</b>	7.7kg	17.1kg
<b>BPT-HMT Bunikasih</b>	8.4kg	13.8kg

The quality of milk was improved remarkably both in the two BPT-HMTs and on the selected farms. The decrease in the number of bacteria should be highlighted in particular. The achievements were introduced to relevant institutions in various meetings or conferences. As a result, in July 2001, the number of bacteria was adopted as one of the criteria for the unit price of milk, which can be an economic motivation for farmers to improve the quality of milk and attain the related technology.

### (5) Sustainability

The Project is evaluated to have technical sustainability, as most counterpart personnel have attained a sufficient level of technology in each technical field and are eager to learn new technologies. In order to disseminate the transferred technologies, it is necessary to clarify the authority and responsibility of each agency and related organization, because the linkage among the following organizations will become more important; the Central Government (Ministry of Agriculture Directorate General of Livestock Service, Farming Production department), the Provincial Government (Provincial Livestock Services of West Java), and District Government. Because of the economic crisis of 1997, both the central government and the provincial government could not allocate a sufficient budget for the Project. They must ensure a sufficient budget for stable operation of BPT-HMT Cikole and other necessary functions. BPT-HMT Cikole, in particular, needs further enrichment of the maintenance and management of the milk processing facilities and equipment. It is also necessary to secure the budget, taking the maintenance and the life cycle of the equipment into account.

## 3-2 Factors that promoted realization of effects

### (1) Factors concerning Planning

1) There was a lot of room for technical improvement due to the short history of dairy farming in Indonesia. Dairy farming of Indonesia and Japan shared some consistency in terms of the technology required for farming, because the land for farming is scarce and the number of cows taken care of by a farmer is limited (between two and three) and to increase the productivity was very important in both countries.

2) The counterpart personnel and Japanese experts developed practical technology considering the benefits to farmers (increased income with the improvement of milk productivity) and full understanding of the situation of selected farmers through training, but without pursuing high technology. These contributed to the success of the Project.

### (2) Factors concerning the Implementation Process

The technology was effectively transferred, because the Government of Indonesia and the Government of West Java Province attached special importance to the Project and allocated a sufficient number of counterpart personnel to the Project from the beginning, and limited the turnover of personnel.

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

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#### (1) Factors concerning Planning

The planned activity was not thoroughly enough to achieve the original Project Purpose ("An integrated technical services system for suitable dairy technology is established"). Even if all of the outputs had been accomplished, the "Establishment of integrated dairy technology" was believed to be the utmost achievement, and "the integrated technical services system" could never have been established. This survey regarded the real Project purpose as "An integrated instruction system for suitable dairy technology is established". However, it is undeniable that the basic plan of the project was problematic.

#### (2) Factors concerning the Implementation Process

N/A

### **3-4 Conclusion**

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In general, the Project was implemented successfully although there was some delay in the Project activities.

### **3-5 Recommendations**

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(1) In order to realize suitable formulated feed at the rearing stage, high quality feed should be developed as soon as possible.

(2) From the viewpoint of utilizing local resources and environmental conservation, livestock raising based on the agricultural farming system should be developed and introduced.

(3) In order to extend the dairy technology developed in the Project, the responsibilities and authorities of the following organizations must be made clear: the Central Government, the Provincial Government, the District Government, and other related organizations such as cooperatives. It is important for them to formulate a plan which includes the process and the method, together.

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

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An economic incentive, such as a direct increase of income by the introduction of the technology, is a key motivator for successful technical transfer.

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

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It is under consideration to establish and maintain the management system for the training program in order to settle the technology transferred through the Project and "The Aftercare Technical Cooperation for the Strengthening of Artificial Insemination Center Project" (1986-95). (Implementation from fiscal year 2003 is under consideration.)