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| Country Name | The Project for the Improvement of Community Access |
| Federal Democratic Republic of Nepal | |

I. Project Outline

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|---------------------------|--|----------------|--|----------------|
| Background | <p>Infrastructure development in Nepal had been particularly behind in South Asia, partly due to adverse effects of the domestic conflict lasting for about 10 years until 2006. An estimated 36% of the population must walk for at least two hours to access all-weather roads, and 15 out of 75 districts were unable to reach the district capital by car. In addition, about 60% of the main roads and most of the local roads were long-term impassability in the rainy season due to unpaved roads and undeveloped bridges.</p> <p>The regional infrastructure improvement was also an urgent issue from the perspective of reduction of domestic disparities, which were considered to be the cause of conflict.</p> | | | |
| Objectives of the Project | To secure traffic throughout the year by constructing suspension bridges, truss bridges, reinforced concrete bridges, and continuous box bridges at crossing river points that were located on 11 rural roads along the Sindhuli Road in the Central Development Region of Nepal and had suffered from road closure for a long time due to flooding in the rainy seasons, thereby contributing to securing access of the local population to basic services and markets | | | |
| Contents of the Project | <ol style="list-style-type: none"> 1. Project Site: 32 bridges in five districts along Sindhuli Road (Mahottari, Sindhuli, Ramechhap, Kavrepalanchowk and Sindhupalchowk) 2. Japanese side: Construction of river-crossing structures composed of suspension bridges, truss bridges, reinforced concrete bridges and continuous box bridges. 3. Nepali side: Site clearance following the compensation of private residents along the right-of-way, tree-cutting works at the site including transportation and management, relocation of affected public utilities on-ground/overhead and those buried below the proposed road and others | | | |
| Project Period | E/N Date | March 5, 2010 | Completion Date | March 31, 2016 |
| | G/A Date | March 19, 2010 | | |
| Project Cost | E/N Grant Limit / G/A Grant Limit: : 990 million yen | | Actual Grant Amount: 990 million yen : | |
| Executing Agency | Department of Local Infrastructure Development & Agricultural Roads (DOLIDAR), Ministry of Federal Affairs & Local Development (MOFALD) | | | |
| Contracted Agencies | Main Contractor(s): 12 local companies Main Consultant(s): NIPPON KOEI CO., LTD Agent: Japan International Cooperation System (JICS) | | | |

II. Result of the Evaluation

< Special Perspectives Considered in the Ex-Post Evaluation >

Regarding the quantitative effects, In the ex-ante evaluation, the target value set to be 2013 which is one year after the completion of the project. However, the project period was significantly extended and the project was completed in March 2016, so the target year was confirmed in 2017 which is one year after completion

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| 1 Relevance |
| <p><Consistency with the Development Policy of Nepal at the Time of Ex-Ante and Ex-Post Evaluation></p> <p>The project has been consistent with the development policy of Nepal. At the time of ex-post evaluation, rural infrastructure development planned under the “Interim Three-Year Plan (2007 to 2010)” included improvement of rural roads (7,000km), construction of bridges (11km) and suspension bridges (1,000 bridges). At the time of ex-post evaluation, balanced development and expansion of road network is one of the goals of the “15th Plan Approach Paper” (2019/20-2023/24) for the road transport sector.</p> <p><Consistency with the Development Needs of Nepal at the Time of Ex-Ante and Ex-Post Evaluation ></p> <p>The project has been consistent with the development needs of Nepal for the community road development. At the time of ex-ante evaluation, access to the all-weather roads were very limited in the rural areas as described in the background above. At the time of ex-post evaluation, the road density in the target areas has been still far behind the more urbanized areas, and the number of bridges has been still limited.</p> <p><Consistency with Japan’s ODA Policy at the Time of Ex-Ante Evaluation></p> <p>The project was consistent with Japan’s ODA Policy to Nepal. Socio-economic infrastructure development including transportation is one of the prioritized areas of ODA to Nepal¹.</p> <p><Evaluation Result></p> <p>In light of the above, the relevance of the project is high.</p> |
| 2 Effectiveness/Impact |
| <p><Effectiveness></p> <p>The project has achieved its objectives. The project attained the target of quantitative effect, although precise data is not available. The number of days for road closure during the rainy season has decreased for almost all the roads where the bridges were constructed. The total average number of closures as based on the interviews with local people for 2018 is around 18 days, which is less than the targeted one month.</p> |

¹ Source: ODA Country databook 2010

As to the expected qualitative effect, traffic and safety have improved, according to the local people and officials of the Infrastructure Development Office (IDO) of the provincial government. Especially in rainy season, since the locals used to be forced to directly cross the rapidly streaming rivers before the construction of the bridges by the project, which posed danger. After the construction of the bridges, the river crossings in the rainy season has been safer due to the reduction of the possible wash away of the vehicles and people during crossing the river.

From the completion until the time of ex-post evaluation, the constructed bridges have been in good conditions and utilized properly, though one bridge was washed away by heavy flood. The bridges have been utilized as the traffic increased according to the local people who reside on the road alignment. However, future utilization for the 14 bridges in Sindhuli district are questionable, as two-lane bridges will be constructed just near those 14 bridges. In April 2016, the Government of Nepal decided to upgrade Dharan-Chatara-Gaighat-Katari-Sindhuli-Hetauda as a road having 15 meter + 15 meter highway (2 lane) and upgraded from rural road to Strategic Road Network (SRN)². Then, at the time of ex-post evaluation of the project, Department of Roads (DOR) was constructing double lane bridges just near the 14 one-lane bridges constructed under the project. According to DOR and DOLIDAR, there was no formal handover of the bridges under the project from District Development Committee (DDC)/DOLIDAR to the DOR. Similarly, the DOR also did not share the construction plan of the two lane bridges with JICA.

<Impact>

Positive impacts on better access to education, health services and markets have been observed according to the interviews with the local people and the IDO officials. Children have benefitted from better access to their schools due to the opening of the road. It has been very convenient for the people to access the hospitals as the villages do not have hospitals but only health centers. Even during the rainy season, people have easier access to hospitals in the nearby towns/cities or to Kathmandu. According to the local people, the transportation of agriculture products has improved. With the better access, some of the people who previously migrated to the cities and to foreign employment are returning back for farming, livestock production and small road-side business.

No negative impact on natural environment was observed, according to IDO. Although most of the interviewed local people think that the safety has improved, in some bridges, some local people claimed that the protection work (retaining wall, protection to the bridge and the surrounding areas by gabion boxes) was not enough. There were some land acquisition done in four bridge sites. However, issues on land acquisition and resettlement did not occur under this project. The land was provided by the landowners voluntarily. DDC at that time was involved in the negotiation with the local people. And after coming to consensus, the landowners donated the land. The project gave some part of the petty works to the affected people and also provided jobs. As there is no DDC after federalization in Nepal, further information was not available with Department of Local Infrastructure (DOLI) or IDO.

Positive impacts have been observed in terms of gender aspect. The life of the women has become easier as it is convenient for them to send their children to schools, take their family members to hospitals and health posts. Similarly, the access to the market for their agricultural products and for their daily essential needs like salt, spices, clothing has become easier. Most of the roadside shops are owned and operated by women. In this respect, they had more income generation opportunities. Some of the men who had migrated returned home so that the women could be with their husband and family members.

<Evaluation Result>

Therefore, the effectiveness/impact of the project is high.

Quantitative Effects

| | Baseline (2009) Baseline Year | Target (2013) 1 Year after Completion | 2016 Year of Completion | 2017 1 Year after Completion | 2018 2 Years after Completion |
|---|-------------------------------------|---|-------------------------------|------------------------------------|-------------------------------------|
| Number of days for road closure during the rainy season (Total of 11 roads) | 417 days | Less than one month | NA | ~20 days | ~18 days |

Source: Interviews with 10 local users/residents in target five roads, IDO officials and DOR officials. As it is not based on actual data, there could be some minor differences.

3 Efficiency

Although the project cost was as planned (the ratio against the plan: 100%), the project period significantly exceeded the plan (the ratio against the plan: 345 %). The strict time schedule designed by the consultant and the low capacity of the local contractor was the reason for the delay in the construction work. As for outputs, although construction of 32 bridges were the number of bridges finally agreed to construct, the project was terminated with four bridges unfinished, due to the earthquake which hit Nepal in April 2015. Nepali side took over the construction of four bridges. Among them three bridges were completed by using the materials procured under the project in October 2018, and one is still under construction.

Therefore, the efficiency of the project is fair.

4 Sustainability

<Institutional Aspect>

Although DDC was expected to be responsible for Operation and Maintenance (O&M) of the bridges constructed under the project, DDC has been dissolved after the federalization of Nepal. Instead, the Ministry of Physical Infrastructure Development (MOPID) at the provincial level and the IDO under the provincial government at the district level (each IDO looks after around 2 districts) is responsible for O&M of the bridges. However, they are new organizations and the organizational structure of IDO is not clear about O&M. Therefore, O&M system needs to be strengthened, which the MOPID and IDO are considering to do in the future. Each IDO generally has four engineers and six sub engineers under the Senior Divisional Engineer. As each IDO has to look after two districts.

<Technical Aspect>

Although some technical staff is assigned, their nature is more of civil engineers and not experts on bridges. As the bridges have been new,

² SRN are National Highways and Feeder Roads managed by the Department of Roads under the Ministry of Physical Infrastructure and Transport, and are the main road transport arteries.

there has been not much maintenance and repairing needs to be done at this moment. There were no training system or maintenance manual at the time of ex-post evaluation. However, as IDO is a new organization and in a very premature stage, further policy and strategy to strengthen the technical capability of IDO is on-going.

<Financial Aspect>

Budget has been allocated to maintenance for roads including bridges (There is no classification of budget specifically allocated bridges). The budget is basically calculated based on the road length. Overall, the finance for maintenance has not been a problem as the provincial government will be supporting IDOs as per the need. However, if there are damages to the bridges due to disaster and other reasons, then, additional budget might be necessary.

Budget of road maintenance allocated to IDO

(unit: Nepali rupee)

| MOPID/IDO | Mahottari | Sindhuli | Ramechhap, | Kavrepalanchowk | Sindhupalchowk |
|------------------|-----------|-----------|------------|-----------------|----------------|
| Fiscal year | | | | | |
| 2018/2019 Budget | 7,500,000 | 3,737,684 | 3,737,684 | 13,600,000 | 13,300,000 |

<Current Status of Operation and Maintenance>

There has been no inspection system existing at the time of ex-post evaluation, as the organization is new. However, the MOPID/IDOs will be considering the formulation of the maintenance system soon.

<Evaluation Result>

As the organizations are still new, some uncertainties have been observed in terms of the institutional, technical and financial aspects. Therefore, the sustainability of the project effect is fair.

5 Summary of the Evaluation

The project has achieved its objectives, as the project attained the target of quantitative effect of “the number of days for road closure during the rainy season”. As impacts, access to education, health services and market has improved. As for the sustainability, slight problems have been observed in terms of the institutional, technical and financial aspect. As for the efficiency, although the project period significantly exceeded the plan, the project cost was as planned.

Considering all of the above points, this project is evaluated to be satisfactory.

III. Recommendations & Lessons Learned

Recommendations to Executing Agency:

- MOPID and IDOs are recommended to develop Operation and Maintenance system including financing provision, prepare operation and maintenance manual, assess the staff requirement based on the operation size of the specific IDOs, and build the capacity of the staff through trainings and OJTs.
- The change of the Government policy on the status of the Rural Roads to SRN for the two roads where 14 bridges were constructed under the project was decided. However, the construction of the two-lane bridges (along the existing JICA supported bridges constructed under the project) which was designed by DOR was not timely informed to JICA. DOR, DOLI and Ministry of Finance (MOF) need to share the information on new projects, which will affect the existing projects supported by JICA. And furthermore, the DOR and IDO needs to coordinate with JICA to mitigate the negative effects on the usage of the existing bridges by construction of the two-lane bridge. At the same time, the DOR and IDO are recommended to maintain the existing JICA supported bridges properly and keep them in good condition in order to utilize them.

Lessons Learned

- The projects implementation took much longer time than estimated. The project construction duration was estimated based on the contractor with high level of skills and determination. Therefore, the assessment of the local contractors’ ability was not efficiently analyzed. For new projects, which mobilize local contractors, consultant’s recommendation and plan should be carefully assessed by JICA and the counterparts considering the local situation like the capacity of local contractors, realistic construction plan based on the seasonal variation and cultural and social aspects.



Dhamile Khola Bridge (Sindhuli) linking Sindhulimadi and the rural areas



Sukhajor Khola Bridge (Ramechhap) linking Manthali, Ramechhap and the western part of Okhaldhunga district

