

Islamic Republic of Afghanistan

FY2019 Ex-Post Evaluation of Japanese Grant Aid Project

‘The Project for Rehabilitation of Community Infrastructure in Nangarhar’

External Evaluator: Hirofumi Tsuruta, Tac International Inc.

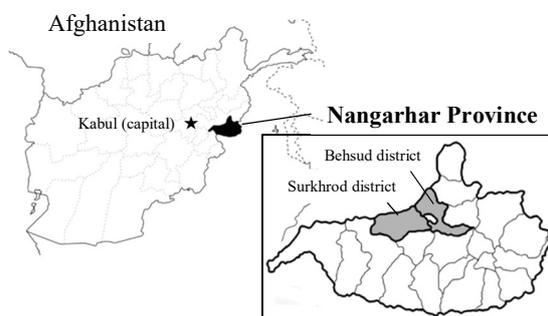
0. Summary

This project aimed to improve access to schools and health facilities by rehabilitating basic community infrastructure and village roads based on community needs, thereby contributing to the improvement of the living environment of returnees and receiving communities in the Behsud and Surkhrod districts of Nangarhar Province, Afghanistan.

The project was in line with the plan and development needs because the acceptance of returnees and the development of infrastructure such as education, health, roads, etc. were priorities of Afghanistan’s development plan, and the Nangarhar Province had development needs with a large influx of returnees. In addition, the project was consistent with Japan’s aid policy to Afghanistan, which aimed to support infrastructure development, education, health, and other basic human needs. Therefore, the relevance of this project is high. The efficiency of the project is fair, as both the cost and duration of the project exceeded the plan because of exchange rate fluctuations and the extension of the project period. In addition, the project improved the use of schools and health facilities; it is considered that the project contributed to the improvement of the living environment, and the effectiveness and impact of the project are high. The sustainability of the project is evaluated as fair because of insufficient staffing for maintenance and dependence on World Bank assistance, although efforts have been made to strengthen the relevant systems and improve the technology of the operation and maintenance systems of schools, health facilities, and roads.

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

1. Project Description



Project locations



Renovated Sub-Health Centre

1.1 Background

Many Afghan migrants who had left Afghanistan returned to the country in the late 2000s,

and the Office of the United Nations High Commissioner for Refugees (hereinafter referred to as 'UNHCR'), in collaboration with the Ministry of Refugee and Repatriation of Afghanistan, implemented cooperation projects to facilitate the return of refugees and livelihood support for humanitarian assistance after their return. In this context, when JICA's then President Dr Ogata visited Afghanistan in December 2007, JICA decided to collaborate with UNHCR to provide community development assistance by expanding the receiving capacity of host communities and developing basic livelihood infrastructure. In addition to the short-term humanitarian aid provided by UNHCR in the form of support for the refugees' return and essential livelihood maintenance, JICA concluded¹ that it would be more effective to facilitate the reintegration of refugees returning from displacement by providing community development assistance from a medium- to long-term perspective, which is JICA's forte.

In October 2008, the provincial government of Nangarhar requested that the Government of Japan provide technical cooperation and grant aid to improve the living environments of returnees and host communities.

In June 2009, based on this request, a preparatory study for this cooperation was carried out with a view toward providing support ranging from grant aid to technical cooperation, recognising that 'community development in the post-return phase involves many development issues, from infrastructure development in basic livelihood areas to promote the resettlement and self-reliance of returnees, to improving the livelihoods of the host communities, including returnees, and addressing issues related to education, vocational training and health'.² Based on the results of the survey, JICA concluded that, 'given the situation, we believe that the project should first provide the infrastructure that the people want and secure their physical livelihood, and then carry out livelihood improvement projects as the next step'³ and decided that cooperation should focus on the development of community infrastructure. At the same time, it was confirmed that in Nangarhar State, which had been devastated by the prolonged war, there was room for improvement in the implementation mechanism and environment for community infrastructure development projects due to a lack of sound contractors to undertake public work, inadequate contracting business practices, inadequate construction supervision systems, and immature community decision-making processes.

Based on the survey results, a technical cooperation project, 'The Community Development Project for Returnees and Receiving Communities in Nangahar', was implemented prior to the provision of the grant aid. In an advisory study conducted 18 months after the start of the technical cooperation project (February 2012), it was confirmed that the technical cooperation project had been achieving outputs, that is, the development of a consensus-building mechanism in the

¹ JICA (2009) Preparatory Survey (1st) Report '1-1 Background of the Survey' (in Japanese)

² JICA (2009) Preparatory Survey (1st) Report '1-2 Purpose of the Survey' (in Japanese)

³ JICA (2009) Preparatory Survey (1st) Report '4-1 Comments of the Survey Leader' (in Japanese)

community and the embodiment of implementation models for infrastructure development, as well as the implementation of 44 community infrastructure pilot projects using these mechanisms and models.

However, the advisory study confirmed that the improvement of infrastructure to ensure the livelihood of returnees and host communities in rural areas was still an important issue. Thus, the decision was made to change the cooperation modality to grant aid for developing community infrastructure, which had been envisaged to be implemented in the fourth and fifth years of the technical cooperation project, and to implement this project.

1.2 Project Outline

The objective of this project was to improve access to schools and health facilities by rehabilitating basic community infrastructure and village roads based on community needs, thereby contributing to the improvement of the living environment of returnees and receiving communities in the Behsud and Surkhrod districts of Nangarhar Province.

Grant Limit / Actual Grant Amount	1,076 million yen / 1.076 million yen
Exchange of Notes Date /Grant Agreement Date	February 2013 / February 2013
Executing Agency	Independent Directorate of Local Governance (IDLG) (Central and Nangarhar Province)
Project Completion	July 2016
Target Area	Behsud District and Surkhrod District, Nangarhar Province
Main Contractor(s)	Lot 1: New United Construction Company Lot 2.1: Faizi Mujadadi Construction Company Lot 2.2: Bakhtar Pairoz Construction Company Lot 3: Scale Structure Engineering & Construction Company Lot 4: Hilalzaki (H.Z.C.C.L) JV Safe Asian Builders Co. Lot 5: Golden Galaxy Construction Company
Main Consultant(s)	None
Procurement Agency	United Nations Office for Project Services (UNOPS)
Preparatory Survey	May 2012–November 2012
Related Projects	[Technical Cooperation] - The Community Development Project for Returnees and Receiving Communities in Nangarhar (July 2010–July 2013) [Projects of Other Development Partners] - World Bank, National Solidarity Programme (NSP), Phase I (December 2013–March 2007), Phase II (April 2007–September

	<p>2011), Phase III (June 2010–March 2017)</p> <ul style="list-style-type: none"> - World Bank, Citizens’ Charter Afghanistan Project (CCAP; October 2016–December 2022
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2. Outline of the Evaluation Study

2.1 External Evaluator

Hirofumi Tsuruta, TAC International Inc.⁴

2.2 Duration of Evaluation Study

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

Duration of the Study: September 2019–August 2021

Duration of the field study: No field study. For security reasons, fieldwork was carried out by a field survey assistant in Afghanistan. The operation structure for conducting the field survey was planned prior to the new coronavirus epidemic.

2.3 Constraints during the Evaluation Study

Because this ex-post evaluation was conducted through communication with the implementing agency and JICA Afghanistan office by document and the field survey assistant was not allowed to visit the construction sites in the Nangarhar Province for safety reasons, there were some limitations: 1) it was difficult to obtain supplementary information and data if the answers given in the questionnaire⁵ were insufficient, and 2) the data and information tended to be of insufficient quality to understand the actual status of the operation and maintenance of the developed infrastructure.

In addition, it was expected from the beginning that the field survey work would be limited because of the instability of the security situation in the country. However, the new coronavirus pandemic, beginning in the end of 2019, further restricted the activities of the JICA Afghanistan Office, executing agency, and field survey assistants. This caused them to delay the start of the activities. As a result, the time spent on information and data collection in the field was reduced, and the amount collected was minimal.

In response to this situation, more time was allocated than originally planned to collect existing literature, and the evaluator attempted to collect as much supplementary information as possible.

⁴ The evaluator belongs to the Namidabashi Lab. Co., Ltd., and participated in this ex-post evaluation as a reinforcement member.

⁵ At the time of this ex-post evaluation, a questionnaire survey was conducted with FPs (Facilitator of community activities related to community infrastructure projects, 1 organisation), BCDC representatives (3 persons), contractors (3 companies), the Provincial Education Directorate, and the Provincial Health Directorate regarding 1) the contribution and impact of the project in improving the implementation system, environment, and living conditions, 2) the O&M status and institutional structure for maintenance of the infrastructure developed, and 3) existing statistical data. The questionnaire survey could not be conducted for the executing agency because no one was involved in the project at the time of the ex-post evaluation.

3. Results of the Evaluation (Overall Rating: B⁶)

3.1 Relevance (Rating: ③⁷)

3.1.1 Consistency with the Development Plan of Afghanistan

The Afghanistan National Development Strategy 2008–2013, which was the national medium-term development plan at the time of the ex-ante evaluation (2012), defined three strategic pillars, one of which was to contribute to ‘economic and social development’: agricultural and rural development (improvement of agricultural and rural infrastructure and strengthening of community autonomy), improvement of the transport infrastructure (improvement of rural access roads), expansion of education (construction of facilities and procurement of equipment for equity), and improvement of health services (strengthening existing infrastructure and promoting community participation). In addition, as a cross-cutting issue, the safe, voluntary, and sustainable repatriation and social integration of refugees and internally displaced persons was defined as the strategic objective. In particular, to ensure repatriation and social integration, it emphasised the guarantee of their human rights, housing provision, the enhancement of social services, and the strengthening of administrative capacity to assist them.

In addition, the *Afghanistan National Peace and Development Framework 2017–2021*, the five-year national development strategy at the time of the ex-post evaluation (2020), states that guaranteeing a better future for refugees, returnees, and internally displaced persons is an important part of the national development strategy. In addition, the Citizen’s Charter National Priority Programme was established as a concrete measure for poverty reduction and social integration as part of the strategy, including education, health, and rural infrastructure development using the Community Development Council (hereinafter referred to as ‘CDC’).

Therefore, this project, which aimed to improve the living conditions of returnees and host communities, rural development, and community infrastructure such as schools and health facilities, was consistent with Afghanistan’s development plan from the time of planning to the time of the ex-post evaluation.

3.1.2 Consistency with the Development Needs of Afghanistan

As shown in Table 1, the number of those returning to Afghanistan from abroad amounted to approximately 3.5 million between 2012 and 2019. Nangarhar Province received the largest number of returnees by far compared to other provinces, with approximately 500,000 returnees over the same period. Many of these were reported to have returned from Pakistan, which borders Nangarhar.

⁶ A: Highly satisfactory, B: Satisfactory, C: Partially satisfactory, D: Unsatisfactory

⁷ ③: High, ②: Fair, ①: Low

Table 1. Number of returnees from the project planning period to the ex-post evaluation period

Year	2012–2015	2016	2017	2018	2019	Total
Nationwide (persons)	1,101,573	1,054,478	659,826	389,361	246,272	3,451,510
Nangarhar (persons)	127,252	269,861	81,060	20,014	15,249	513,436

* Includes undocumented returnees

Source: IOM Afghanistan (2020) Baseline assessment district, round 9

In areas with large host populations, such as Nangarhar, it has been reported that health services are not always able to meet demand, and overcrowded classrooms, lack of adequate housing, limited access to food and nutrition as well as other social resource deficiencies have been identified by the UN Office for the Coordination of Humanitarian Affairs (hereinafter referred to as ‘OCHA’) and others.⁸

In addition, the conflict in Afghanistan has intensified from the time of the project implementation to the time of the ex-post evaluation,⁹ and one of the affected areas has been Nangarhar Province. For example, Nangarhar Province is the third most affected province in terms of the number of deaths and injuries caused by the conflict, after Kabul and Helmand provinces. Schools have been the target of attacks, and Nangarhar has the highest number of closed or damaged schools.¹⁰

Table 2. Number of people killed and injured in armed clashes in Nangarhar from the beginning of the project to the present

Year	2013	2014	2015	2016	2017	2018
Number of death (persons)	1,344	1,686	1,615	1,644	1,672	1,729
Number of the injured (persons)	2,577	3,209	3,367	3,631	3,600	3,476
Total	3,921	4,895	4,982	5,275	5,272	5,205

Source: United Nations Assistance Mission in Afghanistan (2019) midyear update on the protection of civilians in armed conflict: 1 January to 30 June 2019

In summary, as mentioned above, from the planning period to the ex-post evaluation, Afghanistan and Nangarhar Province have received many returnees, but social resources and services, including health facilities and schools in the receiving societies, has not been necessarily of sufficient quantity or quality for residents including returnees. In addition, the infrastructure has been affected by conflicts. Therefore, this project, which aimed to improve community health and education facilities as well as access to them, was consistent with the development needs of Afghanistan and Nangarhar Province.

⁸ OCHA (2013) Humanitarian Needs Overview 2014

⁹ In 2017, Afghanistan was reclassified from a post-conflict country to a country in conflict. (UNHCR (2018) Solutions Strategy for Afghan Refugees)

¹⁰ OCHA (2019) Humanitarian Needs Overview 2020. 722 schools were closed for security reasons across Afghanistan in 2019. Of these, 89 schools were closed in Nangarhar and Uruzgan provinces, which are reported to have the highest proportion of closed or damaged schools.

3.1.3 Consistency with Japan’s ODA Policy

Japan's ODA policy for Afghanistan at the time of the ex-ante evaluation (2012) was the ‘*New Strategy to Counter the Threat of Terrorism (Japan's New Assistance Package for Afghanistan and Pakistan)*’, announced by the Government of Japan in 2009. The strategy set out three strategic axes, one of which was 'sustainable and self-reliant development’, which included the policy of ‘providing assistance in areas such as agricultural and rural development, infrastructure development, education, health, and other basic human needs based on Afghanistan’s needs’. In addition, at the Tokyo Conference on Afghanistan in July 2012, the Government of Japan announced that it would provide assistance at a scale of up to approximately USD 3 thousand million over the five years following the conference based on this strategy.

Therefore, the project, which provided support for infrastructure development, agricultural and rural development, education, and health, is consistent with Japan's aid policy.

3.1.4 Appropriateness of the Project Plan and Approach

A conceptual frame of the causal relationship among outputs, outcomes, and impacts in this project is shown in Fig. 1. Any logical deficits in the conceptual framework was found. Moreover, as described in ‘Section 3.2.1 Project Outputs’, although there were some changes in the contents of construction works in this project, all were changed to cope with the constraints that occurred during construction works or changes based on the standards. Even after these changes, it is considered that the infrastructure contributed to the ‘improvement of the living environment’. Therefore, it is concluded that the project plan and the changes to that plan were appropriate.

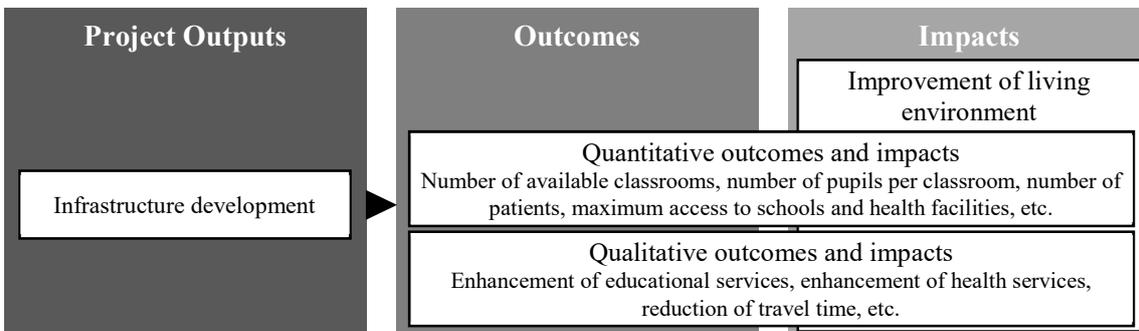


Fig. 1. Relationship between outputs, outcomes, and impacts of the project (conceptual frame)

In addition, as described in ‘Section 1.1 Background’, this project was preceded by a technical cooperation project, and at the time of the ex-post evaluation, the relationship between the technical cooperation and the grant aid project was clarified, as shown in Fig. 2. The technical cooperation project complemented this grant aid in two aspects: 1) through the development of the implementation system and environment and 2) through the development of community infrastructure. Thus, the relationship between the two was appropriate.

At the time of this ex-post evaluation, it was impossible to confirm the extent to which the

relationship shown in Fig. 2 had been envisaged when the technical cooperation project was planned. Detailed plans for each project were formulated at different times.¹¹ Generally speaking, it is not possible to develop a project plan that guarantees that the results of an earlier project have been achieved. In addition, in conflict-affected countries, the situation can change rapidly. In such circumstances, this planning approach, without integrating technical cooperation and grant assistance, may have allowed for more flexible decisions and responses.

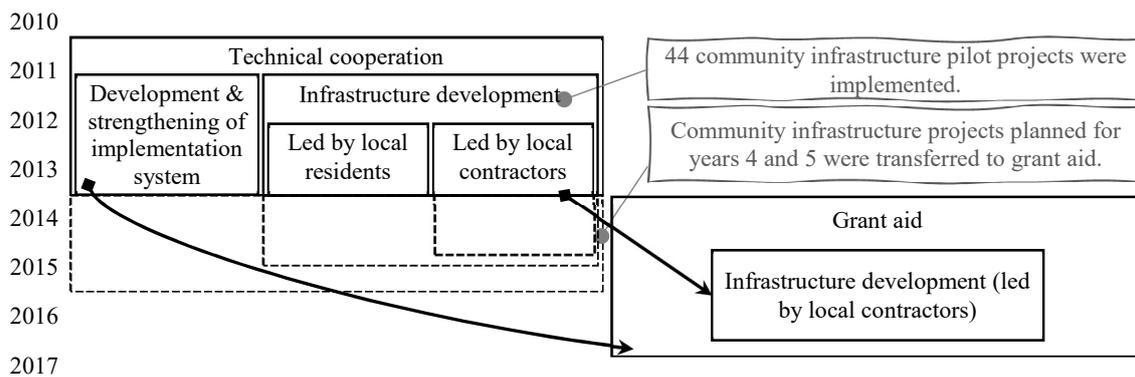


Fig. 2. Relationship between technical cooperation and grant aid (summarised by the external evaluator at the time of the ex-post evaluation)

In summary, the project was highly relevant to the country's development plan and development needs as well as Japan's ODA policy, and its project plan and approach was appropriate. Therefore, its relevance is high.

3.2 Efficiency (Rating: ②)

3.2.1 Project Outputs

Table 3. Planned and actual outputs

Plan		Actual	
Batch	Contents of the work	Lot	Contents of the work
1	5 schools, 1 clinic, 3 roads (6.57 km, 1.44 km, 9.30 km), 1 culvert (length not stated)	1	5 schools, 1 clinic
		2.1	1 road (1.46 km)
2	4 schools, 2 clinics, 3 roads (1.1 km, 1.75 km, 4.3 km)	2.2	1 culvert (7.2 m)
		3	4 schools, 2 clinics
3	5 schools, 1 road (5.7 km)	4	1 road (1.10 km)
		5	5 schools
total	14 schools, 3 clinics, 7 roads, 1 culvert	合計	14 schools, 3 clinics, 2 roads, 1 culvert

Source: Preparatory survey reports and other JICA documents

¹¹ As for grant aid, a preparatory study was conducted from May to November 2012, and the basic design was established based on the judgement that 'the implementation system had been developed to the extent that the implementation of the grant aid was feasible' based on the advisory study (February 2012) during the implementation of the technical cooperation project.

The project outputs are listed in Table 3. Following an earlier technical cooperation project, the work was carried out in villages with a high concentration of returnees and a high need for resettlement and social integration. Five components related to road rehabilitation that had been part of the plan were cancelled. This was due to the impact of foreign exchange losses and the rising cost of materials.

At the time of the preparatory survey, the selection and prioritisation of the contents of the cooperative work were comprehensively determined based on the requirements, as shown in Table 4, and divided into three batches. Batch 1 had the highest priority, and batch 3 had the lowest priority. In addition, batches of reserve works were prepared in response to the status of the selection of contractors and the revision of the scope of cooperation during implementation.

Table 4. Criteria for prioritisation

Criteria	
Indispensable criteria (If even one of the criteria is not met, the component is excluded.)	
1	Consensus built among the residents, including land allocation
2	Approval from line ministries
3	No major environmental or social considerations
4	Technical feasibility
Evaluation criteria (If the above indispensable criteria are met, each of the following items will be assessed and scored, and the total score will be used for prioritisation)	
5	Financial feasibility
6	Risk of negative impact in case of cancellation
7	Benefiting the wider community
8	Number of beneficiaries (in each of 11 target villages)
9	Number of returnees as beneficiaries (in each target village)
10	No operation and maintenance problems
11	Benefit to education/health/agricultural sectors or improvement of access to these facilities
12	Opinion/priority of the provincial government of Nangarhar and line ministries
13	Benefit from the pilot project of technical cooperation ‘The Community Development Project for Returnees and Receiving Communities in Nangarhar’ (priority is given to villages with a low level of benefit)

Source: Preparatory Survey Report

When the five components were cancelled during the implementation phase, a comprehensive decision was made based on the same requirements to narrow down the number of cases to be covered. However, during the interviews during this ex-post evaluation, it was reported that the status of each requirement and the circumstances surrounding them had changed between the

planning and implementation phases and that each component was prioritised differently.

For the 20 projects that were selected, the scope of work was expanded, and contractual changes were made during implementation, as shown in Table 5. Although most of the changes were minor in the design of the works, for some changes, such as Lot 2.1 and Lot 4, the contract amount was increased by more than 30%. Both Lot 2.1 and Lot 4 are related to road improvements and involve changing the width of the road to comply with international and Afghan standards. Therefore, these changes were considered appropriate.

Table 5. Major additional works

Lot	Contents of additional works	Initial contract amount (USD)	Additional works	
			Amount of increase (USD)	Percentage to the initial contract amount
1	Additional procurement of classroom furniture	2,258,500	81,965	3.6%
2.1	Increase in road width (from 4 m to 5 m), etc.	210,827	83,029	39.3%
2.2	Additional demolition work	59,819	1,700	3.3%
3	Additional foundation work for classrooms	2,599,836	150,055	5.8%
4	Increase in road width (from 4 m to 5 m), etc.	114,827	37,630	32.8%
5	No	1,516,960	0	0
	Total	6,760,769	354,378	5.2%

Source: JICA Document

In addition, this project was a case of using a procurement agency. UNOPS was selected as the procurement agent based on its extensive experience in supervising construction works in Afghanistan and Nangarhar Province because the Japan International Cooperation System (JICS), which has substantial experience as a procurement agency, could not implement the project in Afghanistan for security reasons, and Crown Agents, which had similar experience as a procurement agency with Japanese grant aid projects, could not provide construction management services, including civil works. At that time, UNOPS did not have much experience as a procurement agency with JICA's grant aid, but at the time of the ex-post evaluation, no problems stemming from working with UNOPS were observed. Based on this, it can be said that this project was able to be established as a project and produce outputs only through cooperation with UNOPS.

3.2.2 Project Inputs

3.2.2.1 Project Cost

Table 6. Summary of project cost

Item	Planned cost (USD)	Actual cost (USD)	Difference between planned and actual cost (USD)
Fee for procurement agency	2,154,664	2,660,985	506,321
Construction costs	7,568,866	7,115,158	▲453,708
Management fee*	680,647	672,494	▲8,153
Bank interest		▲44,462	▲44,462
Total	10,404,177	10,404,177**	0

*Management fee refer to remuneration under the contract with the procurement agency.

**The total of the above is 10,404,175. However, the actual total amount is 10,404,177, which is the same as that of the plan because the source documents include the decimal point in each expense category.

Source: JICA document

As shown in Table 6, although the project cost was as planned (100% of the planned amount), it can be said that the project cost exceeded the plan in consideration of the fact that the output was reduced from 25 components to 20 components (equivalent to about 28 km of road, or about USD 2,800,000¹² using the above actual amount as a reference).

When a procurement agency is used, as in the case of this project and the Community Development Grant Aid, the total project cost is generally equal to the planned amount. In the project, the payment of the project cost was made as follows, such that the grant limit would not be exceeded:

- 1) After the conclusion of the Exchange of Notes and the signing of the Grant Agreement, the maximum amount of 1,076 million yen was deposited into a bank account in Japanese yen in the name of the Government of Afghanistan.
- 2) After the conclusion of the contract between the Government of Afghanistan and UNOPS, the procurement agency, a bank account in the name of UNOPS in US dollars was credited with USD 10,404,177, equivalent to the full amount of the grant limit, from the above bank account of the Government of Afghanistan in yen.
- 3) Payments were made from the US dollar bank account in the name of UNOPS to the contractor and others as appropriate. However, interest was accrued on the deposits, and the final total interest was USD 44,462. Bank interest was incorporated into the project cost rather than UNOPS's management cost.

¹² This was calculated at USD 100,000 per km based on the cost of Lot 4, which was originally contracted at USD 114,827 for the construction of 1.10 km of road. In each of the lots in which work was actually implemented, additional work was carried out due to changes in the contract, which increased the output, but the amount was USD 354,378, which is less than the USD 2,800,000. Therefore, even after taking into account the increase in output due to the additional work, the overall cost was still higher than the planned cost for the actual output.

- 4) UNOPS was paid a management fee of 7% of the project costs spent each quarter. However, for the final payment, UNOPS was paid the full amount remaining in the account (subject to a 3% limit on the grant).

3.2.2.2 Project Period

Table 7. Summary of project period

Item	Plan	Actual
Project period*	October 2013–December 2015 (27 months)	October 2013–July 2016 (34 months)
Detailed design study	October 2013–March 2014	October 2013–May 2014
Construction work**	April 2014–December 2015	Tender: July 2014–April 2015 Work: April 2015–July 2016 Completion: July 2016

*The starting point was defined as the date of the conclusion of the contract between the executing agency and the procurement agency.

** Completion was defined as the time at which handover to the executing agency was conducted.

Source: Preparatory survey report and other JICA documents

The project period exceeded the plan (126% of the plan) for three main reasons.

First, the contract was signed between the executing agency and UNOPS in October 2013, and construction was set to begin in April 2014, but this was delayed because of the lack of agreement from the executing agency regarding the reduction of the construction component with exchange rate losses. As a result, the final work on the detailed design, that is, the comparison of the schematic design with the detailed plan, was not carried out until late May 2014.

Although the tender was publicly announced in July 2014, the executing agency raised doubts about UNOPS's procurement procedures during the tender evaluation phase, and the tender process was suspended in September 2014. Finally, following an internal audit by UNOPS and consultations with the executing agency, a contract with the contractor was signed in April 2015.

Furthermore, due to delays in construction (e.g. delays in painting the facilities), an extension of one month was imposed.

In summary, both the project cost and project period exceeded the plan. Therefore, the efficiency of the project is fair.

3.3 Effectiveness and Impacts (Rating: ③)

3.3.1 Effectiveness

3.3.1.1 Quantitative Effects (Operation and Effect Indicators)

The expected effect of project implementation is an improvement in access to schools and

health facilities. In particular, in this ex-post evaluation, as the ‘Project Objective’ is organised as ‘to improve access to schools and health facilities thereby contributing to the improvement of the living environment of returnees and receiving communities’, it was judged that the direct contribution of this project to the improvement of the living environment is not the road but the use of schools and health facilities. Therefore, in this ex-post evaluation, the use of schools and health facilities was focused.

The quantitative effects are shown in Table 8.

Regarding schools, the actual figures exceeded the target figures, indicating that more students than expected were able to use the school facilities. In addition, there has been an improvement in the indicator collected at the time of this ex-post evaluation, the ‘percentage of female students in schools in the target area (%)’, which suggests that the school is now more accessible to female students.

Regarding health facilities, the actual figures have exceeded the targets, indicating that more residents have access to health services.

This can be attributed to the fact that, as discussed in ‘Section 3.3.1.2 Qualitative effects’, the development of infrastructure has created an environment in which students feel safe in going to school and parents feel secure in sending their children to school and has encouraged the use of health facilities that are closer to home.

In addition, improvements to roads may have contributed to better access to schools and health facilities. As can be seen in Table 8, with regard to the use of roads, the average driving speeds obtained from the questionnaire responses improved significantly and were well above the target values. Similarly, it can be said that the maximum access time (minutes) to schools or health facilities has improved, compared to the value at the time of planning, although some of the target values have not been achieved.

At the time of the ex-post evaluation, community infrastructure development supported by the World Bank was still underway in Nangarhar. The World Bank-supported project may have influenced changes in the above indicators. However, the World Bank-supported project has made a different contribution to the indicator, as the project has segregated community infrastructure development using contractors, which was not the focus of the support.

Table 8. Changes in access to schools and health facilities and use of roads

Indicators	Baseline	Target [3 years after completion]	Actual	At the time of ex-post evaluation
	2012	2019	2019	2020
[Schools]				
<u>Indicators established at the time of planning</u>				
Number of available classrooms in the target area (rooms)	95 ^{*1}	318 ^{*1}	550 ^{*2}	Not collected
Number of students per classroom in the target area (students/classroom)	185 ^{*1}	55 ^{*1}	64 ^{*2}	Not collected
<u>Indicators collected as a reference during the ex-post evaluation</u>				
Total number of students in schools targeted by the project (persons)	26,291 ^{*3}	Not collected	36,987 ^{*3}	38,768 ^{*3}
Percentage of female students in schools in the target area (%)	32.6 ^{*3}	Not collected	38.0 ^{*3}	38.4 ^{*3}
[Health facilities]				
<u>Indicators established at the time of planning</u>				
Number of outpatients per day in comprehensive and basic health centres in the target area (persons)	250 ^{*1}	440 ^{*1}	1,204 ^{*4}	Not collected
[Roads]				
<u>Indicators established at the time of planning</u>				
Average driving speed (km/h)	20 ^{*1}	60 ^{*1}	70 ^{*2} /70–90 ^{*4}	Not collected
Maximum access time to the school/clinic (minutes)	15 ^{*1}	5 ^{*1}	10 ^{*2} /5 ^{*4}	Not collected

Source: *1 Ex-ante evaluation sheet p.4, *2 Provincial Education Directorate responses to the questionnaire, *3 Documents provided by the Provincial Education Directorate, *4 Provincial Health Directorate responses to the questionnaire

3.3.1.2 Qualitative Effects (Other Effects)

The qualitative effects of the project were defined at the time of planning as the improvement of education services and health services as well as the accessibility of the facilities for returnees and the host community. At the time of this ex-post evaluation, opinions were collected on these issues through questionnaires distributed to the Provincial Education Directorate and Provincial Health Directorate of Nangarhar as well as to the residents around the targeted facilities.

Concerning the services provided by schools, the responses to the questionnaire from the

Provincial Education Directorate and local residents stated that ‘In the past, girls were not allowed to go to school, but now that the outer wall of the school has been built to prevent suspicious persons from entering, it is easier for girls to go to school’, ‘There is a safe environment for both boys and girls to study in safety’, ‘Compared to 10 years ago, there is better access to computers, internet, good building conditions, safe water and toilets’, and ‘It is easier to manage classes’. The project focused on rehabilitating the existing infrastructure as well as installing and repairing the external walls surrounding the school, which were expected to contribute to an improved learning environment and safety. At the time of the ex-post evaluation, it was found that the project was as effective as had been envisaged.

Regarding health facilities, the residents’ responses to the questionnaire included the statement, ‘As a result of the project, the health centres have become more accessible to us, and people of all ages and both sexes can now use the health services without any worries or costs’ and ‘it has given us more opportunities to use the health centre, which is closer to home, and has reduced the hassle and burden. We used to have to go to the hospital in the centre of town’. Thus, the residents’ satisfaction of the targeted facilities is considered to have improved, and there has been a change in residents’ health-seeking behaviours.

In relation to access to facilities other than education and health, the following comments were made: ‘It is now possible to reach the town centre in a short time’, ‘It is easier to go to the market. It is easier to bring produce to the market’, ‘Less dust is generated during transport’, and ‘Fewer cars break down’. It is conceivable that road improvements have a diverse range of effects.

3.3.2 Impacts

3.3.2.1 Intended Impacts

The envisaged impact of the project was to improve living conditions. The ex-post evaluation focused on whether children who should receive education were actually able to do so (e.g. enrolment rate, etc.) and whether people who should receive essential health services were actually able to do so (e.g. situation of receiving antenatal care, etc.).

Table 9 shows the number of students and the enrolment rate in the districts of Behsud and Surkhrod, which were the target areas of the project. In both districts, the figures, that is, the number and the percentage of children who are able to receive education, improved between before (2014) and after the construction work. This implies that living conditions improved in terms of education. In addition, the answers to the questionnaire distributed to residents suggested that the school environment had improved, with comments such as ‘The schools are cleaner, and more parents want to send their children to school’ and ‘The dropout rate has decreased’.

Table 9. Number of students and enrolment rates, etc. in target areas

Indicators	2013 [Baseline]	2019 [Target]	2020
Number of students in schools in the two target districts	194,047	207,728	210,846
Enrolment rates in the two target districts (%)	89.6	90.9	92.5

Base year: The base year is the year in which statistical data are available, before July 2014, when construction work started.

Target year: As shown in Table 8, the target year was set at 2019, three years after the completion of the project.

Source: Documents provided by the Provincial Education Directorate

In addition, Table 10 shows the numbers for antenatal care, institutional deliveries, and postnatal care in the Behsud and Surkhrod districts, which are the target areas of the project.

Table 10. Numbers associated with utilization of antenatal care, institutional deliveries, postnatal care in the two target districts

Indicators	2014 [Baseline]	2017	2018	2019 [Target]
Number of pregnant women who had antenatal care (1 st) in the two target districts (persons)	10,172	19,379	22,199	25,291
Number of institutional deliveries in the two target districts (births)	5,149	6,850	3,658	5,167
Number of people receiving postnatal care in the two target districts (persons)	8,514	10,338	10,696	13,775

Base year: The base year is the year in which statistical data are available, around July 2014, when construction work started.

Target year: As shown in Table 8, the target year was set at 2019, three years after the completion of the project.

Source: Documents provided by the Provincial Education Directorate

Antenatal and postnatal care are essential services that pregnant women should receive.¹³ Institutional deliveries are a recommended service in Afghanistan for the safety of mothers and children during childbirth, but there is competition from home deliveries. As shown in Table 10, although the number of institutional deliveries has remained unchanged and has not improved, the situation of antenatal and postnatal care has improved, which indicates that the presence and use of maternal health services are expanding. Therefore, it is judged that the living environment in terms of health care has improved. In addition, in residents' and the Provincial Health Directorate's responses to the questionnaires, some affirmed the above improvement, such as 'The quality of health services has improved' and 'The wasted time related to health care has decreased'.

¹³ The 'number of outpatients' identified in the effectiveness section can be used to examine changes in access to and the use of health facilities. However, it cannot be used to determine how many residents in need of services were able to receive them.

3.3.2.2 Other Positive and Negative Impacts

No negative impacts on the natural environment were identified in the questionnaire at the time of the ex-post evaluation. In addition, no positive or negative impact was reported in the completion report.¹⁴

With regard to land acquisition, at the time of the preparatory survey, it was reported in four schools and two health facilities. In addition, the contractors' answers to the questionnaire at the time of this ex-post evaluation confirmed that land had been donated or provided for the construction of schools and health facilities, confirming the reports given at the time of the preparatory survey. Although it was not possible to confirm all of the sites, it was confirmed that 600 square meters and 2,000 square meters of land had been donated for the construction of schools, and 500 square meters of land had been donated for health facilities.

As part of the land acquisition process, decision-making, consultation, and coordination by the local residents were conducted at the time of the preparatory survey using the mechanism developed during the technical cooperation project. In addition, only when the landowner's offer of land could be confirmed in writing¹⁵ was the land acquisition considered to be eligible for the project. Furthermore, the site that needed specific actions with social and environmental considerations for the land acquisition were excluded.

In addition, there was no evidence of resettlement as a result of these land acquisition at the time of the preparatory survey and this ex-post evaluation. Furthermore, the impact of these donations or provisions on the lives of donors and the surrounding community has not been reported. According to the responses to the questionnaires distributed to residents and contractors in the target area, the donors were people who were trusted by the community and who were willing to make donations to meet the community's immediate needs. In some cases, the community organisations themselves took the initiative to request and encourage landowners to donate their land; in other cases, the decision to donate was made after several meetings between the contractor and the community in which the contents of the project were explained. In the completion report for the project, it was reported that although land acquisition was necessary for some components of the project, the landowners and the government donated and provided the land, and there was no compulsory acquisition.

Furthermore, the evaluator attempted to confirm the other impacts of the project shown in Table 11 but were unable to obtain sufficient information. Therefore, the existence or non-existence of these effects cannot be clarified.

¹⁴ At the time of this ex-post evaluation, it was not possible to obtain a screening report submitted to the National Environmental Protection Agency, which is the environmental policy enforcement agency, in accordance with the environmental impact regulations governing the environmental impact assessment process. In addition, it was not possible to confirm any specific documents regarding the environmental monitoring that may have been carried out during the project.

¹⁵ Where land was not privately owned but instead was owned by the community or village, a written statement from the community organisation was attached.

However, the impact on peacebuilding was also considered to be the promotion of reconciliation between refugees and internally displaced persons and the host society. This is because the project deliberately targeted ‘villages with a high concentration of returnees and a high need for resettlement and social integration’, taking over from a previous technical cooperation project. Therefore, it can be said that the project promoted reconciliation between refugees and internally displaced persons and the host society, thus contributing to the ‘mitigation of instability’ necessary for peacebuilding.

Table 11. Other impacts checked in this ex-post evaluation

Other impacts	Details confirmed during the ex-post evaluation
Synergy with a technical cooperation project	As shown in ‘Fig. 2. Relationship between technical cooperation and grant aid’, the technical cooperation project complements the project in two areas: 1) through the development of the implementation system and environment and 2) through the development of the community infrastructure, and synergy effects that were expected at the planning phase. However, at the time of this ex-post evaluation, due to the constraints of the survey and other factors, it was not possible to sufficiently confirm specific examples of synergy.
Synergy with UNHCR’s humanitarian assistance	The project has been planned in close collaboration with UNHCR, but at the time of this ex-post evaluation, it was not possible to fully confirm specific examples of synergy.
Use of development models/mechanisms developed in technical cooperation projects	In a questionnaire survey that was given to the NGO, Future Generation, which was the FP that promoted the activities of the local people in the technical cooperation project and is also involved as FP in the current CCAP, the response was that ‘the models and mechanisms developed in this project are still not used in other projects’. In addition, none of the literature collected during this ex-post evaluation from the World Bank, UNHCR, or other sources mentioned the model or mechanisms of the technical cooperation project. This may be due to reasons such as the fact that the IDLG, which was the executing agency of this project and the technical cooperation project, was not involved in the development of community infrastructure in rural areas after the project ended.
Sense of Coherence (hereinafter referred to	Responses to the questionnaire that was given to the BCDC included statements such as ‘Through this project, I have learned how to share my problems with other residents, and I have a sense of being treated fairly and of being in control of the situation’ and ‘A sense of caring

as 'SoC') ¹⁶	for others has been developed among the people', but at the time of this ex-post evaluation, due to the constraints of the survey and other factors, it was not possible to collect examples of changes in the sense of coherence or clear evidence of such changes.
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In summary, the indicators for the quantitative effects of the project have generally improved, and the responses to the questionnaire have shown that the road conditions and access to and use of education and health services have improved. Regarding the improvement of the living environment, which was assumed to be one of the impacts of the project, the school enrolment rate and the postnatal care rate were also improved, suggesting that the project contributed to improvement in terms of delivering necessary services to residents who needed them. In addition, the project contributed to peacebuilding by promoting reconciliation between refugees and internally displaced persons and the host society. On the other hand, it could not be confirmed that there was any negative impact on the natural environment, resettlement, or land acquisition.

Therefore, this project has almost achieved its objectives, and the effectiveness and impact of the project are high.

3.4 Sustainability (Rating: ②)

3.4.1 Institutional/Organisational Aspect of Operation and Maintenance

3.4.1.1 Schools

At the time of the ex-post evaluation, the maintenance of school facilities was under the purview of the Provincial Education Directorate and, as at the time of planning, was operated by school management committees that had been established in each school. The school management committees consisted of the headmaster, parent representatives, and community representatives. Although there is a shortage of university graduates among the teaching staff, the majority of teachers have a high school diploma (12 years of education).

In the case of maintenance, requests for repairs are first made to the Provincial Technical Directorate, which carries out a survey, after which an assessment is conducted by the Provincial Education Directorate based on the results of the survey and the decision of the district authorities. If it is judged that the budget allocation for the request is appropriate, the Provincial Directorate of Procurement and Services will procure the contractor to carry out the repair work under the

¹⁶ SoC refers to the sense of being able to perceive, make sense of, and act with a sense of security in relation to the various events in one's life. SoC is composed of three specific components: comprehensibility (a sense of knowing what the future holds), manageability (a sense of being able to cope with the situation at hand), and meaningfulness (a sense of satisfaction with life). Studies have shown that SoC decreases in conflict situations. In this ex-post evaluation, the evaluator attempted to identify SoC as a proxy indicator of the 'sense of security' brought about by conflict prevention and peacebuilding through cooperation projects. The evaluator used a tool called the SoC-13, which consists of 13 questions answered using a seven-point Likert scale, translated from English into the local language and administered in the form of a self-response questionnaire. In addition to the scales, the evaluator asked respondents about their views and specific experiences related to pre- and post-change to supplement the judgments.

supervision of the Provincial Directorate of Technology. In addition to the repair costs, budget allocations are made each year for operation and maintenance. According to the answers to the questionnaire sent to the Provincial Education Directorate, the school is fully staffed, and no problems have been reported in terms of repairs or the maintenance of the facilities.

3.4.1.2 Health facilities

At the time of the ex-post evaluation, the maintenance of health facilities was the responsibility of the Provincial Health Directorate. The personnel involved in the provision of services are essentially government employees, although some facilities are outsourced to NGOs for service provision. As in the case of schools, procedures are in place for the maintenance of the facilities and for any repairs that may be required. To provide these services, the Provincial Health Directorate allocates a budget to each health facility annually for operation and maintenance.

However, several challenges remain to be addressed. At the time of this ex-post evaluation, the Provincial Health Directorate reported in its response to the questionnaire that there was an insufficient supply of medicines in addition to other issues related to service provision. Regarding maintenance, the questionnaire distributed to the Provincial Health Directorate indicated that there was a shortage of maintenance personnel and that maintenance work was not being carried out properly (no details are known)¹⁷.

3.4.1.3 Roads

At the time of the ex-post evaluation, under the CCAP supported by the World Bank, the main roads are to be operated and managed by the Ministry of Public Works, and small rural roads are to be operated and managed by the Ministry of Rural Rehabilitation and Development. According to the community representatives' answers to the questionnaire, the budget for the maintenance of roads is allocated annually by the central government to provincial governments. However, if necessary, the community is asked to help by providing funds and labour. This cooperation may include unpaid work, but at the time of this study, no complaints regarding workload have been reported.

3.4.1.4 Community participation

The role of communities in community infrastructure projects and maintenance is well-defined in the CCAP, and in the case of schools and health facilities, they are placed in a position to assist in the monitoring of implementation operations and maintenance. According to the

¹⁷ At the time of the preparatory survey, it was assumed that the facilities would require periodic inspection and cleaning for several years after the completion of construction as well as periodic repairs thereafter, such as repainting of painted parts (once every 10 years) and inspection and adjustment of fittings (once per year). For equipment, it was assumed that daily inspections and simple repairs and the rehabilitation and replacement of parts would be necessary.

CCAP document, in each sector, shuras or councils will be formed, and community-based organisations will consult closely with them to oversee the provision of social services through community infrastructure.

3.4.1.5 Strengthening the system at the administrative level

To strengthen the system at the administrative level, the Capacity Building for Results Program (2012–2017) and the Tackling Afghanistan’s Government HRM and Institutional Reforms (2018–2021), both supported by the Afghanistan Reconstruction Trust Fund, have been implemented to improve the administrative system and capacity building of the ministries. Institutional reforms have also been conducted within the CCAP, such as the devolution of powers to the provincial and district levels, which have assumed a more central role.

As mentioned above, the operation and maintenance system has been organised and reformed in the CCAP, and the system is considered to be stronger than when the project was initially implemented. However, maintenance staffing is not as adequate as in the case of the Provincial Health Directorate, and in some aspects, maintenance needs are not adequately met. Therefore, the sustainability of systems and structures for the operation and maintenance of community infrastructure may be partially challenged.

3.4.2 Technical Aspect of Operation and Maintenance

3.4.2.1 Schools

According to the responses to the questionnaire that were given by the Provincial Education Directorate, all of the staff of the technical directorate for the maintenance of school facilities have a bachelor’s degree or higher and have received training in the maintenance of school facilities. Thus, the Directorate judges that there are no problems in this regard.

Regarding the quality of the teaching staff, currently, approximately 60% of the teaching staff are high school graduates (with 12 years of education), which is comparable to the average in Afghanistan, and about 70% of these high school graduates are reported to have received short-term teacher training. Ideally, university-educated teachers should be sought to fill teaching roles. In general, the shortage of human resources is not an easy problem to solve, but schools are managed in such a way that the next-best solution has been taken. Therefore, the quality of personnel involved in school management is not considered a major issue¹⁸.

¹⁸ At the time of the preparatory survey, the actual allocation of teachers was examined without any classification such as high school or university level, and the appropriateness of the allocation of teachers with a high school degree was not discussed. Therefore, the judgment was made as above.

3.4.2.2 Health facilities

Responses from the Provincial Health Directorate to the questionnaire indicated that health personnel for health services were secured. In addition, the operation of health facilities has been outsourced to international NGOs. Furthermore, the World Bank-supported Health System Enhancement for Health Action in Transition Project, the Afghanistan Sehatmandi Project since 2018, and other projects have been strengthening the capacity of health workers in primary health care facilities in all provinces of Afghanistan, including Nangarhar Province. Therefore, it is concluded that there are no major challenges for health workers in health service delivery.

3.4.2.3 Community

Regarding the community organisations responsible for the maintenance of village roads and minor repair of facilities, no problems were identified with their skills, according to the responses to the questionnaire of the community representatives as well as FPs who support community activities related to community infrastructure projects at the time of the ex-post evaluation. In addition, training has been provided to the community organisations within the CCAP.

3.4.2.4 Administrative level

As mentioned above, with regard to the strengthening of the system at the administrative level, the ‘Capacity Building for Results’ programme and other measures have been implemented to organise the system and strengthen capacity.

Regarding service provision, although the situation is not ideal, it is believed that the personnel involved in service provision have the minimum necessary competencies and qualifications and that further technical improvements have been made through training. In addition to the support provided to the administrative bodies in charge of operation and maintenance to reform their systems and strengthen their capacities, training is also provided to the local population in the CCAP. In other words, an environment has been created to strengthen and sustain operation and maintenance skills.

3.4.3 Financial Aspect of Operation and Maintenance

The overall expenditures of the government of Nangarhar are listed in Table 8. It was difficult to collect information about the financial statements of the Nangarhar Province IDLG, the Provincial Education Directorate, or the Provincial Health Directorate. The adequacy of the following allocations was not fully determined, but it was found that budgetary allocations have been made for the maintenance of infrastructure. In addition, the questionnaire responses from the Provincial Education Directorate did not report any particular challenges. Nonetheless, the questionnaire responses from the Provincial Health Directorate indicated that there were some challenges and that the Directorate received support from NGOs and the central government.

Table 12. Revenue and expenditure of Nangarhar Province (in Afghani)

Items	2016	2017	2018
A. Revenue	14,146,119,477	25,558,179,120	24,414,961,468
Tax	12,887,071,545	14,696,548,449	16,304,121,796
Social contribution	280,344,448	319,931,808	227,128,448
Aid	0	9,371,102,484	6,901,956,462
Other	978,703,484	1,170,596,379	981,754,762
B. Expenditure	14,550,005,780	15,393,431,628	12,844,640,082
Personnel costs	11,080,588,258	11,400,709,093	10,674,907,540
Supplies and services	2,218,526,795	2,667,952,659	846,857,155
Travel expenses	40,763,218	Not available	21,272,049
Food	225,746,955	Not available	99,959,695
Outsourcing expenses	1,015,593,915	Not available	444,360,485
Repair and maintenance fees	524,034,228	Not available	61,904,481
Utilities	95,448,381	Not available	21,925,569
Fuel	151,519,548	Not available	92,843,258
Equipment and materials	165,420,550	Not available	104,591,618
Grant	121,620,100	27,200,000	20,650,000
Social security fee	1,112,025,603	1,281,162,427	1,220,484,803
Other	17,245,024	16,407,449	81,740,584
C. Cash balance	-403,886,303	10,164,747,492	11,570,321,386

Source: Ministry of Finance Afghanistan government budget documents.

(<https://www.budgetmof.gov.af/index.php/en/2012-12-06-22-51-13/national-budget>. Accessed on 23 April 2021)

In addition, to allocate funds to the community for maintenance activities conducted by residents, the Maintenance and Construction Cash Grants ('MCCG') scheme is being trialed within the CCAP. The grants are intended to assist communities in promoting social integration by creating short-term employment for returnees and vulnerable groups. These grants would be used to cover the cost of labour and materials for road repairs, the maintenance of community infrastructure, and the construction of school and clinic facades, toilets, and additional classrooms.

From the above, it can be said that the budget of Nangarhar Province and the implementation of the CCAP have secured financial resources for the development and maintenance of community infrastructure, and that the budget allocation mechanism for the maintenance of community infrastructure is now more advanced than it was during the implementation of the project. However, this means that the provincial budget is not sufficient to cover the cost of the maintenance and management of the infrastructure, and some challenges remain in terms of financial sustainability.

3.4.4 Status of Operation and Maintenance

Information was collected from some of the target schools and target facilities. The responses to the questionnaire from the Provincial Health Directorate provided an overview of the maintenance of the target facilities. For the other facilities, the responses to the questionnaires given to the residents of the facilities provided information about some of the facilities.

Regarding the reported infrastructure, there were no facilities that were not in operation or

functioning, and there were no major problems.

Some minor problems were observed in terms of institutional/organisational, and financial aspects. Therefore, the sustainability of the project effects is fair.

4. Conclusion, Lessons Learned, and Recommendations

4.1 Conclusion

This project aimed to improve access to schools and health facilities by rehabilitating basic community infrastructure and village roads based on community needs, thereby contributing to the improvement of the living environment of returnees and receiving communities in the Behsud and Surkhrod districts of Nangarhar Province, Afghanistan.

The project was in line with the plan and development needs because the acceptance of returnees and the development of infrastructure such as education, health, roads, etc. were priorities of Afghanistan's development plan, and the Nangarhar Province had development needs with a large influx of returnees. In addition, the project was consistent with Japan's aid policy to Afghanistan, which aimed to support infrastructure development, education, health, and other basic human needs. Therefore, the relevance of this project is high. The efficiency of the project is fair, as both the cost and duration of the project exceeded the plan because of exchange rate fluctuations and the extension of the project period. In addition, the project improved the use of schools and health facilities; it is considered that the project contributed to the improvement of the living environment, and the effectiveness and impact of the project are high. The sustainability of the project is evaluated as fair because of insufficient staffing for maintenance and dependence on World Bank assistance, although efforts have been made to strengthen the relevant systems and improve the technology of the operation and maintenance systems of schools, health facilities, and roads.

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

4.2 Recommendations

4.2.1 Recommendations to the Executing Agency

The IDLG should recognise its responsibility as the executing agency of the project and examine the current status of proper operation and maintenance of the infrastructure developed under the project through relevant bureaus such as the Provincial Education Directorate and Provincial Health Directorate by the end of 2021. The JICA Afghanistan Office should be informed of any problems, and appropriate measures should be taken.

4.2.2 Recommendations to JICA

The JICA Afghanistan Office should encourage the IDLG to implement the above

recommendations after this ex-post evaluation.

4.3 Lessons Learned

[Detailed examination of the deployment of maintenance personnel at the time of the preparatory survey]

As reported by the Provincial Health Directorate during the ex-post evaluation, shortage of human resources for the maintenance and management of infrastructure are a chronic problem in developing countries. Even if it is judged that there is no problem at the planning stage, a shortage may occur during implementation. Therefore, the status of the maintenance and management of human resource allocation should be confirmed at the time of planning to clarify the corrective measures to be taken in the event of shortages.