

STUDY REPORT
ON
THE PROJECT FOR CHILD HEALTH
IN
THE ISLAMIC REPUBLIC OF PAKISTAN

MARCH 1998

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PREFACE

In response to a request from the Government of the Islamic Republic of Pakistan, the Government of Japan decided to conduct a basic design study on the Project for Child Health and entrusted the Japan International Cooperation Agency (JICA) to conduct the study with the assistance of the Japan International Cooperation System (JICS).

I hope that this report will contribute to the promotion of the project and to the enhancement of friendly relations between our two countries.

I wish to express my sincere appreciation to the officials concerned of the Government of the Islamic Republic of Pakistan for their close cooperation extended to the team.

March 1998



Kimio Fujita

President

Japan International Cooperation Agency

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Chapter 1 Background of the Project

WHO adopted the plan of eradicating polio from the earth by the year 2000 at its General Assembly in May of 1988, taking into account the achievement of previously implemented vaccination programs. Responding to these activities, WHO Western Pacific Regional Office also adopted a plan of eradicating polio from the Western Pacific region no later than 1995, and then has been implementing polio eradication programs within the six countries of China, the Philippines, Vietnam, Laos, Cambodia, and Papua New Guinea where polio is yet to be eradicated. On the other hand, new polio eradication targets were set up focusing upon the South Asia region including Pakistan. In recent years, the National Immunization Days (NID) have been planned and implemented in each country (such as Bangladesh) within that region.

In response to this movement, Pakistani government has established the NIDs to exterminate polio from the whole territory of Pakistan. The multiple NIDs, covering all the infants less than five-year-old, were implemented as follows : in April and May of 1994 for the first time, in April and May of 1995 for the second time, and in December of 1995 and January of 1996 for the third time. With regard to the vaccination rate of each implementation, reported were 95.7% and 96.7% for the first time, 97.6% and 98.9% for the second time, 103.8% and 105.0% for the third time. As a result, the reported instances of polio were reduced to 460 cases in the year 1995 from once exceeding 1000 cases per annum in the years before the implementation.

Normally, as a standard strategy, the NIDs are implemented for the period of three years and then the mop-up vaccinations are done in case of necessity. However, in the past three vaccinations, no adequate results could not be obtained due to deficiencies of vaccines and inadequacies of surveillance for three implementations in the past. WHO and UNICEF announced a comment that the NIDs should be implemented for another three years (1996 to 1998) starting from 1996 . To respond to their stance, the Pakistani government set forth the fourth NIDs and requested the Japanese government to provide supports for this project. 19 million doses of polio vaccine which make up the required amount for the implementation of the fourth NIDs in 1996 were procured under Japan's

grant aids of the year 1996.

This time, on the occasion of the sixth NIDs and the ordinary vaccinations to be implemented in FY 1998, the request was made to the Japanese government by the Pakistani government for the procurement of 80 million doses of polio vaccine. .

Chapter 2 Contents of the Project

2-1 Objectives of the Project

The objective of this project is to reduce frequent occurrence of polio in Pakistan, through procurement of the necessary amount of polio vaccine for the NIDs in FY 1998, and thus to contribute to the ultimate goal of eradicating polio from Pakistan by the year 2000.

2-2 Basic Concept of the Project

The initial request from the Pakistani government was the procurement of 58 million doses of polio vaccine for the sixth NIDs and 22 million doses for the ordinary vaccinations, in total 80 million doses. Currently, coordination of burden-sharing among donor countries is being done under the leadership of WHO, and it is decided that Japan assume 15 million doses of polio vaccine necessary for the planned NIDs.

The fourth and subsequent NIDs programs, and the required quantities of vaccine are shown in Table-1.

Table-1 The quantities of vaccines required from the fourth and subsequent NIDs

| NIDs | Implementation period (scheduled period) | Target population (in million people)* | Loss rate | Required quantities of vaccine (in million doses) |
|------|---|---|-----------|--|
| 4th | December of 1996, January of 1997 | 47.95 | 20% | 57.54 |
| 5th | December of 1997, February of 1998 | 48.22 | 20% | 57.87 |
| 6th | November, December of 1998 | 48.34 | 20% | 58.00 |

*: Since vaccination is made twice for each NID, the total population to be vaccinated accounts for those vaccinated twice.

2-3 Basic Design

2-3-1 Design Concept

Vaccinations of polio vaccine are implemented twice per year, simultaneously for all infants less than five-year-old. The quantities of vaccine necessary for the sixth NIDs in 1998 are calculated as

follows. The loss rates resulting from inadequacies in preservation and management of vaccine is assumed to be 1.2, on the basis of the experiences of the past NIDs .

24,168 thousand people (target population) x twice x 1.20 (loss rate) = 58 million doses

Under the arrangement of WHO, Japan was given the task of procuring 15 million doses (750 thousand vials) out of the total required quantity of 58 million doses.

2-3-2 Basic Design

The equipment and materials, and the specification are shown below.

| No. | Designation of equipment/materials | Specification | Quantity |
|-----|------------------------------------|-------------------|---------------|
| 1 | polio vaccine | 20 doses per vial | 750,000 vials |

The polio vaccine provided in this project is liquid vaccine by oral dripping medication, with 0.05ml for each vaccination. The antibody created from this vaccine will last almost indefinitely compared to that of an injection-type liquid vaccine, and has the advantage that infection and multiplication of polio virus inside the intestines is blocked even if a highly toxic virus invades them. This type of vaccine is the most commonly used vaccination in most countries of the world and can be preserved for about 2 years in frozen state (less than -20°C), and for about 30 days in refrigerated state (4 to 12°C).

With regard to procurement of vaccine, it is made via UNICEF.

Chapter 3 Implementation Plan

3-1 Implementation Plan

Based upon the decision of the Cabinet Meeting of the Japanese government, this project will be implemented after the conclusion of the Exchange of Note (E/N) between Japan and Pakistan.

3-1-1 Implementation Schedule

Total period of project (from E/N to hand-over) : 5 months

From E/N to contract signing : None

Delivery period (contract signing to hand-over) : 5 months

| Number of Months | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
|------------------|---------------------------------|------------------------------------|---|---|---|---|--|---|---|---|----|----|----|
| Total Period | Tender (about zero months) | | | | | | | | | | | | |
| | Procurement (about 5 months) | Procurement of equipment/materials | | | | | Transportation of equipment/materials | | | | | | |

3-1-2 Obligations of recipient country

This project is procurement of equipment/materials, so all the cost of the project is borne by the Japanese government.

But the recipient country (Pakistan) shall bear the cost of the following items concerning the distribution and preservation of vaccine in Pakistan.

- Costs relating to prompt unloading in Pakistan of procured equipment/materials and their custom clearances.
- Inland transportation to each site after unloading.
- Securing adequate funds and personnel required for storage and control of vaccine.

3-1-3 Special Items

The past plans of exterminating polio (China and three countries in Indo-China) under the grant aid programs were implemented as joint-program with UNICEF, because of their cost burden and procurement abilities. With the abrupt depreciation of yen in the recent years, there has been a keen concern that UNICEF should face the risk of undergoing a great amount of exchange loss. So, through negotiations between UNICEF and the Japanese Ministry of Foreign Affairs, it was decided that to avoid exchange risks, the contract should be made with the cost of equipment/materials plus additional cost of 25%, and the settlement should be based upon actual costs at the time of payment. Therefore, in this project, the unit price is determined to be current unit price (FOB) plus 25% premium.

3-2 Operation and Maintenance Plan

The objective of this plan is to procure the required amount of polio vaccine for the sixth NIDs. Pakistan has accumulated experiences in the past five plans. Furthermore, there is no special concern in proceeding with this plan, because 19 million doses of polio vaccine for the forth NID, which was provided under Japanese grant aid, have been used with no problem.

Chapter 4 Project Evaluation and Recommendation

4-1 Project Effect

The frequency of occurrence of polio in Pakistan is considerably high when compared with that of other developing countries.

In ordinary preventive polio vaccination, due to low rate and less frequency of inoculation, there are many cases where the sufficient immunization are not secured. The nationwide vaccination(NID) has advantages as follows:

- (1) A PR activities in a large scale may increase the inoculation rate,
- (2) The opportunity serves as an additional vaccination for infants with insufficient immunization, thereby securing immunization and enhancing preventive effect against polio. For the reasons above, NIDs are frequently held in developing countries undergoing frequent occurrence of polio.

The effectiveness of nationwide polio vaccine inoculation days can be confirmed from the fact that in China, the country of the highest occurrence of polio in the WHO Western Pacific Region, occurrence of polio was reduced remarkably after their implementation.

Thanks to this plan, it will be possible to carry out part of 1998 NIDs, so that the morbidity rate of polio is expected to be smaller. If the total amount of vaccine for NIDs is procured successfully owing to WHO's coordination efforts, the efficiency will be enlarged further; this will be a great contribution to the target of eradicating polio before the 2000.

This plan will help promotion of health for children in Pakistan and stop the trend for the people to have many children considering high death rates for infants, accelerating extension of family planning.

For the reasons stated above, this project is judged to meet the criteria of grant aid program from Japan.

4-2 Recommendation

- ① For the implementation of NIDs, procurement of 58 million doses of vaccine should be proceeded with, and for this purpose, sufficient coordination and adjustment are required with WHO and other organizations concerned.
- ② The situation of NIDs at the provinces is hardly grasped by the Pakistani federal government, because of the information being not collected consistently by the Ministry of Public Health through its channel, in other words, collection of information on medical treatment and health has been made through multiple channels by various Ministries and Agencies. For the purpose of implementing NIDs more effectively, the Pakistani province governments responsible for this project should manage required information consistently at the federal governmental level, and create an effective system of distributing vaccine and equipment/materials.
- ③ The past three NIDs failed to provide satisfactory effect. This is explained chiefly by the fact that the NIDs were implemented at the hot season (it should be done usually in winter when there is less fear of infection), as well as by lower grade of vaccine due to poor maintenance and control of cold chain, delay in finding polio patients, and by the inadequate surveillance system. Currently, the surveillance implementation is being improved under the support from CDC of the U.S.A. and WHO. It is required, however, to establish an even more efficient implementation system.

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