

Islamic Republic of Afghanistan

FY2019 Ex-Post Evaluation of Japanese Grant Aid Project

“The Project for Construction of Hospital for Communicable Disease”

External Evaluator: Mari Nishino, TAC International Inc.

0. Summary

This project constructed a hospital and procured equipment to contribute to the quantitative and qualitative improvement of diagnosis and treatment services aiming to strengthen the examination and treatment of the three major infectious diseases: tuberculosis, Human Immunodeficiency Virus/ Acquired Immune Deficiency Syndrome (HIV/AIDS) and malaria, especially severe respiratory infections such as multidrug-resistant tuberculosis and HIV/AIDS tuberculosis coinfection in Kabul City. The official name of the hospital is "Afghan-Japan Infectious Diseases Hospital".

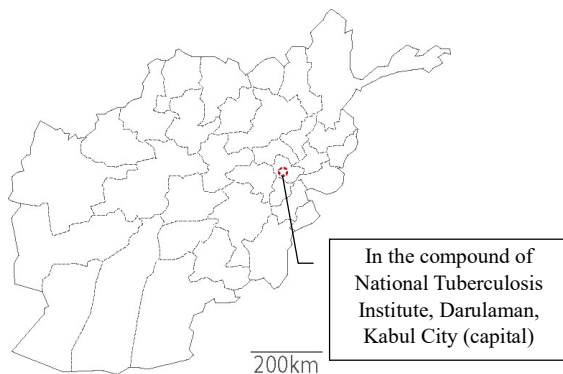
The relevance of the project is high because the hospital's aims are well in line with Afghanistan's development plan, development needs and Japan's ODA policy, which prioritise overcoming the three major infectious diseases and improving the quality of tertiary medical¹ facilities. The efficiency of the project is fair. Although the project cost was within the plan, the project period exceeded the plan. Regarding effectiveness, all three major infectious diseases achieved the target values for outpatient indicators. Targets for indicators of inpatients and referrals² for tuberculosis and HIV/AIDS were achieved to a certain extent. The indicators of malaria inpatients and referrals were not achieved because the needs were resolved by decreasing severe cases nationwide. The introduction of the latest examination equipment enabled to reduce the time required for tuberculosis examination from 2 days to 2 hours and to treat multidrug-resistant tuberculosis in inpatient ward isolated. It has contributed to improving the quality of examination and treatment. In addition, cooperation with other donors and technical cooperation projects was also strengthened. As an unintended positive impact, the hospital has been effectively used as a COVID-19 specialty hospital since February 2020. The implementation of this project has shown the planned effects on the whole, so the effectiveness and impact of the project have high. Regarding operation and maintenance, a part of the equipment procured in this project has not been used. Trained staff did not hand over the duties to his replacement when leaving and the malaria ward has been unused after opening without an utilisation plan. Therefore, some minor problems have been observed in terms of the institutional/organisational aspect, technical aspect and current status. Therefore, the sustainability of the project effects is fair.

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

¹ Describe to advanced / specialised medical care.

² To introduce critically ill patients who cannot be treated at lower medical facilities to higher medical facilities with more advanced equipment and technology.

1. Project Description



Project Location



Main Entrance of Afghan-Japan
Infectious Disease Hospital

1.1 Background

Infectious diseases were the leading cause of death in Afghanistan as of 2008. Tuberculosis, malaria and HIV/AIDS were positioned as the three major infectious diseases and overcoming them was an urgent issue. Sixty thousand new cases of tuberculosis and 300,000 new cases of malaria occurred annually. The cumulative number of AIDS patients was said to be approximately 2,000, but it was feared that the number would increase in the future due to delays of countermeasures. Furthermore, multidrug-resistant tuberculosis caused by interruption of treatment among tuberculosis patients and incorrect prescription by doctors had become a problem, and it was estimated to account for 3.5% of all tuberculosis patients. Multidrug-resistant tuberculosis is caused by tubercle bacilli for which ordinary antituberculosis drugs do not work, and is intractable and highly infectious. Therefore, high-quality tuberculosis control including correct diagnosis and treatment of multidrug-resistant tuberculosis was required. With the increase of HIV/AIDS patients, the problem of coinfection with tuberculosis has also arisen. Under these circumstances, the Afghan government has established the National Tuberculosis Control Program (NTP) within the Ministry of Public Health to promote tuberculosis control. The government has strengthened its measures, improving its operational capabilities and increasing its specialised staff. However, there was no specialised facility for the isolation and treatment of patients with severe respiratory infections such as multidrug-resistant tuberculosis in Afghanistan. Although there was a national infectious disease hospital in Kabul, it mainly dealt with gastrointestinal infectious diseases and meningitis and it had no hospitalization facility for tuberculosis and HIV/AIDS. The testing facilities were also necessary to strengthen the functions as top referral³ and national reference laboratories because they did not have sufficient facilities and equipment to handle multidrug-resistant

³ Describe to the highest referral destination of patients

tuberculosis from the viewpoint of infection control. Therefore, the government of Afghanistan requested from Japan a grant aid to establish a new hospital and procurement of equipment to accommodate the three major infectious diseases, especially respiratory infections such as multidrug-resistant tuberculosis and HIV/AIDS coinfection including a national reference laboratory for the three major infectious diseases.

1.2 Project Outline

The objective of this project is to strengthen the examination and treatment services for tuberculosis, HIV/AIDS and malaria, which are the three major infectious diseases, especially severe respiratory infections such as multidrug-resistant tuberculosis and HIV/AIDS tuberculosis coinfection, by constructing a hospital and procuring equipment in Kabul, thereby contributing to the strengthening the medical system and to the quantitative and qualitative improvement of diagnosis and treatment services. This project is positioned in the "Health System Strengthening Program⁴" of JICA.

Grant Limit / Actual Grant Amount	2,643 million yen / 2,424 million yen
Exchange of Notes Date /Grant Agreement Date	December 2010 / February 2011
Executing Agency	Ministry of Public Health
Project Completion	August 2013
Target Area	Darulaman, Kabul City
Main Contractors	Construction: Dai Nippon Construction and Sato Kogyo Co., Ltd. Equipment: Ogawa Seiki Co., Ltd.
Main Consultants	Oriental Consultants Co., Ltd. and Fujita Planning Co., Ltd.
Preparatory Survey	December 2009- November 2010
Related Projects	[Technical cooperation] <ul style="list-style-type: none"> • Tuberculosis Control Project (2004-2009) • Tuberculosis Control Project Phase 2 (2009-2015) [Grant aid]

⁴ The program goal is "Afghanistan's health administration will be able to autonomously formulate and manage health policies and an efficient health system including the private sector will be developed." (FY2008-FY2014). It consists of five components: "strengthening policy support", "contribution to the nationwide expansion of tuberculosis control", "strengthening reproductive health services", "development of health systems in urban areas", and "human resource development/ organizational strengthening". (2008: Project Formation Survey Report pp.79-82)

	National Tuberculosis Institute and Kabul Tuberculosis Center (1977) [Other international organisations, etc.] United States Agency for International Development (USAID): Tuberculosis Control Assistance Program (2005-2010) Global Fund to Fight AIDS, Tuberculosis and Malaria Round 8 (2009-2013) World Health Organization (WHO) : STOP TB (2009-2012)
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2. Outline of the Evaluation Study

2.1 External Evaluator

Mari Nishino, TAC International Inc.

2.2 Duration of Evaluation Study

This ex-post evaluation study was conducted with the following schedule.

Duration of the Study: September, 2019 – July, 2021

The Field Study: Due to the spread of COVID-19 and the restrictions by security, the evaluator did not travel and conducted a remote survey in cooperation with a local consultant.

2.3 Constraints during the Evaluation Study

Due to restrictions on travel to Afghanistan for security reasons, no field survey by the evaluator was conducted, and the external evaluator conducted surveys through questionnaires and interviews with the executing agency and related parties to collect information coordinating remotely with local consultants based in Afghanistan. Therefore, the quantity and quality of information and data were restricted because the evaluator could not directly observe the outputs on site. In addition, there were some project sites for which even local consultants could not conduct surveys due to movement restrictions for security reasons, and influence of COVID-19.

As a point to note concerning the survey, since the hospital started operating as a COVID-19 specialty hospital since February 2020, the status of operation and maintenance of the hospital was described mainly as it was before that. The sub-ratings are given based on the said situation.

3. Results of the Evaluation (Overall Rating: B⁵)

3.1 Relevance (Rating: ③⁶)

3.1.1 Consistency with the Development Plan of Afghanistan

At the time of planning, the 2005 Afghanistan Millennium Development Goals (MDGs) aimed to prevent the spread of diseases such as tuberculosis, HIV/AIDS and malaria with the target year of 2020. Health and nutrition were also important issues in the 2008 Afghanistan National Development Strategy (ANDS). Furthermore, reducing the prevalence rate of infectious diseases was one of the six top priority issues in the National Health Policy 2005-2009. To strengthen the Essential Package of Hospital Services⁷ (EPHS) that hospitals should provide as secondary and tertiary level health care services was prioritised along with the implementation of the Basic Package of Health Services⁸ (BPHS) which refers to primary level health services⁹. It aimed to manage integrated cost-effective interventions for prevention, management and treatment, especially for infectious diseases such as tuberculosis, HIV/AIDS, malaria, cholera and sexually transmitted diseases¹⁰.

At the time of ex-post evaluation, it is included in the target period of the Afghanistan MDGs as the target year of 2020 which aims to prevent the spread of diseases such as tuberculosis, HIV/AIDS and malaria. National Health Policy 2015-2020 also stresses the importance of interventions for the prevention and control of infectious diseases including tuberculosis and malaria¹¹ as well as the improvement of the quality and availability of tertiary medical facilities¹². In the Sustainable Development Goals (SDGs) by 2030, Target 3.3 aims at eradication of infectious diseases including AIDS, tuberculosis and malaria, and Target 3.8 also aims at achievement of Universal Health Coverage including access to quality basic health services¹³. They are consistent with this project.

Therefore, both at the time of planning and the ex-post evaluation, the health policies of Afghanistan focus on controlling infectious diseases including tuberculosis, HIV/AIDS and malaria and improving the quality and availability of tertiary medical facilities. Eradication of tuberculosis, HIV/AIDS and malaria and improving access to health services are prioritised in the SDGs. Thus, the consistency of this project is high.

⁵ A: Highly satisfactory, B: Satisfactory, C: Partially satisfactory, D: Unsatisfactory

⁶ ③: High, ②: Fair, ①: Low

⁷ It mainly refers to medical services that should be provided by hospitals in provincial hospitals, regional general hospitals and national specialty hospitals.

⁸ It mainly refers to health care services that should be provided by health posts, health centres and general health centres.

⁹ National Health Policy 2005-2009 p21

¹⁰ National Health Policy 2005-2009 p27

¹¹ National Health Policy 2015-2020 p40

¹² National Health Policy 2015-2020 p20

¹³ Ministry of Internal Affairs and Communications Sustainable Development Goals Tentative translation https://www.soumu.go.jp/main_content/000562264.pdf

3.1.2 Consistency with the Development Needs of Afghanistan

At the time of planning, Afghanistan was one of the 22 countries with the highest burden of tuberculosis in the world with 60,000 new cases occurring annually (WHO Global Tuberculosis Report 2008). The cumulative number of AIDS patients was said to be about 2,000 in 2007 (WHO 2007 annual report), but it was concerned that the number would increase in the future due to delays of measures. About 300,000 new cases of malaria occurred annually, and the number of deaths was estimated to be 126 (WHO World Malaria Report 2008). Especially regarding tuberculosis, the incidence of multidrug-resistant tuberculosis, difficult to treat, was as high as about 5% of new cases in Afghanistan, while many countries showed 3% or less. Although Afghanistan had strengthened its measures, the facilities for severe patients were in significant shortage and the higher level medical services were still insufficient both in quality and quantity. At the time of planning, there were no secondary and tertiary level specialised facilities for isolation and treatment of patients with severe respiratory infections such as multidrug-resistant tuberculosis. Additionally, regarding testing facilities for appropriate diagnosis of severe respiratory infections, the existing National Tuberculosis Research Institute did not have sufficient facilities and equipment. Therefore, it was necessary to have strengthened functions as a national reference laboratory for top referrals.

At the time of ex-post evaluation, according to the WHO Global Tuberculosis Report 2019, Afghanistan's 2018 statistics estimated that 70,000 new cases of tuberculosis occur in a year, of which 320 were HIV/AIDS coinfections and 2,500 were multidrug-resistant tuberculosis¹⁴. It is estimated that 1,000 to 1,500 people are newly infected with HIV each year, with 11,000 persons suffering from the disease in 2019, 10% of whom are being treated¹⁵. It is reported that about 300,000 people are infected and 10 to 50 die from malaria annually, but this number was 1 in 2018 and 0 in 2019¹⁶. According to the United Nations Development Program (UNDP) and the Ministry of Public Health, before and after the project, it was reported that the incidence and severity of malaria had been suppressed and the number of deaths gradually decreased because of the expansion of prevention mainly by mosquito nets and the success of tests and medications in primary and secondary level health facilities¹⁷. At the time of the ex-post evaluation, there are almost no cases of hospitalization nationwide including Kabul and the needs for hospitalization by malaria decreased.

As stated above, the infection status of tuberculosis and HIV/AIDS levelled off at both the planning and ex-post evaluation points, and the needs for testing and treatment remains high. Regarding malaria, after the project was completed, prevention and expansion of primary and

¹⁴ The incidence of multidrug-resistant tuberculosis is estimated to be about 3.6% of new patients.

¹⁵ UNAIDS Country Factsheets Afghanistan, 2019

<https://www.unaids.org/en/regionscountries/countries/afghanistan>

¹⁶ WHO World Malaria Report 2020

¹⁷ UNDP Success Story: Malaria Control in Afghanistan May 15, 2017

<https://www.af.undp.org/content/afghanistan/en/home/presscenter/IntheNews/malaria-control-in-afghanistan.html>

secondary level health services reduced the incidence and severity nationwide, reducing the need for hospitalization for the severe patients, but the needs for testing and medication remains.

3.1.3 Consistency with Japan's ODA Policy

JICA conducted a basic survey in the field of health care in Afghanistan in 2002 and set the basic framework consisted of human resource development, capacity building of the Ministry of Public Health, expansion of basic health care services through strengthening the referral system and cooperation with other related organisations. JICA and Ministry of Public Health executed minutes focused on four priority areas: improving women's health, measures against children's preventable diseases, infectious diseases control focusing on tuberculosis and strengthening implementation and management capacities related to the provision of health services. This project directly contributed to infectious disease control and was in line with Japan's ODA policy at the time of planning.

As described above, this project has been highly relevant to Afghanistan's development plan and development needs, as well as Japan's ODA policy. Therefore, its relevance is high.

3.2 Efficiency (Rating: ②)

3.2.1 Project Outputs

1) Facility

The facility consists of a newly built inpatient department of tuberculosis ward, HIV/AIDS ward and malaria ward, an outpatient department, a central medical department, a management department, and a laboratory that functions as a national reference laboratory for the three major infectious diseases. It was built as planned (see Table 1).

Table 1. Summary of the facility

Unit	Department	Components	Floor area
Inpatient	Tuberculosis ward	Bed room (56 beds), Toilet, Shower room, Nurses station, Night duty room, Multipurpose room, Prayer room	1,728.9 m ²
	HIV/AIDS ward	Bed room (12 beds), Toilet, Shower room, Nurses station, Night duty room, Multipurpose room, Prayer room	710.4 m ²
	Malaria ward	Bed room (12 beds), Toilet, Shower room	323.6 m ²
Outpatient		Reception, Waiting room, Toilet, HIV/AIDS consultation room, Treatment room, Malaria consultation room, Treatment room, Pharmacy	397.1 m ²
Central medical service	Laboratory	Biochemical laboratory, General bacteria laboratory, Tuberculosis culture room, Multidrug resistant tuberculosis laboratory, Medium preparation room, Sterilisation room	355.5 m ²
	Radiology	Digital X-ray room, Operation room, Reception, Staff room, Waiting room, File storage room	286.2 m ²
	Central supply	Used linen collection room, Sterilisation room	54.7 m ²
Management		Doctors' room, Nap room, Management office, Break room, Specialist office, Drug store, Conference room, Library, Security guard room, Morgue, Nursery room	803.2 m ²
Service		Laundry, Linen room, Kitchen, Dining room, Workshop	308.7 m ²
Common use		Stove warehouse, Electric room, Private generator room, Water receiving tank, Elevated water tank	359.1 m ²
Total floor area			5,327.4 m ²

Source: documents provided by JICA

2) Equipment

In addition to the facility, medical equipment (digital X-ray equipment, safety cabinet, high pressure steam steriliser, laboratory table, etc.) was procured as planned (see Table 2). Capacity building for maintenance (soft component) was neither planned nor implemented.

Table 2. Summary of main equipment

Unit	Department	Name of Equipment	Application	Quantity
Central medical service	Radiology	Digital X-ray equipment	Take general X-ray photography and fluoroscopic photography	1
	Laboratory	Safety cabinet	Contain pathogens not to leak	1
		Distilled water production equipment	Produce distilled water	1
		Laboratory table	Use when conducting clinical experiments	6
Central supply	High pressure steam steriliser	Perform high-pressure steam sterilisation	2	
Outpatient		Electrocardiograph	Measure and analyse electrical signals of heart	4
Service	Iron		Smooth wrinkle linen and lab coat	2
	Washing machine		Wash clothes	2
	Dehydrator		Dehydrate clothes	2
Administration		Corpse refrigerator	Maintain the corpse	1

Source: documents provided by JICA

3) Items borne by the partner country

The following items were planned to be borne by the partner country (Table 3) and all of them have been implemented.

Table 3. Items borne by the partner country

①	Site preparation: Advance preparation, securing of construction site, site preparation work, securing of an access road, transplantation of planting
②	Core work: Electric power lead-in application and lead-in work, telephone pull-in application and pull-in work (future), LPG cylinder supply
③	Building plan notification application procedure, each equipment connection application procedure
④	Measures of customs duties/ customs clearance procedures and tax exemption
⑤	Issuance of Authorisation to Pay based on Banking Arrangement
⑥	Bear cost required for maintenance
⑦	Procurement and installation of furniture and fixtures in the hospital
⑧	Provision of convenience necessary for immigration and stay of Japanese engineers and third-country engineers
⑨	Supplies (curtains, blinds, etc.)
⑩	Tree planting and planting in the exterior construction

Source: Preparatory Survey Report pp.3-53

3.2.2 Project Inputs

3.2.2.1 Project Cost

The actual cost of this project on the Japanese side was 2,424 million yen, compared to the planned amount of 2,643 million yen, which was within the plan (92% of the plan). The reason was that the project cost of the plan included a preliminary cost of 313 million yen, and only a part of it was spent. The preliminary cost was set for the project to respond flexibly for the expenses that cannot be estimated at the time of contract, such as labour costs that continued to rise due to the situation in Afghanistan at that time, material costs that fluctuated greatly and safety measures cost that can respond to changes in the security situation. It is said that all the matters borne by the partner country have been implemented, but no expense information was obtained.

3.2.2.2 Project Period

The project period was planned to be 23 months, but the actual length was 31 months, which exceeded the plan (135% of the plan). This project was a grant aid project for the Afghanistan Ministry of Public Health to construct a medical facility for the first time in 30 years and due to the confusion in the document approval procedure within the ministry, there was a 4.5 month delay for concluding the consultant contract and approving bid documents. As a result, a severe winter season was in the construction period, and a three-month suspension period was required. Thus, the project period resulted in 31 months by adding 4.5 months and three months to the planned 23 months.

As stated above, although the project cost was within the plan, the project period exceeded the plan. Therefore, the efficiency of the project is fair.

3.3 Effectiveness and Impacts¹⁸ (Rating: ③)

3.3.1 Effectiveness

3.3.1.1 Quantitative Effects (Operation and Effect Indicators)

Table 4 shows the baseline values, target values and actual values between 2016 and 2018 for each indicator. 1) The number of tuberculosis inpatients and referrals exceeded the target values but the number of imaging tests was not achieved. 2) Although outpatients and inpatients for HIV/AIDS greatly exceeded the target, referrals were about 20% of the target due to the low incidence in rural areas. 3) The actual values of malaria were far below the targets however it can be said that this was due to the decrease in needs as a result of solving the problems. From the above, it can be said that the quantitative effects were achieved as a whole. Since this project was completed in August 2013, the actual figures of 2016 were used as the benchmark for ex-post evaluation (same as the initial timing of 3 years after the project completion). The project's outcome includes strengthening the examination and treatment services for the three major infectious diseases, especially severe respiratory infections such as multidrug-resistant tuberculosis and HIV/AIDS coinfection. Hence the number of treatments and cures for multidrug-resistant tuberculosis were shown in Table 5 as additional indexes.

Table 4. Quantitative Effects

Indicator (Numbers/Year)	Baseline	Target	Actual		
	2010	2015	2016	2017	2018
		3 years after completion	3 years after completion	4 years after completion	5 years after completion
Tuberculosis					
X-ray examination	0	1,270	329	0	268
Outpatient	N/A	N/A	8,962	7,692	8,673
Inpatient	0	110	176	239	184
Referral patient	0	110	119	94	91
HIV/AIDS					
Outpatient	51	180	799	953	1,003
Inpatient	1	11*	63	78	48
Referral patient	1	180	0	35	45
Malaria					
Outpatient	0	600	205	239	268
Inpatient	0	70	0	0	0
Referral patient	0	1,140	0	0	0

Source: Documents provided by JICA and executing agency

Note: The target value of HIV/AIDS inpatients (* in the table) was applied from the preparatory survey report instead of the ex-ante evaluation after we confirmed that the calculation basis was appropriate. There were no results in 2015 for all three diseases.

¹⁸ Sub-rating for Effectiveness is to be put with the consideration of Impacts.

Details are given below for each disease.

1) The number of inpatients for tuberculosis has exceeded the target, and the number of referrals has almost reached the target. The hospital has been accepting around 8,000 outpatients per year and giving treatment of multidrug-resistant tuberculosis. The referrals from regions other than Kabul account for 70% and it is thought that it is functioning as a top referral hospital. Due to a defect of the X-ray equipment procured in the project¹⁹, the number of image examinations achieved less than 30% of the target. Since there are few incidence cases of HIV/AIDS tuberculosis coinfection, there was no treatment record until 2018²⁰. As shown in Table 5, the actual number of treatments for multidrug-resistant tuberculosis began to be reported in 2015 and it was 81 cases in 2015 and 163 cases in 2017 which was double the figure of 2015. Although it decreased to 122 in 2018, it is confirmed that the hospital has been treating multidrug-resistant tuberculosis. In addition, the cure rate calculated from the number of treatments and the number of cures for multidrug-resistant tuberculosis was about 50% in 2015 but it is increasing year by year to 86% in 2018.

Table 5. Treatment status of multidrug-resistant tuberculosis in the hospital

	Actual			
	2015	2016	2017	2018
	2 years after completion	3 years after completion	4 years after completion	5 years after completion
Number of treatments	81	93	163	122
Number of cures	43	38	105	105
Cure rate (%)	53%	41%	64%	86%

Source: Documents provided by executing agency

2) The outpatient of HIV/AIDS greatly exceeded the target, the inpatients also achieved the target and the referrals achieved only about 20% of the target. Referrals did not achieve the target because half of the positives occurred in Kabul each year and less occurred in rural areas as shown in Table 6. The viral load and CD4 lymphocytes²¹ of positive individuals are measured at the hospital and the National Public Health Laboratory in Kabul City. The same tests can be performed in rural areas²² after the construction of the hospital. However, even at the time of ex-post evaluation, since only this hospital has the inpatient facility for HIV/AIDS in the country, the patients in rural areas who need hospitalization are subject to referral.

¹⁹ Details such as the cause and background are described later.

²⁰ One patient was registered and treated in both 2019 and 2020.

²¹ Lymphocytes (a type of white blood cell) required to maintain immunity are reduced by HIV infection. The amount of virus in the blood and the number of CD4 lymphocytes are indicators to understand the degree and course of pathological condition.

²² Viral load and CD4 lymphocyte testing facilities were installed in Balkh, Nangarhar, Kandahar, Herat, and Khost.

Table 6. Number of HIV positives and tests

Year	Number of HIV positive		Number of HIV test	
	National	Kabul Province	National	Kabul Province
2016	135	72 (53%)	481,781	106,971 (22%)
2017	153	71 (46%)	525,389	113,312 (22%)
2018	140	88 (63%)	589,057	117,364 (20%)
2019	111	53 (48%)	640,211	100,170 (16%)

Source: Data provided by executing agency

Note: National shows the total number including Kabul Province. Kabul Province shows the actual number of Kabul and percentage (%) among national.

3) Outpatient of malaria achieved about 40% of the target value and the results of inpatient and referral were none. It can be thought that the incidence of severe patients was controlled nationally so that there were no subjects for hospitalization and referrals. Therefore, the issues were resolved by the time of the ex-post evaluation. Table 7 shows the number of malaria patients and deaths nationwide.

Table 7. Number of patients and deaths of malaria (reported figure)

Year	Number of patients	Number of death
2010	392,463	22
2011	482,748	40
2012	391,365	36
2013	319,742	24
2014	295,050	32
2015	350,044	49
2016	333,869	47
2017	326,625	10
2018	299,863	1
2019	173,860	0

Source: WHO World Malaria Report 2020

As stated above, it can be said that only the imaging examination does not observe the expected effect and it is judged that the quantitative effect has been achieved as planned as a whole.

3.3.1.2 Qualitative Effects (Other Effects)

The following qualitative effects were expected at the time of planning.

- 1) The construction of an infectious disease hospital which will be the top referral in the country will strengthen the medical system for multidrug-resistant tuberculosis, HIV/AIDS tuberculosis coinfection and severe malaria cases, etc. and contribute to the qualitative and quantitative improvement of diagnosis and treatment services.
- 2) The new creation of a central medical service laboratory will strengthen the laboratory department of the existing tuberculosis centre and contribute to the establishment of a national reference laboratory for the three major infectious diseases.
- 3) The improvement of examination and medical services of the three major infectious

diseases will contribute to promote of infectious disease control in the country and to achieving the MDGs goals.

- 4) Through information dissemination (medical performance, enlightenment through bulletins and videos) at the constructed infectious disease hospital, it will contribute to enlightenment activities to overcome the three major infectious diseases in the country and contribute to the promotion of infectious disease control.

Regarding 2), the tuberculosis laboratory is a national reference laboratory that complies with WHO standards. Its accuracy of examination has improved and examination time has been shortened compared to the laboratory department of the existing tuberculosis centre. In particular, a test that used to take 2 days with a microscope now take 2 hours by using a fully automatic gene analysis system (GeneXpert system: a system that simultaneously detects tubercle bacilli and rifampicin resistance genes, recommended by WHO as an excellent system for developing countries). Additionally, the examination method has been updated and the function of examination has been expanded. For instance, in addition to microscopic examination and culture examination, drug susceptibility test, GeneXpert, and LPA method²³ have become available. The testing function of HIV/AIDS has been expanded more than before. For example, the viral load and CD4 lymphocytes of positive individuals can be measurable around Kabul. Regarding the testing function of malaria in the hospital, it was said that there was no expansion of functions specifically. The National Malaria and Leishmania Control Program (NMLCP), adjacent to the hospital, has the national reference laboratory.

Regarding 4), the hospital has publicised tuberculosis information etc. as well as providing tuberculosis counselling. It is difficult to judge the effects of these public relations activities, such as whether patients began to see the doctor early or whether the number of patients who visited the hospital increased. This is because the actual number of image examinations, outpatients, inpatients and referrals have remained on the same level from the time of opening to the time of ex-post evaluation. The cure rate calculated from the number of treatments and the number of cures for multidrug-resistant tuberculosis as the additional indicator has been improving year by year. A systematic review of psychological support for drug-resistant tuberculosis suggests that treatment withdrawal was lower when psychological support was provided such as counselling²⁴. Therefore, although it is difficult to judge from limited information, tuberculosis counselling at the hospital is considered to be useful for improving the quality of treatment for multidrug-resistant tuberculosis.

²³ Line Probe Assay: Detection of tuberculosis gene and determination of drug susceptibility (rifampicin and isoniazid) can be performed at the same time in one day from sample (sputum). Not only tubercle bacillus group but also nontuberculous mycobacterial species (3 types) can be differentiated at the same time.
<https://www.nipro.co.jp/news/document/151224.pdf>

²⁴ <https://erj.ersjournals.com/content/erj/53/1/1801030.full.pdf>

Since 1) and 3) are considered to be indirect and higher-level effects, they were verified as impacts.

3.3.2 Impacts

3.3.2.1 Intended Impacts

The following impacts were expected by the implementation of this project²⁵.

- Intensive care for respiratory infections and severe malaria which was insufficient at the time of planning will be provided to residents in Kabul Province.
- By strengthening the functions of the reference laboratory and establishing an examination and research system for the three major infectious diseases, domestic infectious disease control will be promoted and benefit the entire nation indirectly.
- By fulfilling the functions as a top referral hospital in conjunction with the progress of the referral system based on BPHS and EPHS, the range of benefits will be further expanded.

The status of the expression is summarised below about the above three points, as well as, 3.3.1.2 Qualitative Effects 1) The construction of an infectious disease hospital which will be the top referral in the country will strengthen the medical system for multidrug-resistant tuberculosis, HIV/AIDS tuberculosis coinfection and severe malaria cases, etc. and contribute to the qualitative and quantitative improvement of diagnosis and treatment services.

The examination system of the hospital in line with the WHO standards and national standards is able to administer early diagnosis and early treatment of tuberculosis. Particularly, the availability of diagnosis and treatment for multidrug-resistant tuberculosis has made it possible for patients who were previously treated overseas to be treated domestically. There are about 100 referral patients annually and more than 70% of them are referrals from regions other than Kabul Province. The cure rate of multidrug-resistant tuberculosis, difficult to cure completely, is 86% in the hospital that is approaching the target value of 90% for MDGs. Therefore, it can be said that the quality of examination and treatment for tuberculosis has improved and that the hospital is functioning as the country's top referral hospital. In addition, the function of reference laboratory in the hospital was strengthened so that infectious control was promoted in the country. For example, research and measures for high-risk groups of women were carried out in the technical cooperation "Tuberculosis Control Project Phase 2" and "Tuberculosis Control Project Phase 3". They conducted tuberculosis tests on pregnant women to investigate the factors why tuberculosis was particularly common in women. Furthermore, they summarised it in a research paper and provided preventive treatment to high risk pregnant women. As a result, the proportion of female tuberculosis patients decreased in the target area.

²⁵ Since there was no clear description of the impact at the time of planning, the impact was sorted out from the description in the preparatory survey report.

Moreover, they conducted workplace examinations for women working in textile and marble processing factories in the suburbs of Kabul and prepared a procedure manual for workplace examinations based on the practice.

The HIV/AIDS examination function has been expanded more than before. The hospital plays a role as one of the seven locations in Afghanistan where viral load and CD4 lymphocytes can be measured and it mainly examines around Kabul. The ability to control infectious diseases has been promoted by strengthening the function of reference laboratory in the hospital so that it became possible to measure the viral load and CD4 lymphocytes essential to decide treatment policy for HIV/AIDS. Since the hospital only has the inpatients ward for HIV/AIDS in the country, it can be said that it functions as a top referral hospital that accepts inpatients from rural areas.

Although there was a hospitalization need for severe malaria patients at the time of planning, it can be said that the need has decreased by the time of ex-post evaluation for the following reasons: the occurrence of severe cases and deaths was controlled nationwide and approaching eradication by the expansion of prevention and primary and secondary level health care services. Since a national reference laboratory is located inside of NMLCP adjacent to the hospital, the malaria outpatient department of this hospital provides regular outpatient treatment for residents in the vicinity of Kabul.

Regarding the third point of the above mentioned expected impact, "By fulfilling the functions as a top referral hospital in conjunction with the progress of referral system based on BPHS and EPHS, the range of benefits will be further expanded.", according to the report from WHO Afghanistan office in 2019²⁶, basic health services have been strengthened by BPHS and EPHS but less focus has been placed on strengthening tertiary medical facilities over the past decade. In the report, the Ministry of Public Health and WHO are willing to work on improving the quality of tertiary medical facilities and strengthening the examination system. Under such circumstances, the hospital functions as a top referral hospital that can perform high quality examinations and inpatient treatment for tuberculosis and HIV/AIDS, and patients from rural areas visit outpatient and get hospitalized. Hence, it is judged that the range of benefits is expanding.

Regarding 3.3.1.2 Qualitative effects 3) the improvement of examination and medical services of the three major infectious diseases will contribute to the promotion of infectious disease control in the country and to achieving the MDGs goals; under the Afghanistan MDGs Goal 6, numerical target values for HIV/AIDS have been set in Target 10 and the one for malaria and tuberculosis in Target 11²⁷. Of these targets, those related to this project²⁸ are

²⁶ WHO Afghanistan Country Office 2019 p24

https://www.emro.who.int/images/stories/afghanistan/who_at_a_glance_2019_feb.pdf?ua=1

²⁷ Source: Vision 2020 Afghanistan Millennium Development Goals Annual Progress Report 2008 p19

²⁸ The goals of HIV/AIDS and malaria are not related to the target of this project such as the examination and

tuberculosis morbidity and mortality both of which, however, have not been achieved, as seen below.

Table 8. Tuberculosis morbidity and mortality against the Afghanistan MDGs

	MDGs target	Actual (2019)	Achievement
Tuberculosis morbidity (per 100,000 population)	143	189	76%
Tuberculosis mortality (per 100,000 population)	19.1	26	76%

Source: http://www.stoptb.org/resources/cd/AFG_Dashboard.html

3.3.2.2 Other Positive and Negative Impacts

1) Impacts on the Natural Environment

According to the Japan International Cooperation Agency Environmental and Social Consideration Guidelines (established in April 2010), this project was judged to have minimal undesired impact on the environment. As a measure, it was planned to dilute the chemicals used in the laboratory, drain them to an outdoor wastewater treatment device and collect the undiluted solutions individually. According to the hospital director, laboratory wastewater is scientifically treated and collected on a regular basis. Additionally, examination and hospital waste are separated into pollutants and non-pollutants and collected separately.

2) Resettlement and Land Acquisition

The construction site was secured on the NTP domain within the property of the Ministry of Public Health, Afghanistan. There was no problem as there was no resettlement of residents or land acquisition.

3) Unintended Positive/Negative Impacts

① Cooperation with other donors and technical cooperation projects

At the time of planning, the 10th round of the Global Fund to Fight AIDS, Tuberculosis and Malaria (2012-2015), which had been applied for, was scheduled to cover the test reagents and medicines of the hospital²⁹. According to expert reports of JICA technical cooperation "Tuberculosis Control Project Phase 2" (2009-2015), the Global Fund to Fight AIDS, Tuberculosis and Malaria did provide funds for purchasing anti-tuberculosis drugs and test reagents. "Tuberculosis Control Project Phase 2" supported writing fund applications and fund management to NTP and the fund application to the Global Fund to Fight AIDS, Tuberculosis

treatment of severe cases.

²⁹ Preparatory Survey Report p.I-9

and Malaria was passed. Thus, this fund introduced genetic diagnostic equipment and digital X-ray equipment. Furthermore, anti-tuberculosis drugs and testing equipment were procured through JICA grant aid via WHO. Figure 1 shows the image of cooperation between this project and other projects. The donors had frequent donor coordination meetings and coordinated to be effective as a whole within each donors' limitations, according to experts of the Tuberculosis Control Project Phase 3.

As described above, each donor had a role to play and it has become possible to operate the hospital in cooperation as a whole.

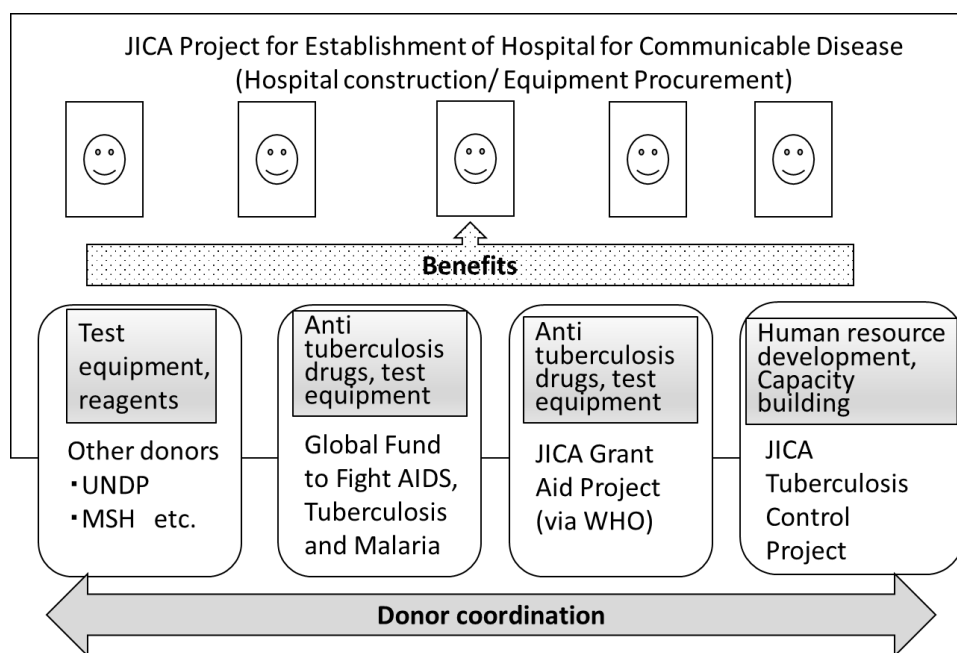


Figure 1. Coordination among this project, the technical cooperation and other donors

② Treatment success rate

The treatment success rate of multidrug-resistant tuberculosis in the hospital, set as an additional index of efficiency, has been improving year after year. The treatment success rate of the whole of Afghanistan has remained in the range between percentages in the high 80s to low 90s since 2002³⁰. Since the nationwide treatment success rate remained high before the opening of this hospital, too, it is thought that the numerical contribution by the hospital is not large. However, as the country's top referral hospital, the facility demonstrates early diagnosis and early treatment of multidrug-resistant tuberculosis. More than 70% of referral patients are referred and consulted from regions other than Kabul. It is thought that not only improvement of the treatment course of the patients themselves but also controlling of relapsing and infection to the surroundings early by being isolated and admitted in the hospital and devoting themselves to

³⁰ Global Tuberculosis Report, WHO, 2008

treatment have been realised. Therefore, the significance of this hospital is great.

③ Education to tuberculosis specialists from other provinces

According to the director of the tuberculosis department, more than 10 tuberculosis specialists from other provinces have received specialized education and acquired skills at the hospital, and have returned to their home provinces to improve the diagnosis and treatment of tuberculosis in their local areas. The facilities and personnel of the hospital are also used as a place for education to acquire the skills necessary for the diagnosis and treatment of tuberculosis.

④ Use for other than the three major infectious diseases: Utilisation as a COVID-19 specialty hospital

Unexpected at the time of planning, due to the global epidemic of COVID-19 from the end of 2019, the hospital started operation as a COVID-19 specialty under the control by the Ministry of Public Health from February 2020 according to the director of the hospital. Other organisations contracted by the Ministry of Public Health dispatched all medical and clerical staff who provide medical care for COVID-19. The operation as a COVID-19 specialty hospital may be extended for up to four years depending on the situation. According to local news in Afghanistan, it was used as the only place in the country for the diagnosis of COVID-19 as of March 2020, and it was reported that 150 people from all over the country came to the hospital for testing every day. There are 100 beds in total and the intensive care unit of 12 beds accommodates the severely ill³¹. The digital X-ray equipment procured in this project was repaired by the Ministry of Public Health and the organisation and used for COVID-19 medical treatment. Some other examination equipment procured in this project is also used for the diagnosis and treatment of COVID-19 medical care according to the doctor in charge of COVID-19 medical treatment in the hospital. Moreover, the hospital director trained the dispatched medical staff so that they could perform examinations using the laboratory of the hospital. In a television report on 7th July, 2020, COVID-19 inpatients and their families answered that health care providers were giving good care³².

The patients originally admitted for the three major infectious diseases and the original staffs including health workers were moved to a 20-bed-space in the premises of the National Infectious Disease Hospital (IDH) in Kabul City. That space is providing medical services for both outpatients and inpatients. However, they face some problems such as space is small and it is difficult to use the examination equipment. That equipment is located in other facilities (NTP, NMLCP, etc.) because they were not able to be relocated. Consequently, in addition to the small size of the inpatient room, the quality of hospitalization cannot be maintained due to insufficient

³¹ <https://tolonews.com/health/kabul%E2%80%99s-only-coronavirus-ready-hospital>

³² <https://www.youtube.com/watch?v=gkButLHqFIA&feature=youtu.be>

heating facilities, toilets and bathing facilities. Patients also face the problem that they cannot undergo timely examinations since the time and transportation costs required for examinations is an extra burden on the patient.



Used for a COVID-19 specialty hospital
(Photographed on 9th December , 2020)



Medical treatment space in the premises of the
National Infectious Disease Hospital
(Photographed on 22nd December, 2020)

We believe that this hospital, relatively new, six years after construction, with an 80-bed-capacity specially for infectious diseases, has a great impact to be effectively utilised under severe conditions; a swift response to COVID-19 is required which is difficult to control even in developed countries, while Afghanistan's original health care system is fragile.

As stated above, this project has mostly achieved its objectives. Therefore, the effectiveness and impacts of the project are high.

3.4 Sustainability (Rating: ②)

3.4.1 Institutional/Organisational Aspect of Operation and Maintenance

The treatment bureau of the Ministry of Public Health has jurisdiction over the overall management, including the personnel and budget, of this hospital. The capacity of the hospital staff set by the Ministry of Public Health is 72, while 69 are assigned in reality. According to the hospital director, the original capacity of medical staff is too small for the number of beds. For example, there were opinions that the burden on medical staff was heavy with a total of 16 doctors and 8 nurses assigned to 80 beds in total. Facility maintenance work is handled by the Construction Bureau of the Ministry of Public Health and the Facility Maintenance Service Department in Kabul Province. The facilities and equipment of this hospital are regularly managed by maintenance staff on permanent duty.

Therefore, at the time before its use as a COVID-19 specialty hospital, there were some problems in the institutional/organisational aspect of operation and maintenance because the

capacity of medical staff was small compared to the number of beds.

According to the director of the tuberculosis department, the medical service system for the three major infectious diseases after becoming a COVID-19 specialty hospital is inconvenient although there is bed and examination space on the premises of IDH like in a temporary house or the following reasons: patients and technicians have to move to the hospital or NTP from IDH to examine tuberculosis such as culture tests, drug susceptibility tests: LPA, microscopic tests. At the time of the ex-post evaluation, there is no plan to move that examination equipment to the temporary space of IDH.

3.4.2 Technical Aspect of Operation and Maintenance

According to the director of the hospital, medical staff maintain a certain level of examination and treatment by participating in JICA technical cooperation "Tuberculosis Control Project" and other training programmes. The director hopes that Japan and Afghanistan will continue to have regular personnel exchanges and training to improve their skills. The facilities and equipment are maintained and managed regularly. Most of the equipment is maintained in good condition. However, the digital X-ray imaging equipment procured by this project had a problem since 2014 and the hospital staff could not solve it. Even though the director asked the Ministry of Public Health to fix it, the Ministry did not respond³³. The hospital has two X-ray imaging equipment aside from the one provided by this project according to the hospital director.

- Analogue X-ray equipment: this was installed in NTP before the construction of the hospital and relocated after the opening of this hospital. It is used for the examination of tuberculosis patients.
- Digital X-ray equipment: this was recently provided by WHO. It is operating but not connected to the LAN (Local Area Network) system in the hospital.

Because the analogue X-ray equipment sometimes does not work well, patients are asked to take X-rays at the radiology department in an external public hospital, namely Abnisena, or at a private X-ray clinic. According to the expert's work completion report of "Tuberculosis Control Project Phase 3" (issued in July 2019), one of the reasons for not using the procured digital X-ray equipment was that a predecessor radiologist who received training has left without appropriate handover. Another problem is the lack of films for analog X-ray photography.

Therefore, before being used as a COVID-19 specialty hospital, there were some problems in the technical aspect of operation and maintenance since the X-ray equipment was out of order and there was a shortage of X-ray imaging films.

³³ As mentioned in other impacts, after operating as a COVID-19 specialist hospital, the digital X-ray equipment procured in this project was repaired by the Ministry of Public Health and the organization that undertakes COVID-19 medical service. That equipment has been used for COVID-19 medical care.

3.4.3 Financial Aspect of Operation and Maintenance

Table 9 shows the income and expenditure reports from the hospital. There has never been a negative balance. All medicines, testing reagents, hospital equipment and testing equipment are provided by the Ministry of Public Health and donors through the Ministry. Patients incur no examination and treatment costs.

The main sources of consumables are as follows;

- Curative drugs: JICA Grant Aid “The Project for Supply of Anti-Tuberculosis Medicines and Diagnostics Kits (WHO cooperation)³⁴”
- Test reagents and equipment: WHO, UNDP, Management Sciences for Health, Global Fund to Fight AIDS, Tuberculosis and Malaria
- Routine examination equipment: Central Public Health Laboratory of the Ministry of Public Health

After the completion of this project, there were several inpatient rooms where the room temperature could not be maintained sufficiently with the existing heating equipment in winter. So in order to improve the inpatient environment, follow-up cooperation for this project (September 2015 -January 2017) installed a central heating system that used a light oil fired hot water boiler and a hot water radiator system³⁵. Fuel costs and stove kerosene required for these central heating are paid by the Ministry of Public Health.

Table 9. Income and expenditure balance of the hospital (Unit: AFN)

	2016	2017	2018	2019
Budget allocation	22,124,617	No answer	No answer	30,764,580
Expenditure	18,771,046	19,697,007	19,927,907	25,906,147
Balance	3,353,571	-	-	4,858,433

Source: Documents provided by executing agency

Note: "No answer" was answered as "Normal budget allocation from the Ministry of Public Health", although there was no monetary information.

Therefore, regarding the financial situation, there is no problem because the necessary medicine, examination equipment, fuel for heating, etc. are covered by the allocation from the Ministry of Public Health and the support from donors.

3.4.4 Status of Operation and Maintenance

As for the status of the facility, it has been used for examination and treatment of the three major infectious diseases in line with the original plan from the opening of the hospital until

³⁴ Through WHO, the procurement support for tuberculosis treatments, multidrug-resistant tuberculosis treatments and test agents required for the national TB control program from 2020 to 2023 is provided.

(https://www.mofa.go.jp/mofaj/gaiko/oda/data/gaiyou/odaproject/middleeast/afghanistan/contents_01.html)

³⁵ Source: Documents provided by JICA.

February 2020. Facilities of inpatient and outpatient for tuberculosis and HIV/AIDS are in full use. The outpatient facility for malaria has a certain amount of record of use, however, there is no record of the use of inpatient facilities and referral due to decreasing needs.

According to the expert work completion report of technical cooperation "Tuberculosis Control Project Phase 3" (July 2019), hospital officials regarded it as a problem that the malaria ward had never been used.

Since February 2020, it has been used as a COVID-19 specialty hospital according to the instruction of the Ministry of Public Health. The original patients and staff are relocated to the space on the IDH site in Kabul City accepting 20 inpatients and outpatients for the three diseases. There is no concrete usage plan for the future use of the malaria ward according to the Director of NMLCP.

The condition of the equipment is as described in the Technical Aspect of Operation and Maintenance.

As explained above, the operation and maintenance status of facilities and equipment is almost as planned. The outpatient departments are used for all three diseases while inpatients and referrals of tuberculosis and HIV/AIDS are observed to be use at a certain level. However, inpatients and referrals of malaria have never been used due to the resolution of needs. Thus, the malaria ward has not been used in more than 7 years since the project was completed. Though, there is no concrete plan to use the malaria ward after finishing the operation as a COVID-19 specialty hospital. Therefore, it is judged that there are some problems in the operation and maintenance status.

Before the hospital started to be used as a COVID-19 specialty hospital, some minor problems have been observed in terms of the organisational aspect, technical aspect and current status. Therefore, the sustainability of the project effects is fair. Note, however, it is expected to be used as a COVID-19 hospital for several years according to the information collected at the time of the ex-post evaluation.

4. Conclusion, Lessons Learned and Recommendations

4.1 Conclusion

This project constructed a hospital and procured equipment to contribute to the quantitative and qualitative improvement of diagnosis and treatment services aiming to strengthen the examination and treatment of the three major infectious diseases: tuberculosis, HIV/AIDS and malaria, especially severe respiratory infections such as multidrug-resistant tuberculosis and HIV/AIDS tuberculosis coinfection in Kabul City. The official name of the hospital is "Afghan-Japan Infectious Diseases Hospital".

The relevance of the project is high because the hospital's aims are well in line with

Afghanistan's development plan, development needs and Japan's ODA policy, which prioritise overcoming the three major infectious diseases and improving the quality of tertiary medical facilities. The efficiency of the project is fair. Although the project cost was within the plan, the project period exceeded the plan. Regarding effectiveness, all three major infectious diseases achieved the target values for outpatient indicators. Targets for indicators of inpatients and referrals³⁶ for tuberculosis and HIV/AIDS were achieved to a certain extent. The indicators of malaria inpatients and referrals were not achieved because the needs were resolved by decreasing severe cases nationwide. The introduction of the latest examination equipment enabled to reduce the time required for tuberculosis examination from 2 days to 2 hours and to treat multidrug-resistant tuberculosis in inpatient ward isolated. It has contributed to improving the quality of examination and treatment. In addition, cooperation with other donors and technical cooperation projects was also strengthened. As an unintended positive impact, the hospital has been effectively used as a COVID-19 specialty hospital since February 2020. The implementation of this project has shown the planned effects on the whole, so the effectiveness and impact of the project have high. Regarding operation and maintenance, a part of the equipment procured in this project has not been used. Trained staff did not hand over the duties to his replacement when leaving and the malaria ward has been unused after opening without an utilisation plan. Therefore, some minor problems have been observed in terms of the institutional/organisational aspect, technical aspect and current status. Therefore, the sustainability of the project effects is fair.

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

4.2 Recommendations

4.2.1 Recommendations to the Executing Agency

1) Effective use of malaria ward

The Ministry of Public Health and the hospital have to respond to the problems that 12 beds in the malaria ward have never been used due to the decrease in severe malaria cases nationwide by the time the hospital returns to its original function from its current use as COVID-19 specialty hospital. If there is no need to accommodate severely ill malaria patients in the future, the effective use of unused beds should be considered such as by considering hospitalization for other priority diseases after confirming there are issues for utilizing the malaria ward.

2) Reduce the burden on staff by increasing the number of medical staff

The Ministry of Public Health stipulates that the small number of medical staff for the

³⁶ To introduce critically ill patients who cannot be treated at lower medical facilities to higher medical facilities with more advanced equipment and technology.

number of beds namely 16 doctors and 8 nurses providing outpatient and inpatient care for 80 beds in total. The ministry should try to understand the burden on medical staff occurring due to this and take necessary measures such as increasing the medical staff, considering the timing of returning from the COVID-19 specialty hospital to the function as the original three major infectious disease hospitals.

4.2.2 Recommendations to JICA

None.

4.3 Lessons Learned

Target values should be set after identifying the characteristics and needs of the diseases.

This project targeted the three major infectious diseases (tuberculosis, HIV/AIDS and malaria), while the target values were based on calculations such as the assumption which did not take into consideration the characteristics of the disease when setting the target values. For example, the target value for the number of outpatients with HIV/AIDS was set from 2,000 (national number of patients WHO 2005 forecast) x 51 (Kabul Anti-Retrovirus Treatment Center) / 556 (national registration) in the preparatory survey report. It seems not to have taken into account the accumulation of patients of HIV/AIDS, which has a chronic course. Since the actual number of outpatients in this project greatly exceeds the target value, it may be misleading as if overuse of the permitted number. Therefore, at the time of planning, JICA and the consultant in charge of planning should set target value as realistic as possible after ascertaining the needs of the facilities to be planned including the viewpoint of the course of the disease (whether it follows an acute or chronic course) and high or low mortality rates, based on the number of potential cases and prevalence or the numerical values grasped by the Ministry of Public Health.

The project for the new construction of a top referral hospital should include support for operational management components of the hospital to ensure hospital management, operation and administration, and to secure sustainability.

The characteristics of JICA's support are often a combination of hardware aspect for hospitals and equipment and technical support for medical staff, but support for the management, operation and administration of the entire hospital tend to go unheeded, or limited to a partial support such as 5S. In developing countries, there are few top referral hospitals and there are few educational opportunities for hospital management, so new hospital directors often operate with little education and experience about the management of top referral hospitals. This may negatively impact the effectiveness and sustainability of hospitals. Although more than 7 years have passed since the completion of this project, the malaria ward has never been used and there

is no concrete plan for future use. According to the project implementation consultant of this project, the French Medical Institute for Mothers and Children, a top referral hospital opened in Kabul in 2006, accepted the dispatched experts on hospital management from the French government to receive their technical support for several years. It is desirable to support the self-sustainability of hospital management in the partner country by dispatching experts to transfer technology for about 3 to 5 years according to the needs immediately after completion. For example, the following points are often regarded as peripheral operations but are important components for the management, operation and administration that support medical care such as operation rate management, equipment maintenance, storage and procurement of consumables and inventory management, etc.

END