

Simplified Ex-Post Evaluation for Grant Aid Project

Evaluator, Affiliation	Keiko Asato Foundation for Advanced Studies on International Development	Duration of Evaluation Study
Project Name	Project for Improvement of Medical Equipment for Sir. J.J. Hospital and Cama & Albless Hospital in India	January 2010 – December 2010

I Project Outline

Country Name	India	
Project Period	August 2003-February 2005	
Implementing Agency	Maharashtra State Government	
Project Cost	Grant Limit: 759 million yen	Actual Grant Amount: 736 million yen
Main Contractors	(Package 1) Ogawa Seiki Co., Ltd. (Package 2) Mitsubishi Corporation	
Main Consultants	Binko Ltd.	
Basic Design	“Basic Design Study Report of the Project for Improvement of Medical Equipment for Sir J.J. Hospital and Cama & Albless Hospital in India”, Japan International Cooperation Agency and Binko Ltd., March 2003	
Related Projects (if any)	None	
Project Background	The government of India and the Maharashtra State Government put made strengthening medical service delivery and improving maternal and child health/medical service a high priority. Sir J.J. Hospital (hereinafter referred to as SJJ) and Cama & Albless Hospital (hereinafter referred to as CA) provide patients in Mumbai city and its neighboring rural and poor areas with primary, secondary and tertiary level medical services. In addition to providing these services, they also offer professional education to medical students. However, necessary medical equipment to deliver medical services and for education are lacking. Moreover, improving the deteriorating quality of medical services is considered necessary.	
Project Objective	To renovate and replenish the basic and indispensable medical equipment to SJJ and CA related to the maternal and child care and hospital management in order to improve the quality of heal/medical service delivered at these hospitals.	
Output[s] (Japanese Side)	1. To provide SJJ with the medical equipment related to faculty of obstetrics and gynecology, pediatrics, cerebral surgery and others. 2. To provide CA with the medical equipment related to faculty of obstetrics and gynecology, pediatrics, radiology and others.	

II Result of the Evaluation

Summary of the evaluation
<p>SJJ and CA provide patients in Mumbai city and the surrounding rural and poor neighborhoods with primary, secondary and tertiary medical services. This project's aims were to improve the quality of health/medical services by providing them with necessary health/medical equipment related to the hospital management and maternal and child health/medical care. The equipment was delivered as planned, but the expected direct impacts, including the number of patients, laboratory examinations, and baby deliveries have not been achieved. However, some indicators, such as bed occupancy rates and hospitalized patients at SJJ, have increased since procurement of equipment.</p> <p>At the same time, this project intended to establish an information management system in conjunction with agents contracted for the outsourcing of the periodical maintenance and repair of the hospital's operational and managerial equipment. For example, medical staff was responsible for daily inspections and the task of administering the information collected through these daily activities was assigned to special professional sections, the Hospital Equipment Repair Unit (hereinafter referred to as HERU) and the Medical Equipment Management Representative (hereinafter referred to as MEMR). Specialized HERU and MEMR staff was seconded by private companies, stationed in the hospital. HERU and MEMR were responsible for the equipment's maintenance and repair contract with an outsourcing agent, and in case that some equipment was difficult to be repaired in hospital, it was contracted-out to be repaired to the agent. However, maintenance and repair contracts with these agents were not extended after 2006 and malfunctioning equipment has been left without repair. Moreover, the contracts with HERU and MEMR expired in January 2009 and they were not renewed. Tasks previously handled by HERU and MEMR were transferred to the procurement sections at SJJ and CA.</p> <p>However the procurement sections do not have specialists for medical equipment maintenance such as HERU and MEMR and the tasks that they can cover are technically quite limited. The Project's aim to establish an overall equipment maintenance and repair system cannot be fulfilled. Meanwhile, some contracts, suspended since 2006, have been restarted for some advanced equipment. Also, although general budgets at both hospitals have been increasing every year, they are still insufficient to properly operate and maintain the equipment.</p> <p>In light of the above, this project is evaluated to be fairly satisfactory.</p> <p><Recommendations to the hospitals ></p> <p>1) It is desirable that the information grasped by the directors of each faculty and head nurses are shared with the procurement section, or technically competent staff assigned to the procurement section, so that the said section can manage the medical equipment's operation status and repair contract for technical issues.</p>

- 2) The maintenance and repair of advanced medical equipment requires special techniques. In case a hospital does not have staff with the required capabilities, maintaining a contract with a special agent who can properly handle such equipment is desirable. Budgetary allocation for such contracts is also indispensable in this case.
- 3) Some simple equipment can be repaired with spare parts which are obtained locally and the parts do not necessarily have to be genuine parts. It is recommended that appropriate judgment for repairs should be made, and whenever possible equipment should be repaired using lower cost solutions.

<Recommendations to JICA>

- 1) According to SJJ medical staff, SJJ and CA are requested to provide poor people with primary and secondary medical care, as well as qualified tertiary medical service. Especially in India, which developed economically in a short period, the difference in the roles of public and private hospitals should be clarified and proper targets/indicators should be set based on these roles. (In the case of this project, indicators, such as the increase/decrease in the number of poor patients, the ratio of poor patients among the total number of patients, the expansion of available treatment enabled by the new equipment, might be more appropriate than the general number of patients as an indicators, to see the comprehensive impact of this project.)
- 2) In case of providing hospitals with advanced equipment which might require a certain amount of maintenance cost, we should carefully examine the sustainability (structural, budgetary and technical) of the counterpart, and scrutinize the appropriateness of the project and also the selection of necessary and appropriate equipment.

<Constraints for the evaluation>

This ex-post evaluation was conducted based on limited information obtained from JICA's internal report, and from the results of JICA surveys because we could not collect the answers to the questionnaires from the implementing agencies.

1 Relevance

(1) Relevance with the Development Plan of India

According to "Tenth Five Year Plan 2002-2007", improving the health condition of the people through better access to health/medical service is a priority issue. The "Eleventh Five Year Plan 2007-2012" also highlights the importance of strengthening the health and medical sector. The latter plan, in particular, places importance on improving access to medical service for women and children. In order to achieve these objectives, this plan raises the need to enhance capacity to delivery public health services, improve hospitals and clinics, and also improve maternal mortality rates (hereinafter referred to as MMR), neonatal mortality rates and total fertility rates.

(2) Relevance with the Development Needs of Afghanistan

Mumbai, the State capital of Maharashtra, is as big as Delhi: the nation's capital. Mumbai; however, lags behind Delhi in health/medical indicators, such as MMR and neonatal mortality rates (MMR: 180 (Delhi: 160), neonatal mortality rates: 49 (Delhi: 36)). In this state, they are currently pushing through "Reproductive Health and Child Health Project II" (including Family Welfare Program), trying to decrease MMR to 100 (180 in 2003), and neonatal mortality rates to 27 (49 in 2003). As a part of this effort, the Hospital Service Project aims to improve the quality of secondary health/medical services by improving the referral system from primary care through to tertiary care.

(3) Relevance with Japan's ODA Policy

JICA's Country Assistant Programme for India 2004 reported that the political dialogue mission in March 2002 listed four areas, including health and medical sector, as Japanese target cooperation areas.

In light of the above, this project has been highly relevant with India's development plan and development needs, and also with Japan's ODA policy. Therefore its relevance is high.

2 Efficiency

(1) Project Outputs

The outputs by Japan were achieved as planned. The technical training for the operation and maintenance was also conducted as planned.

(2) Project Period (Project Inputs)

The project period lasted 19 months, slightly longer (112 %) than the planned 17 months. Custom clearance for some equipment took 3 months longer than expected, but by adjusting the technical training schedule, the loss in time was shortened to 2 months.

(3) Project Cost (Project Inputs)

The actual project cost was 736 million yen, 97 % lower than the planned 759 million yen. Appropriate competitive bidding helped keep procurement within the planned budget.

Although the project period was slightly longer than planned, the project cost was lower than planned. Therefore efficiency of the Project is fair.

3 Effectiveness / Impact

(1) Quantitative Effects

Even the expected quantitative indicators at SJJ and CA, such as the number of patients, laboratory examinations, baby deliveries, bed occupancy rates and hospitalized patients (the last two indicators are applied only to CA) at the time of post-ex evaluation in 2009, were less than those at the time of planning (2003), some indicators such as bed occupancy rates and hospitalized patients at SJJ have increased after installment of the equipment by this project. Although we could not obtain the reason for this unexpected situation, the information offered by JICA suggested that one possible reason for the declines may have been that patients chose to go to private hospitals.

(2) Impacts

The achievement level of the expected indicators of the impacts (MMR and infant mortality rate (hereinafter referred to as IMR) in Mumbai city and other neighboring areas, and the opportunity for training offered to medical student at Grant Medical University) is not clear. According to comments provided by hospital medical staff, some unexpected effects caused by the introduction of new medical equipment included; shortening the time it takes both hospitals for operations as well as the time patients needed to be hospitalized (reducing the physical burden on patients); and the ability to respond to some diseases which were beyond their capacity before (due to better sterilization).

In light with above, this project has somewhat achieved its objectives, therefore its effectiveness is fair.

4 Sustainability

(1) Structural Aspects of Operation Maintenance

This project planned to develop a system for the entire operation and maintenance of equipment. The system would combine, "establishing the mechanism of daily inspection and measures for repair in the hospital" with "outsourcing contracts for maintenance and repair with an agent". For the first target, the Project's technical training tried to establish a process for 1) daily inspection of medical equipment by medical staff, 2) reporting malfunctioning equipment through inspection, 3) judging whether or not equipment reported as needing repair does indeed need repair, 4) requesting outside agent for repairs, and 5) monthly reporting of the status of the operation and maintenance of the equipment from MEMR to the director of hospital. For the process to work properly, the said training made clear task assignments for each position and standardized formats to record and to convey information such as the result of inspections. These processes were introduced for 5 months as a trial at the faculty of pediatrics and cerebral surgery. After this trial clarified some challenges, manuals were prepared showing the operation and maintenance system, and work was assigned to the maintenance section of the medical section and the general/financial section.

Elaborate technical training enables the staff at the hospitals to prioritize the equipment to be repaired, and (according to information offered by JICA) the life span of the equipment has also been extended by activities such as the daily inspection by medical staff and sharing the result of inspection. Meanwhile, since 2006, the director of the hospital decided not to renew the maintenance and repair contract with agent. Even though the hospital established an information sharing system, this change in direction has made it difficult to repair malfunctioning equipment and as a result, equipment has been left out of order. In January 2009, the contract with private company assigned by HERU and MEMR, to technically assess the necessity of repair ended and was not renewed. Their task was transferred to SJJ and CA procurement sections. However, the procurement sections have limited technical capacity to grasp the condition of medical equipment. Therefore, only the directors of the faculty and head nurses understand the maintenance and repair status of the equipment, such as the placement of the equipment, and the history of repair. However, after the completion of the contracts with HERU and MEMR, a maintenance contract for a limited number of equipment was partially restarted, which includes a twice a year inspection service and a 24 hour technical support service for malfunctioning equipment.

(2) Technical Aspects of Operation Maintenance

SJJ and CA do have some technical staff for operation and maintenance (handling tasks such as furniture repair), but they are not capable of repairing medical equipment with complicated electronic systems. And since the outsourcing contract with agent ended in 2006, some equipment has been left without technical support because some agents have already retreated from Mumbai, and in some cases agents assigned the work to other agents without informing SJJ or CA.

(3) Financial Aspects of Operation Maintenance

The budget secured for fiscal year 2009/10 is 18.81 million Rupees, which is much greater than the 1.64 million Rupees estimated for necessary costs at the time of planning. However, according to the information offered by JICA, expenditure is also drastically increasing, therefore the budget for the operation and maintenance of the equipment are insufficient. In 2009, the Government provided 1,200 million Rupees, but budgeted amounts were prohibited for being used for operation and maintenance. This additional income; therefore, could not be applied to cover their budget shortage and as a result equipment was left malfunctioning.

(4) Current Status of Operation Maintenance

We could obtain only limited information about the current status of operation maintenance of the equipment. According the information offered by JICA, in February 2010, the operation condition of major equipment at the 7 faculties out of all 13 faculties with FOB values of more than 1 million were checked, and among them, it was found that at SJJ, 13 out of 103 pieces of equipment, and 9 out of 18 pieces of equipment at CA were out of order or not in use. Moreover, among the major pieces of equipment whose operation status could be observed at the time of this ex-post evaluation, among the 8 out of 18 species of equipment at SJJ, and 3 out of 12 species of equipment at CA, we found equipments not functioning. The equipment inventory recorded notes such as, "asking for repair" or "inquiring agent for repair", and the malfunctioning equipment has not yet been repaired. This situation was brought about after the contract with agent for their technical maintenance and repair ended. Although SJJ and CA kept the section of HERU, MEMR

and other technical staff for operation and maintenance until January 2009, none of them are technical professionals who can repair equipment, such as highly advanced medical equipment. Without outside technical support, the equipment was left unrepaired. Meanwhile, no action was taken to repair some simple equipment, which was “out of order” or not in use and which could have been repaired by obtaining alternative (non-genuine) local spare parts but were instead left unused (including anesthesia apparatus, infant warmer, and operation lights).

In light with above, major problems have been observed in terms of structural, technical, and financial aspects, meanwhile the mechanism to identify the condition of equipment and to share the result for further action in the hospital has been established; therefore, sustainability of the Project effect is fair.