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Original Paper

Road Access under Thirty Two Bridge Constructions in Karnali Highway: An Analysis of Socio-economic Impact in Community

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Abstracts

The ground conditions of Nepal, road transport is not possible in all places. Without roads, development cannot accelerate and economic and social changes cannot occur. Construction of bridges to connect roads has become a very important issue. After the bridge is built on the road, the access of road transport to the settlements in those remote places becomes easier. It plays a role in making the daily life of the people living in that place easier as well as including the contribution of women in economic development. The bridge construction program is anticipating limited adverse impacts of land acquisition and resettlement confined to the area near the bridge works. Based on experience, adverse social impacts are likely to be temporary during the project work, such as temporary land leasing for the contractor operations. Access to the Bridge helps the beneficiaries. The construction provides a bridge, which provides for communities to access all weather. The bridge has accessibility, reducing travel time and improving access to economic centers and social services, whereas the community is easy for their livestock. They can easily market their agricultural products on the market. The impact of these bridges would increase the internal and external tourism market as well as assist those provinces. It is believed that after the construction of the bridge, the standard of living of the citizens living in that place will improve and the agricultural products produced by them will find the market easily. By saving time on the one hand and helping, in financial gain, on the other hand, the bridges constructed here will have a positive impact on the lives of the people.

Keywords

bridge Project, quality control, social perception, social impact, economic condition

1. Introduction

Karnali province has China to the north, far west province of Nepal. The province consists of 54 rural and 25 urban municipalities, and has about 300000 households. By geographical spread, it is the country's largest with an area of 30211 km. sq, covering nearly one fifth of Nepal's total area. On infrastructure, the strategic road network covers 1132 km, of which 51 percent is black, top, 35 percent is earthen and 13 percent is graveled.

The highway of Karnali is a vital transport link between two regions in Nepal. It links the towns of Jumla and Surkhet. According to Wikipedia, "a value chain analysis by Apple from Jumla", and the intervention strategy indicated that more than 85 percent of the Karnali highway is still unsafe as of July 2011. Due to the heavy monsoon rains, it was closed due to landslides from heavy monsoon rains and crops were destroyed by incessant rain. There is a pressing need to provide a functional road system in the area, made more urgent by current food prices and shortages, highway energy costs and social and health needs. Between 60 to 75 percent of children fewer than five are chronically malnourished, and up to 64 percent of the population lives in poverty. The Road Sector development project of the World Bank has helped the department to construct road safety barriers as a pilot project. Development economists have considered physical infrastructure to be a requirement for industrialization and economic development, where physical infrastructure in general, consists of two parts: economic infrastructure such as telecommunication, roads, irrigation and electricity; and social infrastructure such as water supply, sewage system, hospital and school facilities (Murphy, Shleifer, &Vishny, 1989).

The bridge project enhanced the truisms development and promotion to Rara which is the biggest lake. But by the all-weather road, this tourism has also been affected as the only road linking the area is a dilapidated condition. Road sector development projects are fair weather road projects which provide networks and increase connectivity. Upgrading of earthen road facilities to fair weather motor-able roads through rehabilitation, upgrading to bituminous or sealed gravel/otta seal level depending upon the economic importance as well as the traffic volume plying in particular road sections was to facilitate mobility of people and transportation of goods from the market in remote areas and vice versa. It helps to foster the socio-economic development of the remote rural areas of hilly regions of the mid-west and far west. The Project Appraisal Document (PAD) of the second additional financing is for the residents of the beneficial districts to have all-season road access, thereby reducing travel time and improving access to economic centers and social services.

Road Sector Development Project (RSDP) is one of such upgrading projects implemented by the department of roads, ministry of physical infrastructure and transport, the Government of Nepal with assistance from the international development association (IDA). One of the main objectives of the RSDP was up-grading of about 700 km of existing dry season roads to all season sealed pavement connecting eight district headquarters-namely Darchula, Baitadi, Dailekh, Kalikot, Bajhang, Jumla, Musikot and Jajarkot. However, there is still a need for implementation of slope stabilization measures on various areas of roads, including reinstatement/upgrading of different short stretches of unpaved roads and about

thirty-two bridges are under construction in order to make these roads all-weather, motor-able roads throughout the year.

The 232 km long karnali highway stretched from Bangsimal in Surkhet to Khalanga in jumal. The then Prime Minister Girija Prasad Koirala laid the foundation stone of the highway in 1992 but the track was opened only in 2007. This road is a fair weather road. It may have closed due to heavy monsoon rains and the peoples of that area have faced many difficulties during the rain seasons due to absences of bridges. The projects (construction of new bridges and slope stabilization works) omit this gap and convert all-weather roads from fair weather roads. So, the beneficiaries welcomed the project by heart and seem happy that they are now rid of those difficulties and have bridges and all weather roads. Access roads are the facilitated of the people for their livelihood as well as social service and economic development. The main highway was made of blacktop and the rural connectivity road was in gravel. During the field visit, dozens of old and brand new vehicles such as trucks, buses, temps, rickshaws and cars passed through the project area, which means people and other livelihood goods are imported and exported. The dozens of vehicles passing shows, the highway is going on trafficking. For the facilitation of education such as primary education, it is near one of all local beneficiary communities.

After completion of thirty-two, the bridge has been accessed to the people at that area has socially changed all weather of road. Thus, the socio-economic survey team asked the participants about their knowledge of this project. Thus, the survey teams were quired about the knowledge about the project though the data shows that 85.93 percent households are aware for this bridge project and its intervention whereas 14.06 percent households were not aware about this project and its invention. The table shows in detail people's perception of this project.

2. Statement of the Problem

The Karnali highway is said to be one of the most dangerous roads in the world. The police department has banned driving at night on this road due to the high number of fatal accidents. The road is very narrow even though it is a two-way road. The distance from Bangesimal in Surkhet to Jumla is 232 km. At hundreds of places on the highway, passengers get scared and worried. In the kalikot section alone, at more than a dozen places, such as Gaganekhola, Jyanmarakobhir, sunarkhola, pili, ranchulibihani River etc, the vehicles get tilted. Similarly, some road sections are covered by landslides.

On this karnali highway many more bridges need to be constructed, such as kumu River, kabeli River, khil River, khoda River, Tila River, which will make all weather roads. The beneficiary perception survey focuses on understanding the key social sensitivities in the directly affecting area (RoW/500m radius) along with the area of influence of the RSDPAF-II project. It is also required to study the beneficiary perception information of Slope Stabilization and Road Improvement Works. The coverage of the planned study is envisaged to encompass some 640 households with approximately 10 percent having taken a simple random method which comprises 64 HHs along all RSDP AFII roads and purposely choosing the number of new bridge construction sites covered under the project.

Standard modalities and survey tools have been designed and implemented by the consultant accordingly including household surveys, focus group discussions, key informant interviews, and observation protocols. The construction of the bridge brought happiness to the community but it was not completed for a long year, which has been a big social problem in community. Due to the lack of road transport, the daily life of the people of Karnali is very difficult. They cannot even sell their agricultural produce on the market. On the one hand, there is no market for the agricultural products produced due to the fact that they are forced to pay high prices while purchasing the materials they need. It is expected that these problems will be solved when the road can be connected via an under-construction bridge.

So, the studies try to get the answer to these questions, such as how the Karnali Highway Bridge increased the development to get its beneficiary? Why perception of the thirty-two-bridge construction slope stabilization? How do people enhance the local economy by construction? How can the project provide job opportunities in the local community? People get participation for main stream? What are the environmental and social issues arising during the bridge construction?

The project has accessibility of weather road (after completion of the thirty-two bridge) and increased connectivity of short route vehicle from the local community to Karnali highway. It establishes a baseline on the status of access as perceived by the project beneficiaries and enhanced access as reported by beneficiaries with the rationale of capturing beneficiary perceptions as part of citizen engagement-focusing primarily on road upgrading, slope stabilization and new bridge construction works that provide beneficiaries with step changes in accessibility. It can achieve the goals of socio-economic development and increased trade in agricultural production, enhancement of the local economy with community engagement from new infrastructure.

3. Review of Literature

The Karnali highway is a track of a combination of narrow stretches, landslides, rocks, flooded parts, huge drops, steep cliffs. Extremely narrow lanes, lack of awareness among the public and driving, unattended cattle on the roads, among other reasons, have made it a risky road to travel. In the month of the year 2011, a report came on the highway, which states that almost eighty-five percent of the most difficult, dangerous and scary roads for riders. During the monsoon times, this highway becomes more dangerous, and the reason behind that is the increase in the number of landslides and other hazards. Accidents along this narrow highway have in fact become a regular affair. At least fifty people die each year on this road. This road definitely comes with an unlimited number of scary moments.

The highway runs hundreds of vehicles every day. It does not have enough traffic safety warning signposts along it for vehicles and pedestrians. Along with that, there are many shortcomings in the structure which should have been considered during the bridge construction. The lack of a well-functioning highway has increased the risk of accidents on the highway. Mainly, the road sections of Kalikot and Dailekh is in worse condition. It is very challenging to control road accidents along the highway, mainly due to difficult terrain and poor road conditions. Vehicles carrying passengers beyond

capacity and drivers flouting traffic rules are some of the other leading causes behind the high number of accidents along the highway.

The Karnali region is one of the underrated provinces in the least developed provinces in Nepal. Macro-economic theories and empirical studies clearly characterize the aggregate impact of infrastructure on an economy. But micro studies conducted so far have focused on the connection between infrastructure and certain types of poverty outcomes such as income, poverty, health, education, and other individual socioeconomic outcomes. The positive productivity effects of physical infrastructure development can be found even in rural areas and agricultural sectors (Jimenez, 1995; Fan & Zhang, 2004; and Zhang & Fan, 2004). There is enhanced entrepreneurial activity, a sharp decline in freight and passenger charges and improved services as a result of investment in rural roads (Bonney, 1964).

Its impact is likely to be relatively greater in the production of highly perishable agricultural products such as fresh vegetables, milk, eggs, poultry, fresh fruits, etc. A better network of roads will expand the distribution of agricultural goods as well as open up additional opportunities for agricultural trade (Inoni, 2009).

The Government of Nepal initiated upgrading of existing earthen roads to all season bituminous sealed pavements to increase accessibility and connect all district headquarters. As of second component, the institutional strengthening and policy reform component. Specifically, this operation was conceived to support the access enhancements that were left over from the earlier road sections. According to Wharton (1967) agricultural infrastructures are categorized into capital intensive, like irrigation, roads, bridges [ii] capital extensive, like extension services and [iii] institutional infrastructure, like formal and informal institutions. Infrastructure, such as irrigation, watershed development, rural electrification, roads and markets, in close coordination with institutional infrastructure, such as credit institutions, agricultural research and extension, rural literacy determines the nature and the magnitude of agricultural output.

World development report in 1994 examines the link between infrastructure and development and explores ways in which developing countries can improve both the provision and the quality of infrastructure services. In recent decades, developing countries have made substantial investments in infrastructure, achieving dramatic gains for households and producers by expanding their access to services such as safe water, sanitation, electric power, and transportation. Even more infrastructure investment and expansion are needed in order to extend the reach of services - especially to people living in rural areas and to the poor people residing on the karnali highway. A World Bank study (1997) estimated that 15% of the agricultural produce is lost between the farm gate and the consumer because of poor roads and inappropriate storage facilities alone, adversely influencing the income of farmers. Poor rural road infrastructure limits the ability of the traders to travel to and communicate with remote farmers of karnali highway areas, limiting market access from these areas and eliminating competition for their produce.

The key shortcomings of the management of the country's social impacts, which are also relevant to the bridge program, are national programs do not provide adequate focus on vulnerable communities. For

instance, the development of vulnerable community development plans is only limited to internationally financed operations; existing laws of Nepal do not have provision for assistance to squatters and compensation amounts required for restoration of livelihoods and replacement costs of properties. However, in many cases, such assistance/compensation are provided informally; Nepal Practices, especially in the case of community projects (e.g., schools, local roads), the notion of land donation. This is more relevant in the case of projects in rural areas.

The project considered human trafficking during the bridge construction. Trafficking in people is a global phenomenon and one of the most prevalent crimes in the modern world. It takes a heavy toll of hundreds of thousands of victims annually, and indiscriminately affects stable democracies, countries in transition, and societies immersed in war. International organizations, governments, and non-governmental groups have recognized human trafficking as a contemporary form of slavery and, in certain circumstances, a crime against humanity. The interim Constitution of 2007 guarantees basic human rights, including freedom from human trafficking, exploitation, forced labor, slavery, and servitude, and the right to constitutional remedy.

Nepal has promulgated a standalone anti-human trafficking law in the form of the Human Trafficking and Transportation (Control) Act of 2007 (HTTCA) and the Human Trafficking and Transportation (Control) Rules of 2008 (HTTCR). Human trafficking in Nepal occurs both internally and manifests itself through many hidden pockets which have not been explored and addressed thoroughly. It is a highly complex, cross-cutting issue interlinked with poverty, unemployment, gender discrimination, social exclusion, globalization, internal displacement, and foreign migration. Human trafficking is modern-day slavery and involves the use of force, fraud, or coercion to obtain some type of labor or commercial sex act. Nepal is mainly a source country for men, women and children subjected to forced labor and sex trafficking.

Nepal aspires to graduate from least development country status by 2022 and become a middle-income country by 2030. In Nepal, most of the plans had poverty alleviation as the main objective was not as fruitful as expected by the concerned authorities. The objective of the 14th periodic plan, FY 2017- FY 2-19 is to facilitate socioeconomic transformation and poverty reduction through high economic growth, with productive employment and equitable distribution of resources. The plan sets a target of reducing headcount poverty to 17 percent by FY 2020 from the estimate of 21.6 percent in FY 2016, and achieving annual gross domestic product growth of 7.2 per annum, of which non-agricultural growth is estimated at 8.4 per annum. The country partnership strategy for Nepal, 2013-2-17 is in line with the nation's development goals and aims to enhance global local connectivity to facilitate regional balance and inclusive growth, and prioritizes investment in the transport sector. This is to be complemented by investments in customs modernization, coordinated through the South Asian economic cooperation program. The 15th plan (2019/20-2023/24) also aims to reduce poverty and achieve sustainable development in the bridge project and road connectivity also.

The rapid development of scientific disciplines and technologies in the industrialized society contributes to the growth of population income and population growth. The process of industrialization began in Western Europe in the 18th century, mainly in Great Britain, which increased agricultural efficiency. This has led to population growth and shifting the unemployed to cities where labor resources are needed in the production process. Technology has developed remarkably in the process of industrialization in the 19th century. After the invention of the combustion engine, electrical and electronic equipment became widely used. Manufacturers began to focus on more mechanized and easy transportation. Road transportation can be joined by each other from bridge to connectivity for social change (Khanal, 2022). There is a long practice of a centralized governance system; kings, Rana's regime and political parties managed the governance from the top level. In order to make the people participate in the governance system, the political division of the country was based on 14 zones, 75 districts, five development zones, 58 towns and 3915 village development committees. A policy of decentralization was adopted under the Local Self-Government Act 1999 to transfer power to a centralized governance system. This is identifying that road construction can play an important role for local development and infrastructure building by itself from federal development (Khanal, 2023).

The World Bank is currently working with the government of Nepal on a project to ensure all road access in eight hill districts in the far western and mid-western of Nepal. The road sector development project, funded by IDA, the World Bank's fund for the poorest, aims to connect the district headquarters, so Darchula, bajhan, baitadi, kalikot, jumladailkeh, jajakot and ruku to the country's strategic road network. "Access to all weather roads is a key determinant of development of outcomes in Nepal", says Farhad Ahmed, Senior Transport Specialist at World bank Nepal. "All-season roads in these districts will benefit over 1.4 million people by reducing travel time and providing access to markets and schools and hospitals." According to the road division office, Jumla, the 26 kilometer road from kalikot to serabada is filled by landslide debris. 18 kilometers of the total 93 kilometers of road from Nagma to Gamgadi of kalikot was destroyed by the landslide last year.

4. Research Methodology

This task has been started and developed a logical framework which makes it clear to carry out the details about the baseline survey study by desk review. All relevant data from the various institutions and carried out field visits for primary information which fulfills the data gaps. The relevant reports, guidelines manuals and maps got from the various concerned agencies and institutions which were supported to develop the methodology.

Sampling Size Focus Group Discussion: As guided by the TOR, the census survey has been carried out in 500 m. radius of the bridge location area. A simple random sampling method has been selected for the study. The women, poor and excluded group has been included as per the concept of citizen engagement. The total universe was 170 households within the 500 m. radius of the Bridge locations and 17 were sample-sized households at 10 %. This focus group discussion has been done with women and certain

beneficiary groups of people to check their thoughts and perception regarding development activities, community participation and other relevant parameters of sustainability. The necessary support and other relevant information have been collected from the focus group discussion which was taken from concerned stakeholders, women's groups and community groups.

***Analysis and Reporting of Data*:** All the collected field data has been first made neat and clean and entered into software to prepare a comprehensive data base for further analysis. Spreadsheets and MS access software, as appropriate, have been used to store and analyze the data. Citizen engagement is one of the basic tools for finding information about citizen participation in the project during the design and implementation phase. From the field visit and community consultation, the research team, local stakeholders, local people and key informant participated in project intervention time. Skill workers and non-skill workers were also working in project intervention time. The stakeholder explained that when project intervention was started in pre-construction, during the construction phase, there would be good involvement of citizens and they were very enthusiastic about this project but not involved during the design phase.

Additional discussion raised the issue of dust, water pollution and air pollution from this project. So that they were worried about how can this project aware of the environmental hazards and raised issued when the impact is unavoidable, the project will be compensated for the loss. During the consultation with the project, it affected beneficiaries' community communities; they were satisfied with the standard compensation rate being offered to them by this project. The community was happier with this compensation. Some affected people are still not getting compensation for their documentation and technical problems. As per the discussion, many affected people have used this compensation money to buy more land elsewhere, improve their homes and set up new businesses too.

5. Finding & Discussion

The construction provides a bridge for the community to access in all weather. It has accessibility, reduces travel time and improves access to economic centers and social services, whereas the community to passage easy for their livestock, their own vehicle and they can easily market their agricultural product at the market. Most of them were happier with roads and hoped for travel time, access to social service facilities as well as economic development in the project area.

The people of the community wanted to see the importance of women's participation in economic activities as well as the expectation of social development and change. The socio-economic status of women greatly enhances the progressive development of a nation (khanal, 2021).

Socio-economy condition: There were covers the 500-meter radius of the proposed Thirty two bridge locations and slope stabilization works. The social-economic baseline data screening and baseline status/information collection of social parameters was carried out along the bridge and slope stabilization alignment of the Karnali highway. Other relevant information for the socio-economic baseline study was collected from secondary data.

The total sample HHs is 64 along the Karnali Highway Bridge. The surveyed households of the bridge areas constitute 282 populations whereas 51.77% male and 48.23% female population. Women are 10 percent of households. The age of the surveyed sample population shows that the majority of the population, 66.43%, fell in the age group of 15 to 60 years, which is considered into the most economical and earning age group. Similarly, about 20.9% of the population are dependent on them and aged between 5 to 15 years.

The 2011 census listed 125 diverse ethnic groups, each with its own distinct language and culture. The major groups are as follows: Chettri, Thakuri, Brahmin- Hill, Magar, Kami, and Damai. The survey data revealed that the project areas of ethnicity groups are multi-ethnic composition, whereas Brahmin/Chettri, Janjati and dalits. Bramin/Cheetri/Thakuri are the dominant groups in this Karnali highway bridge area. Among the total households surveyed, 71.86 percent are Brahmin/Kshetri/Thakuri, 12.5 percent is indigenous and 15.65 are Dalit.

Education also plays a vital role in society. For the being of business or agriculture, education plays a role in the management of business and agricultural production. Thus, a socio-economy survey shows the education status of the Karnali highway bridge population area education status of the highway is 7.34% of the populations are illiterate, 6.03% are under age and 0.71% is not aged to school, whereas 85.92% are found literate. Among the literate population, 14.54% just read and write, 21.28% have passed class 1 to 10 and 13.48% have passed Intermediate education. The occupational distribution of surveys shows that the majority of project area populations are dependent on agriculture, small businesses and services. Sample households were found to depend on more than one source of income in the surveyed households. Besides agriculture, they have done different professions, such as business, service (government &non-government) organizations. Even though, the agricultural production is not enough for the food sufficiency level. The food sufficiency status is very low because of their agricultural production. The surveyed data shows more than 77.27 % of the households have not for food sufficiency level in the project areas.

They don’t have enough food sufficiency level hence they survive from different income sources. However, the main source of income for people relies on trade and business, services with government & non-government organizations and remittances.

Nepal is an agricultural country. Even though so, the agricultural production is not so good in the project area. They have dependencies on small businesses, tea dependents and restaurants, wages labor inside and outside the country. Among them, data revealed that around 30 percent of the population produces Paddy/Maize/Wheat from agricultural production. Agricultural practice is still at a substantial level. It does not commercialize agriculture. Many households in project areas were facing a food deficit problem, which is the main problem, as well as along the Karnali highway bridge alignment area. Though social survey data revealed how their daily livelihood situation and food deficiency are coped up by them. They coped for their livelihood by doing work in Delhi, Mumbai and other places in India and other foreign countries. These conditions are to be considered for their future and provide different activities to change

and make their better livelihoods. Nepal has made some progress over the years in raising its health status, particularly through expansion of immunization for vaccine-preventable diseases and priority disease interventions (Who, 2006a).

The national health policy emphasizes equality and social justice. Underserved and marginalized people have been a priority in health services. However, there is high health inequality between the rich and poor and urban areas and rural areas in terms of access and utilization of health status. Therefore, the survey team questioned what exact health scenario was seen. Thus, social surveys' queries were made to find out the distribution of households who have used to visiting for free health services, visiting health post, hospital, homeopathic centers, faith healers and TBA, health clinics and midwife.

In order to assess the prevalence of the diseases, the diseases were classified as fever, cold, malaria, dysentery, diarrhea, typhoid, jaundice, pneumonia and others. As reported, the other diseases included fractures, backbone problems, stomach pains, uric acid, stones, skin and neurons. Various communicable and non-communicable diseases are prevalent in the survey area. Most common diseases are reported as a fever, cold, jaundice caused by water. And other notable diseases were skin and bone related. The nature of the diseases was more water borne diseases. Therefore, the occurrence and prevalence of diseases in the area needs to be awareness and practices on personal health, hygiene and sanitation. Also, environmental and sanitation needs to be considered.

HHs field survey December 2021 infrastructure and livelihood for all weather roads: Monsoon season is the most harassing season to travel on this highway. Slow and big river streams are responsible for damaging most of the road in the hills. Stream protection and over bridges will be made on all weather roads for this highway. Every year, internal and external tourists will visit Rara Lake and get enjoyment enjoying adventure enthusiast travels.

During the monsoon season, the small streams destroy the stream; hence this bridge makes an all-weather road which improves the living standards of the people's increased economic activities. Due to all weather roads, the prices of goods in the local markets have also decreased due to the bridge connectivity (Said by Dhanbir Malla of Kalikot).

Limao and venebles (1999) in a study of transportation costs in sub-Saharan Africa showed that roads are significant determinants of transportation cost, and that when a region is land locked, transportation cost increased by 50 percent. They reported that most of Africa's poor trade performance was the result of weak infrastructure. Hence, this bridge construction of highway would reduce the transportation cost for the community and enhance their livelihood too. The communities are dependent on main trades such as restaurants, guest houses and other small businesses, while there is under representation of other economically productive options. It seems prudent to enhance the livelihood potential of the main trades through skill development, linkage development and financial support for productive enterprises due to all weather roads.

Employment opportunity and local economic improvement: The people from the project area were asked about the proposed bridge Project. Most of the participants responded that they were aware of

project (RSDPAF) intervention and got employment opportunity related to various skilled and unskilled opportunities. But they have the same expectations that this project (RSDPAF II) would be provided with an employment opportunity, skillful training and an income generation program.

Birkha Bahadur Shahi of Photugaun in the same rural municipality said he could earn around Rs 500,000 a year by working on the corridor project. Not only Anga Bahadur and Birkha Bahadur, but around 300 people from Sorukot have gotten employment opportunities in their village through the project. Ratan Bahadur Shahi, president of Kalikot Chamber of Commerce and Industry, said that markets had been extended and business activities increased with road connectivity. "The goods are available in the local markets at the same price as in the district headquarters", said Shahi.

The socio-economic survey team asked to the participation about the Improvement in economic status by this project. Then the survey data shows that **52.94** percent households are said that this bridge project do not improvement and its intervention whereas **29.1** and **17.63** percent household were said that do some improvement and improvement by this project and its intervention. The table shows in details about people perception about this project.

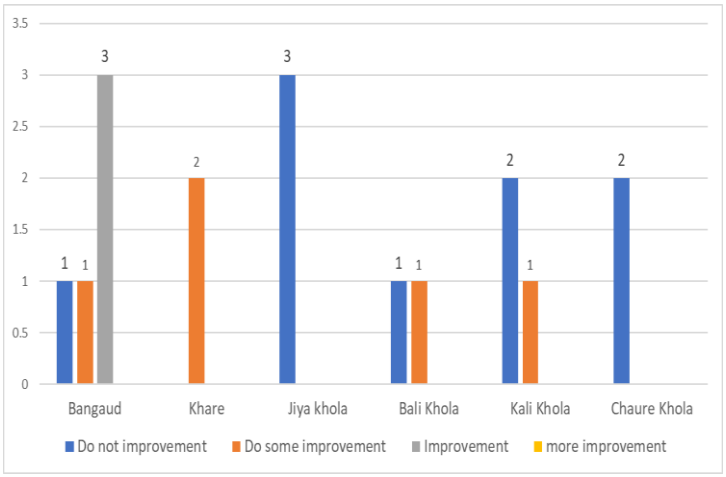

Figure 1. Improvement in Economic Status of the Community

The social survey team again research about the duration of travel time in educational services, financial institutions and market centers are located in project areas. The completed bridge areas people thought and feeling were good.

Attendance of bridge areas people participants was reported that they were not involved any local community organization. This implies that the bridge areas households are not part of the local community organizations. Therefore, there is needed to be press underpins for them in social mobilization and engage in community organization as much as possible.

Health and Hygienic Environment: During construction time people feel that it may cause some common diseases such as diarrhea, the commonest water-borne disease, followed by typhoid and malaria. This raises issues: the source of water available and this is likely to cause problems with their health. So

the entire project team should think about it and try to mitigate such issues with applicable measures. Regarding data revealed that there is a need to be initiation of an awareness program for the communities to learn about safe health and hygiene practices, including water treatment and hand washing practices.

Project in Deadline: The rainy season is going to start, which will be a disturbance to the project being completed. Hence, this bridge construction needs to be completed as soon as possible. The rainy season blocks the roads, people have to face a lot of problems like transportation and other livelihood problems. During the consultation, people said the projects should be completed by a deadline.

Disaster preparedness: The many participants indicated that they were informed by stakeholders before the rainy season floods. Lack of disaster preparedness in the rainy season, some bridge construction areas has been disaster-prone areas which have been critical to water floods and landslides. They have faced that problem and have rescued themselves from their villagers and community. So, they emphasized that they need to strengthen the capacities and awareness program of the communities. We also should be aware and assess disaster preparedness in community-based disaster risk reduction.

During the field visit, there were different positive aspects noted. There are different logics of accepting this bridge project. Sociological surveys and focus group discussion identified that people are conscious of the importance of the bridge. Besides this standard compensation value for their land and structure losses, the bridge improvement project, including easy transportation facilities, reduces jams decreases travel time and costs and increases connectivity with all weather.

A part of the positive impacts, the households have envisaged probable negative impacts of this bridge project. The major issues raised by project area people included loss of land and structures, environmental pollution like dust and noise. As people opined on their own experience and knowledge, this project brings both positive and negative impacts. They are ready to cope with the problem of minimizing negative impacts through standard compensation, capacity building activities, including livelihood restoration programs. Such argument measures envisaged and minimized negative impacts or mitigated during the project implementation.

6. Conclusion

These thirty two bridges would be made and reduce the poverty level of the community, as the community would be involved in cultivation of crops and other business areas. As noted by the community, it was the result of changing household changes over time to create economic opportunity both for poor women, indigenous and Dalit. Even the upland in the area does not seem to be unsuitable for cash crops, particularly for potato cultivation, broom grass and ginger. Cash and high value cash crops have high potential in the area; the problems that remained till date were knowledge transfer and price based on low-cost market accessibility and transportation by this road improvement. After connecting the roads built in Karnali with a bridge, the movement of people has been made easier. It is believed that the agricultural and non-agricultural products produced by them will create an environment that will reach the market. Apart from this, due to the improvement in the livelihood of the common people, their

social and economic aspects are gradually becoming stronger. Therefore, if the quality of the road can be improved, vehicles can be driven even during the rainy season.

Conflict of Interest

There is no any conflict of interest.

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