Internal Ex-Post Evaluation for Grant Aid Project

conducted by Jordan office: November, 2012

Country Name	The Project for Improving Medical Equipment of Southern Region's Hospitals and Al-Bashir Hospital
Jordan	

I. Project Outline

Project Cost	E/N Grant Limit: 523 million yen		Contract Amount: 481 million yen
E/N Date	May, 2006		
Completion Date	March, 2007		
Implementing Agency	Responsible Agency: Planning and Development Affairs, Ministry of Health, Implementing Agencies: Al-Bashir Hospital, Karak Hospital, Ma'an Hospital		
Related Studies	Basic Design Study: August 2005- March 2006		
Contracted Agencies	Consultant(s)	Fujita Planning Co., Ltd.	
	Contractor(s)	—	
	Supplier(s)	Marubeni Corporation, Sojitz Corporation	
Related Projects (if any)	[Japan's Cooperation] ・Integrating Health and Empowerment of Women in the South Region Project (TC, Sep. 2006 – Sep. 2011) [Other Donors' Cooperation] ・Medical system enhancement program (2004-2009, USAID) ・Health Sector Reform Project (2005-2007, USAID) ・Improvement of Al-Bashir Hospital (2005-2007, Saudi Arabia)		
Background	In Jordan, along with the economic growth, their disease pattern had become similar to that of developed countries. While, there still remained many problems of the quality of basic health services, such as in the field of the infectious disease control (ex. acute respiratory infections) and mother and child health. Medical equipment at those hospitals which provide appropriate health care services to many residents at the secondary and tertiary level, was often broken and obsolete. As a result, hospitals could not provide appropriate health care services for outpatients, neither carry out surgical operations. Al-Bashir Hospital, a leading hospital at the tertiary level in the Amman metropolitan area, could not provide a tertiary level health care services, because of basic equipment being obsolete and damaged. As the most of private hospitals were located in the metropolitan area, it was urgently needed to improve medical facilities in regional areas for the provision of equitable public health services. However, at the Karak and Ma'an Hospital located in the southern region where there are many poor population, could not provide the health care services in secondary level because of limited diagnostic capacities with obsolete and damaged equipment. Thus they had to transfer patients to the higher level hospitals in the metropolitan area. The Government of Jordan, in view of the afore-mentioned circumstances, requested the Japanese government a grant aid for renewal and improvement of basic medical equipment at the secondary and tertiary-level hospitals, which had played major roles of medical service delivery.		
Project Objectives	Outcome To restore appropriate functions and to improve medical services by providing the standard medical equipment to target hospitals, such as those Al-Bashir Hospital, tertiary level hospital in the Amman metropolitan area, and Karak and Ma'an Hospitals, secondary level hospitals in the southern region of Amman.		
	Outputs(s) Japanese Side To provide following medical equipment to be used for imaging diagnosis, surgical operation, intensive care unit and obstetrics and gynecology at those selected hospitals. Al-Bashir Hospital: Fluoroscopic X-ray Machine, General X-ray Machine, Mobile X-ray Machine, Ultrasound Apparatus, Ultrasound Intraoperative, Laparoscope, Operating Table, Anesthesia Machine, Operating Light, Electrosurgical Unit, High Pressure Steam Sterilizer, Surgical C-arm X-ray Machine, Patient Monitor, Infant Incubator, Ventilator, Infusion Pump, Blood Gas Analyzer, etc. Karak Hospital: General X-ray Machine, Vital Sign Monitor, Surgical C-ram X-ray Machine, Operating Table, Ventilator, Electrocardiograph, Patient Monitor, Blood Gas Analyzer, Suction Unit, Infant Incubator, Cardio Tocograph, Clposcope, etc. Ma'an Hospital: Fluoroscopic X-ray Machine, General X-ray Machine, Operating Microscope, Operating Table, Surgical C-arm X-ray Machine, Operating Instruments Set, Ventilator, Blood Gas Analyzer, Mobile X-ray Machine, Cardio Tocograph, Clposcope, Cryosurgery Unit, Operating Light, Ultrasound Apparatus, Delivery Table, etc. Jordanian Side To secure places for equipment (including the removal of existing equipment)		

	To provide electricity, water and drainage for the procured equipment

II. Result of the Evaluation

Summary of the Evaluation

In Jordan, along with its economic growth, people's standard of living has been improved. This has also reflected on the improvement of basic health care indicators. However, there still remained many problems in basic health services in the field of infectious disease control, mother and child health and reproductive health, etc. Under these circumstances, three hospitals targeted by the project, which were expected to function as a secondary and tiertiary level hospitals, have not provided medical services of such levels due to the obsolescent and deteriorated basic medical equipment.

This project has largely achieved its objectives to improve medical services by providing the standard medical equipment to target hospitals in both tertiary and secondary levels. In spite of the drastic increase of number of outpatients and inpatients as a consequence of scale-up medical services after the project, the waiting time for X-ray diagnosis and operations basically remained unchanged in 2012 compared with before the project (2008) at Al-Bashir Hospital.

At Karak and Ma'an Hospitals, the number of X-ray diagnosis and the number of operation were increased in 2012 compared with those before the project. Practical trainings provided at Al-Bashir and Ma'an Hospitals have highly evaluated because trainee can make use of those advanced equipment. Furthermore, both secondary level hospitals, Karak and Ma'an Hospitals came to be able to deal with cases which used to refer to the tertiary level hospitals and consequently, their capacity as hub medical institutions in the region has been increased.

As for sustainability, the current status of operation and maintenance was confirmed as appropriate as anticipated at the ex-ante evaluation. There was no problem observed in the project in terms of institutional, technical, financial aspects and the current status of operation and maintenance. It was identified that there was an already established system of operation and maintenance As for relevance, the project has been highly relevant with Jordan's development policy, development needs as well as Japan's ODA policy at the time of both ex-ante and ex-post evaluation. For efficiency, both the project cost and the project period were within the plan.

In the light of above, this project is evaluated to be highly satisfactory.

1 Relevance

This project has been highly relevant with Jordan's development policy "enhancement of efficiency and quality of health services" and "improvement of emergency healthcare" as set in the National Development Plan (2006-2015) and Comprehensive Development Program (2011-2013). It has also relevant with the development needs, such that the qualitative and quantitative improvement of basic health services and the equitable provision of health services, as well as Japan's ODA policy to qualitatively improve the medical facilities in the non-metropolitan regions at the time of both ex-ante and ex-post evaluation. Therefore, relevance of this project is high.

2 Effectiveness/Impact

This project has largely achieved its objectives to restore the appropriate function and to improve medical services by providing the standard medical equipment to target hospitals in both tertiary and secondary levels.As for the Al-Bashir Hospital, a tertiary level hospital, the waiting time for X-ray diagnosis was shortened at the time of ex-post evaluation in 2012, compared to that of 2008. Much change has not been identified for the waiting time for operations. This is due to that the scale of medical services by the hospital has been substantially expanded after the project with the drastic increase of the number of outpatients and inpatients. According to interview with the Planning and Development Division of the Ministry of Health, the Al-Bashir Hospital has substantially increased its capacity as the top referral hospital among all hospitals in Jordan with the enhancement of doctors' medical technology related to diagnosis and treatment.

As for the Karak Hospital, a secondary-level hospital, the number of X-ray diagnosis and the number of operation were increased respectively by 40% and 22% in 2012 compared to those before the project. Likewise, at Ma'an Hospital, also a secondary-level hospital, the number of X-ray diagnosis and the number of operation were increased respectively by 8% and 5% in 2012 compared to those before the project. In case of Ma'an Hospital, these numerical values were decreased respectively 20% and 32% in 2008, it was due to that the hospital was partially closed for some time for extension and reconstruction of facilities. At Karak Hospital, a foreign body can now be removed by a bronchial endoscope and at Ma'an Hospital, an uterine polyp can be diagnosed through a uterine mirror, and General X-ray Machine can make it possible for the precise diagnoses. As such, both secondary level hospitals are able to deal with cases which used to be referred to the tertiary level hospitals and consequently, they are now recognized as hub medical institutions in the region.

Both of the Al-Bashir Hospital and Karak Hospital also serve as the educational institutions that have conducted practical trainings for medical staff. According to interview with the hospitals' personnel, those trainees who received trainings have highly evaluated the training program in which they can use those advanced equipment. In addition, it was also identified through the interview that the hospitals have gained the respects and trust among patients because there has been no increase of patient's claims in spite of drastic increase of outpatients. Furthermore, it was identified that the equipment provided by the project has produced a synergistic effect on the facilities of these hospitals which have been renovated by the governmental budget and other donors' supports, thus to enhance the improvement and efficiency of medical services, especially in treatment and diagnosis.

In the light of above, the target hospitals have restored appropriate functions as well as its size of service volume,and enhanced medical services as secondary- and tertiary-level hospitals .Therefore, effectiveness/impact of this project is high.

＜Quantitative effects＞

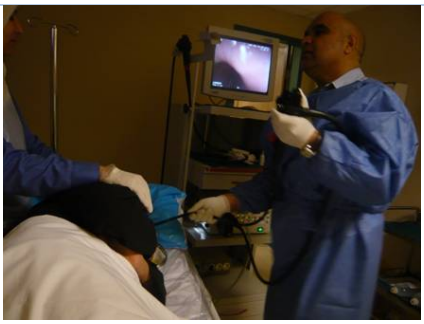
Al-Bashir Hospital	baseline value (2004)	target value (2008)	actual value(2008) (target year)	actual value (2012) (at ex-post evaluation)
Indicator:	2-3 days in	To be shortened	1-3 days in average	1-3 days in average

waiting time for X-ray diagnosis	average			
Indicator: waiting time for operations	5-7 days in average	To be shortened	5-7 days in average	5-7 days in average
Karak Hospital	baseline value (2004)	target value (2008)	actual value(2008) (target year) (% against baseline value in 2004)	actual value(2012) (at ex-post evaluation) (% against baseline value in 2004)
Indicator: Number of X-ray diagnosis	36,165 cases	To be increased	40,259 cases(+11%)	50,701 cases(+40%)
Indicator: Number of operations	2,452 cases	To be increased	2,351 cases(-4%)	2,996 cases(+22%)
Ma'an Hospital	baseline value (2004)	target value (2008)	actual value(2008) (target year) (% against baseline value in 2004)	actual value(2012) (at ex-post evaluation) (% against baseline value in 2004)
Indicator: Number of X-ray diagnosis	27,075 cases	To be increased	21,565 cases (-20%)	29,140 cases (+8%)
Indicator: Number of operations	1,068 cases	To be increased	731 cases (-32%)	1,123 cases (+5%)

(Sources: target hospitals)

(Photos)

Al-Bashir Hospital
Fluoroscopic X-ray



Al-Bashir Hospital
Laparoscope set (upper part)

Karak Hospital
Infant Incubator

3 Efficiency

The inputs were appropriate for producing the outputs of the project, and both the project cost and the project period were within the plan (ratio against the plan: 92%, 82%). Therefore, efficiency of this project is high.

4 Sustainability

The facilities/equipment provided by the project are maintained by the medical equipment maintenance department under Ministry of Health.

As for the institutional aspect, although there has not been substantial changes in the organization as well as the medical fee collection system as opposed to those at the time of ex-ante evaluation, three (3) target hospitals, have considerably increased the number of their staff such as doctors and nurses in order to cope with the expanding medical services.

Regarding the technical aspect, operation and management of equipment have been properly carried out and operation manuals have been effectively utilized. Repair of equipment has been carried out by those technical engineers dispatched from the medical equipment maintenance department under Ministry of Health and their technical level has been highly evaluated, so that they can even provide technical assistance for neighboring countries.

As for the financial aspect, the operation and maintenance costs of those medical equipment are borne by the Ministry of Health. Maintenance fee paid for outsourced venders has increased by 50% in 2012 compared to that of 2004 and it is confirmed that the budget for consumables is properly secured.

Biomedical engineers dispatched from the Ministry of Health to Al-Bashir Hospital, Karak Hospital and Ma'an Hospital have regularly inspected the status of operation and maintenance and the results of inspection are to be shared with directors and the staff of the medical equipment maintenance department under Ministry of Health. The current conditions of the procured equipment were basically good with a few exceptions, and damaged equipment have been under repair and the cause of damages were properly examined.

In the light of above, this project has no problem in institutional, technical and financial aspects, and the current status of operation and maintenance of the Implementing agency. Therefore, sustainability of this project is high.

III. Recommendations & Lessons Learned

Recommendations for Implementing agency:

None

Lessons learned for JICA:

In case of equipment provision, it is important to make sure at the time of ex-ante evaluation whether recipient countries have a proper system to carry out the maintenance of such equipment, so that those equipment can be utilized to generate the intended effects.

High level of sustainability of this project is largely attributable to the already established system of equipment maintenance under the Ministry of Health which can provide a set of maintenance services including regular inspections.