

# Terminal Evaluation

## Asia

### 1. Outline of the Project

**Country:**

Republic of Indonesia

**Project title:**

Quality Assurance of Live Attenuated Polio & Measles Vaccine

**Issue/Sector:**

Health/ Medicare

**Cooperation scheme:**

Third-Country Training Program

**Division in charge:**

Southeast Asia Division, Regional Department I

**Total cost:**

70 Million Yen

**Period of Cooperation**

Fiscal Year 1998 - 2002

**Partner Country's Implementing Organization:**

PT Bio Farma (PBF)

**Supporting Organization in Japan:**

National Institute of Infectious diseases,  
Osaka University

**Related Cooperation:**

Project-type Technical Cooperation; "the Fundamental Technology Transfer Project for Production of Live Attenuated Measles and Poliomyelitis Vaccines"

#### 1-1 Background of the Project

The Government of Indonesia made "the 4th Five Year Plan" its major target with an aim to decrease the mortality rate of infants and children and announced the policy of full-scale production of vaccines for polio and measles, which, according to the Expanded Program on Immunization by World Health Organization (WHO), were major causes of infant and child mortality. Based on the plan, the Government of Indonesia requested the Government of Japan to provide technical cooperation to PT Bio Farma (PBF). In response, the Government of Japan implemented the Project-type Technical Cooperation for "the Fundamental Technology Transfer Project for Production of Live Attenuated Measles and Poliomyelitis Vaccines". Through the cooperation, the full-scale production of vaccine became possible.

Since then, WHO has issued instructions that member states use only the high quality vaccines that meet the WHO standard for national immunization programs in the developing countries; the program ensures that only safe and effective vaccines are produced and managed. The WHO standard means that manufacturers and governments should work together to ensure the high quality of vaccine, with the National Control Authority (NCA) on the government side ensuring that the manufacturers producing the vaccines do so to the established standard.

Under these circumstances, the Government of Indonesia together with the Government of Japan decided to utilize the outcome of the past cooperation, and to implement a Third-country Training Program to improve the technology and knowledge of polio/measles and the quality control technology for producing vaccines.

#### 1-2 Project Overview

JICA implemented training to the trainees from Indonesia and 11 other Asian countries, covering the knowledge and laboratory techniques of polio and measles and quality control for vaccines.

##### (1) Overall Goal

1) Improvement of knowledge in the field of quality control of live viral vaccine (mainly polio and measles) in the participants' countries.

2) Improvement of capability in technology transfer by the implementing organization.

## (2) Project Purpose

Improvement of the trainees from Asian countries in terms of the necessary knowledge and appropriate techniques of quality control for live viral vaccines (mainly polio and measles).

## (3) Outputs

- 1) Trainees understand theory of quality assurance.
- 2) Trainees understand the management of live viral vaccine storage, shipment and efficacy.
- 3) Improvement in the knowledge of and laboratory techniques for quality control of polio and measles vaccines, such as potency measurement, antiserum testing, and so on.

## (4) Inputs

Japanese side:

Short-term Experts	1-2/year
Local Cost	65 Million Yen

Indonesian side:

Counterparts	5-10/year
Local Cost	15 Million Yen

## (5) Participant Countries

Republic of Vietnam, Kingdom of Thailand, Republic of the Philippines, Malaysia, People's Republic of China, Union of Myanmar, Republic of Turkey, Islamic Republic of Pakistan, Kingdom of Nepal, India and Democratic Socialist Republic of Sri Lanka.

## 2. Evaluation Team

**Members of Evaluation Team** JICA Indonesia office  
(Local consultant: PT.INDOKOEI INTERNATIONAL)

**Period of Evaluation** 19 February 2002 - 28 March 2002  
**Type of Evaluation:** Terminal Evaluation By Overseas Offices

## 3. Results of Evaluation

### 3-1 Summary of Evaluation Results

---

#### (1) Relevance

Under the plan of WHO to eradicate polio by the year 2000, the Government of Indonesia announced the policy to produce vaccines independently and to lower the mortality rate of infants/children, which illustrates that the Project is relevant. Judging from the situations of the participating countries, such as Myanmar, Nepal and the Philippines did not meet the WHO standard despite improvement in the knowledge of quality assurance (QA), quality control (QC) and good manufacturing practice (GMP), the selection of participating countries for the Project is relevant.

#### (2) Effectiveness

Through the Project, most of the trainees understood the Project Purpose and acquired the necessary knowledge and technology about 73-82 percent. Having finished the Training, the trainees could understand quality control and management theories on live viral vaccine storage, shipment and efficacy, and they could improve their knowledge and laboratory techniques in quality control for polio and measles vaccines. According to the questionnaire survey to the ex-participants, almost all of participants attained a good knowledge and experience in QA, QC and GMP. Judging from the above, the Project Purpose has mostly been accomplished.

### (3) Efficiency

The training was conducted efficiently, judging from the following: At the termination of the Project, 70-100 percent of participants reported that the subjects, time allocation including the discussions, exercises and observation were proportionally arranged. According to the ex-participants, almost all ex-participants answered that the ability of the lecturers and the content of the curriculum were good, although they noted that the English ability of Short-term Experts and lecturers was insufficient.

### (4) Impact

There are several positive impacts as a result of the training. Through the training the participants improved their knowledge of QA, QC and GMP. Four years have passed since the training was implemented, and the benefits are really noticeable. Nearly all respondents reported that the skills and knowledge obtained in the training are very useful in their daily work. They use the knowledge for tackling issues occurring in their work and apply QA, QC and GMP in their laboratory work. As a direct positive impact, WHO has entrusted the supply of high quality polio and measles vaccines for other developing countries to Indonesia.

### (5) Sustainability

The knowledge and skills the participants acquired through the lecturers have been disseminated to other staff and utilized in daily work. The Implementing Organization, PBF, has good capability in conducting the training. Beside good facilities such as laboratories and equipment, PBF also has many qualified staff members who have been trained in Japan or other countries. PBF also has capability in the arrangement of a suitable curriculum for training. In addition, PBF also has conducted other similar training programs supported by donors other than JICA. The sustainability of the training is assessed to be high from the reasons above.

On the other hand, participating countries lack the necessary equipment and funds for quality control of the live viral vaccines (polio and measles), and the related agencies require aid from the government.

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

---

### (1) Factors concerning Planning

N/A

### (2) Factors concerning the Implementation Process

N/A

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

---

### (1) Factors concerning Planning

N/A

### (2) Factors concerning the Implementation Process

1) Language proficiency of the counterpart personnel and Short-term Experts adversely affected communication and the transfer of skills and knowledge to participants.

2) Most of the participants could not apply the acquired knowledge and skills in their daily work due to a shortage of equipment and funds.

## **3-4 Conclusion**

---

It can be concluded that in general the Project was excellent. The objectives attained through those training activities have been achieved in line with the needs of the participating countries and organizations. The ex-participants disseminated their acquired skills and knowledge to other staff. The ex-participants are enthusiastic in applying the knowledge and technology acquired in the training in the daily work. But some difficulties related to insufficiency of funding and equipment impede applying the same technology in their works.

## **3-5 Recommendations**

---

The course duration should be longer, with more detailed study cases, comprehensive practice and discussions.

## **3-6 Lessons Learned**

---

(1) Considering the needs of the participating countries and implementing a curriculum for the status quo of each country, the knowledge and technology transferred to the participants will be very useful for the participating countries and organizations.

(2) In selecting lecturers and trainees, the selection of persons who are proficient in English should be considered, not only their technical knowledge.

(3) For better implementation, the implementing organization should send the application form to trainees much earlier so they will have sufficient time for preparation.

(4) Participating countries should make efforts to support the ex-participants by supplying the funds and equipment.

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

---

N/A