

NAGDHUNGA TUNNEL CONSTRUCTION

A MILESTONE PROJECT FACILITATING NEPAL'S DEVELOPMENT PROCESS!



Model Image of Nagdhunga Tunnel Western Portal

Nepal is a mountainous country with most of the land covered by hills, valleys and mountains. With steep and mountainous geographic condition, the development of roads and land transport is very challenging and difficult. The mountain roads with innumerable bends make the travel time long and travel speed slow leading to inefficient transport system. The hilly roads are vulnerable to landslides and disasters, and needs additional disaster prevention/management measures. Therefore, road tunnel in appropriate locations is one of the measures to improve the transport infrastructure and its efficiency. Road tunnels are very important to save travel distance and time, secure safe travel, improve road gradient, reduce road construction distance and time, and save fuel and vehicle operation/maintenance cost. There is no doubt that tunnel road is very important and has a lot of

scope in Nepal. Construction of tunnels in vital mountain roads could be one of the main means for facilitating in achieving economic growth and development.

The route from India to Western Kathmandu via the Prithivi Highway is the most reliable corridor for Nepal's foreign trade. Moreover, this road is very important to travel to the destinations like Pokhara and Lumbini. This route, however, has steep gradient and sharp curves, and the road alignment is not appropriate for efficient logistics. Especially, those steep gradient and sharp curve sections are located along the road between Thankot and Naubise of Tribhuvan Highway. Improvement of this steep and sharp curving road enables large-sized vehicles to run smoothly and reduce the traffic accident and traffic congestion.

Nagdhunga Tunnel Construction Project is an Official Development Assistance (ODA) loan project funded by the Government of Japan where JICA is the development partner providing loan assistance of JPY 16.636 billion. The objective of the Project is to improve the road condition around Nagdhunga pass by constructing a tunnel, thereby contributing to achieve the smooth transportation network between Kathmandu and other principal cities/areas in Nepal.

The commencement of this tunnel project will be first of its kind in Nepal. The highway will have two lanes each of 3.5m width and 1.5m median, 2.7 kilometers in length and is expected to reduce the time to clear Nagdhunga Pass to one-third of the current time (currently 30 minutes when heading east and 20 minutes



TWO
Project for
Construction of
Nursing Campus



FOUR
Building on community
strength for
"Earthquake-Resilient
Houses"



SEVEN
Japan Overseas
Cooperation Volunteer
(JOCV) Mr. Tomohiro
Minami



EIGHT
Second International
LDTA Conference



Prime Minister KP Oli laying the foundation stone of the project during the official inauguration ceremony.

when heading west), making the transportation of people and goods efficient and safer. Approach road of around 2.87 km will also be constructed along with other infrastructures such as ventilation system inside tunnel, emergency evacuation tunnel, intersection, flyover, interchange, bridges and box culverts, towing machine and rest area. The executing agency for this project is the Ministry for Physical

Infrastructure and Transport and the construction period is expected to be around 3.5 years.

One of the most important challenges for Nepal to move forward for constructing tunnel roads is the application of appropriate technology and human resources. With the Nagdhunga tunnel construction project, appropriate tunneling technology will be

introduced and transferred to Nepalese counterparts, consultants and contractors.

The foundation stone laying ceremony for Nagdhunga Tunnel Construction Project was held on October 21, 2019 amidst an official ceremony in the eastern portal of the tunnel way located in Chandragiri Municipality.

Right Honorable Prime Minister Mr. K.P. Sharma Oli graced the occasion as the Chief Guest and laid the foundation stone of the Project. Minister for Physical Infrastructure and Transport, other honorable ministers, respected members of parliament, mayors and deputy mayors, concerned government officials, H.E. Ambassador of Japan, Mr. Masamichi Saigo and the Chief Representative of JICA Nepal Office, Ms. Yumiko Asakuma were also present during the ceremony.

During the ceremony, the Prime Minister expressed special appreciation towards Government of Japan and JICA for its support in constructing this landmark project, and stated his belief that this breakthrough project will immensely help in improving the trading of goods through smooth vehicular movement for commercial activities and bring prosperity in the economic condition of the country. The construction of the Nagdhunga tunnel commenced from November 14, 2019.

**- Mr. Sourab B. Rana
Senior Program Manager**

GOVERNMENT OF NEPAL OFFICIALS VISIT TO JAPAN

Upon formal invitation of JICA, Government of Nepal officials led by Honorable Minister of Energy, Water Resources and Irrigation Mr. Barshaman Pun visited Japan to attend the Capacity Development Program on 22 - 26 Sep 2019. During the visit, the delegation also visited Kurobe river basin for observing the river basin development in Japan and interacted with the potential Japanese investors.

Besides, the delegation also met many high officials and parliament members, and also the needs for financial support regarding Nalsingad Hydropower Project and other large energy infrastructure projects was shared with the Vice President of JICA. In response, JICA acknowledged the importance of energy sector development in Nepal and expressed their interests to support through technical assistance project, trainings and other modalities.



PROJECT FOR CONSTRUCTION OF NURSING CAMPUS



Maharajunj Nursing Campus, Institute of Medicine under Tribhuvan University, is a pioneer Nursing Campus in Nepal established in the year 1956 A.D. as a school of nursing under the Directorate of Health Services, Ministry of Health.

JICA extended its support for building new infrastructures for the Campus in 1984 and completed the construction in 1986. The Maharajunj Nursing Campus building was constructed with Grant Aid of NPR 1.16 billion. The building includes academic, administrative and hostel blocks.

The campus boasts of producing nursing workforce to meet the universal health coverage reaching to sustainable development goals with highest level of academic excellence in Nepal.

During its more than 6 decades of existence and over 3 decades after the establishment of new physical facilities and equipment under the Japanese Grant Aid, Maharajunj Nursing Campus has made considerable progress in its programs.

It has increased its academic programs from Proficiency Certificate level to Post Basic Bachelor of Nursing, Generic Bachelor of Science in Nursing, Master of Nursing, and PhD Nursing Program. It has been managing the academic and research courses under different departments namely Adult Health Nursing, Women's Health and Development, Child Health Nursing, Psychiatric Nursing, Community Health Nursing, Fundamental of Nursing, Management and Education and Research. In an informal meeting with JICA Nepal team, the Campus Chief and Assistant Campus Chief highly appreciated contributions of the Japanese Grant Aid and expressed that without the support, they wouldn't be able to make such a center of excellence in Nursing education in Nepal. They also expressed the current situation of high demand of highly qualified students to get enrollment in the campus from different parts of the country and highlighted that existing facilities are not sufficient to accommodate more students in the campus and dormitory.



BUILDING ON COMMUNITY STRENGTH FOR "EARTHQUAKE-RESILIENT HOUSES"



Residents working together to rebuild earthquake-resilient houses

As one of the most seismically active countries in the world, Japan takes advantage of its experience to extend disaster aid and recovery assistance to developing countries and regions.

Four years have passed since Nepal was stricken by a magnitude 7.8 earthquake. While many countries have extended recovery assistance, JICA has achieved a high rate of completion with its efforts in support of housing reconstruction. Underlying this success is a "Community Mobilization Program" that supports the housing reconstruction while promoting mutual help in the affected areas. The key to earthquake recovery and the development of a disaster-resilient nation lies in "building on community strength."

Support for housing reconstruction initiated immediately following the earthquake

In April 2015, an earthquake struck about 80 kilometers northwest of Nepal's capital, Kathmandu. Casualties included 8,790 killed and more than 22,300 injured. Responding to a decision by the Japanese government, JICA dispatched a Japan Disaster Relief (JDR) team and a reconstruction assistance survey team to the earthquake-stricken country. The survey conducted revealed the severity of damage to housing. In Gorkha district, the place of the earthquake's epicenter, 95 percent of all houses



Remains of a house totally destroyed by the earthquake



Earthquake-resilient houses built with support from JICA



had been constructed using the traditional method of stacking stones or bricks and filling the spaces in between with mud. With poor earthquake-resilience, damage to housing in this district was enormous; around 500,000 houses were totally destroyed, and another 270,000 seriously damaged.

To begin, JICA launched the "Rehabilitation and Recovery from Nepal Earthquake Project." Working to Nepal's existing seismic standards, JICA's experts developed technical guidelines for housing reconstruction. An "Emergency Housing Reconstruction Project" was also launched, under which JICA provides financial support to the Nepalese government's Housing Reconstruction Program, while also supporting owner-driven reconstruction by providing training to residents and masons in the Gorkha and Sindhupalchok districts, the areas most afflicted by the earthquake. Reconstruction of houses in these districts requires approximately six years of the gross national income per capita, but residents were able to reduce this burden by an average of about 50 percent by availing themselves of housing grant under the Housing Reconstruction Program.

"Mobile Masons" key to housing reconstruction

However, the project encountered many difficulties in the beginning. The districts most afflicted by the earthquake lie deep in mountainous areas, and arranging for trucks to carry materials and to transport masons was difficult. In these sparsely inhabited areas, sufficient help was not available, and housing reconstruction often did not go smoothly. Further, many of Nepal's working-age males are engaged in migrant work abroad, so households comprised of just women, children and old folk are not uncommon. With some residents giving up on rebuilding their houses and moving to urban areas, JICA launched its highly successful "Community Mobilization Program" in May 2017.

The program was formulated based on the observation that the inhabitants of Nepalese villages are strongly bonded with a culture of mutual help and designed to support residents to think about and implement solutions to problems related to housing reconstruction by themselves in their villages. As part of the

program, local masons who received training from JICA travel from village to village as "Mobile Masons," delivering advice, helping to support reconstruction and promoting mutual help.

The presence of Mobile Masons made a dramatic difference to reconstruction progress. First, as they made the round of villages, they were able to learn about the progress of reconstruction of individual houses, helping them to understand current needs. At the same time, they extended assistance with the actual reconstruction of houses, increasing the speed of work and helping to motivate residents. Under the system developed, Mobile Masons also act as consultants and assistants; for example, by lending an ear and extending a hand if someone told them that work on a particular house was at a standstill. In this way, Mobile Masons become the lubricant in local communities, playing an active role in propelling housing reconstruction.

"The Mobile Masons are selected from among masons who are native to afflicted villages, who have leadership abilities and a good understanding of how to build earthquake-resilient houses. Being familiar with the situation in villages, they are well-suited to providing personalized support to residents, and also serving as instructors capable of giving on-site instruction in construction techniques to other masons. They also report on on-site conditions



Many residents attended the Enrollment Camps for submitting applications for housing reconstruction grant.

at village meetings, and suggest future strategies for housing reconstruction," says Tomoki Miyano, the Expert and Project Manager.

Achieving "Build Back Better"

Many residents attended the Enrollment Camps for submitting applications for housing reconstruction grant. As of July 2019, the completion rate of earthquake-resilient houses in Gorkha and Sindhupalchok districts with JICA support (approximately 58,000 target households) had reached 87.6 percent. This figure is higher than that of housing reconstruction

assistance being carried out by the aid agencies of other countries, and the "Japanese-style assistance" that makes use of mutual help by local communities centered on the residents themselves and the Mobile Masons is serving as a model for application in other areas.

This past April, four years after Nepal's earthquake, a seminar was held in Kathmandu, the capital city, to share the progress of and lessons learned during reconstruction. On visiting Nepalese villages where local community efforts drive reconstruction, Deputy Mayor Osamu Oyama of Higashi-matsushima City, Miyagi Prefecture, who collaborates with JICA on reconstruction projects in developing countries, made the following observation:

"I heard about housing directly from a female Mobile Mason and residents who are rebuilding in the afflicted part of Sindhupalchok district. By delivering their "voices" as well as speaking out about our experience of the reconstruction in the wake of the Great East Japan Earthquake, I shared the feeling that self-help, mutual help and public help are of critical importance to such undertakings and gained the sympathy of the Chief Executive Officer of National Reconstruction Authority and officers of related offices and ministries in Nepal."

Reconstruction in Nepal is still underway. JICA will continue to share knowledge based on Japan's experience with earthquakes and disasters, and to support reconstruction aimed at building communities more resilient to disasters.



"Mobile Masons" receive practical training. Training includes safety management, such as the wearing of helmets, in addition to earthquake-resilient construction techniques

EXPERIENCE OF JICA TRAINING PARTICIPANT

Being a Disaster Management (DM) officer of Government of Nepal, I was glad to be nominated for the comprehensive DRR training program organized by JICA. I was pleased because this training would provide the opportunity to visit and observe one of the most disaster prone yet most advanced countries around the globe in terms of Disaster Risk Reduction and Management (DRRM).

I was highly impressed by the sound management system of JICA when I received an email from Mrs. Kazuko SUDANI, the program coordinator, couple of weeks before the program. The invitation included every little information like plugs for electric devices, internet availability, bags, foods, outfits, shoes, required money etc. that made me feel as if I'm well taken care of by my family member. This gesture not only reflected the fine and organized management system of Japan, but also showed the warm nature of Japanese people.

As I reached Japan, I was very surprised and impressed by the discipline of the Japanese people in public transports and in public areas besides the advanced development and physical infrastructures that they already have.

During our training, we participated in numerous Lectures, Observations, Workshops and Presentations. We visited diversified places, ranging from few remote towns to cabinet office and learned DRRM systems of central and local governments, including prefectural provisions as well. We also got to know about the past disasters, the lessons learnt from them and implementation of those lessons (Fire management systems after Kobe earthquake in 1995 AD as an example). Participation in community events like Community based disaster management drill, "Kaeru Caravan" event; Hanshin Awaji Memorial Earthquake Ceremony, visit to earthquake memorial museum, etc. were full of effective practical learning. Most importantly, I found DRRM mechanism followed by children from an early age was the real force of change in the society. Field Visit in Tsunami Evacuation Tower, Active volcanic site, Sabo Dam to control mass flow etc. provided ample learnings and some entertainment too.

As the DM officer of Ministry of Federal Affairs and General Administration "Local DRR planning" this workshop proved to be a fruitful learning activity because this ministry is the focal ministry to coordinate the recently formed

local governments and drafting the model DRRM plan for local governments is one of the prioritized plan of actions of my department for the year 2019. The learning that I gained in the workshop event effectively helped to put my constructive inputs to draft the model Local Disaster and Climate Resilient Plan guideline for the local governments, which is in the final stage of approval now.

Though this training was effective and efficient in all possible dimensions, the training schedule was a bit tight and hectic. It will be more effective, if some refreshment programs could be added. Moreover, it would be efficient to add some community visit programs, because it will help us to understand the Japanese culture and community which ultimately helps to build strong relationship between the two nations.

Concisely, this 45 days long "Comprehensive Disaster Risk Reduction" training program was one of the most satisfying assignment I have ever attended. This training has immensely increased the desire of DRRM learning for my future activities too.



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Climate Change and Disaster Management Section (CDMS)
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(Training Program: Comprehensive Disaster Risk Reduction
A - 2019)

RECORD OF DISCUSSIONS SIGNED FOR DRR PROJECT

The Record of Discussions (Project Agreement) of the technical cooperation project captioned "Strengthening Disaster Risk Governance for Resilience in the Kathmandu Valley" was signed on 18 November 2019 at the Ministry of Home Affairs. The signing was made by the Chief Representative of JICA Nepal Office Mr. Yumiko Asakuma and Joint Secretary of the Ministry of Home Affairs Ms. Indu Ghimire in the presence of the Secretary of the Ministry Mr. Prem Kumar Rai. The Project has 4-year period of implementation. Last year, JICA completed the project for assessment of earthquake disaster risk for the Kathmandu Valley led by the

Ministry of Urban Development and participated by the Ministry of Federal Affairs and General Administration, the Ministry of Home Affairs and the Department of Mines and Geology. The assessment revealed high-level vulnerability of the physical infrastructures of the Kathmandu Valley. The new Project signed recently is based on the results of the risk assessment project and aims to enhance DRR investment by implementing several capacity development activities of the National Disaster Risk Reduction and Management Authority almost at final stage of its establishment and the Municipalities of the Kathmandu Valley.



MR. TOMOHIRO MINAMI

WATER SUPPLY AND SANITATION DIVISION OFFICE TANSEN, PALPA

"Before coming to Nepal as a JOCV I worked in the Kagoshima City office in Japan for 7 years as a Water supply engineer. The experience I gained during those 7 years have been very helpful in implementing innovative and new technologies currently at my workplace in Nepal. I chose Nepal as my workplace because I wanted to work in a very new setting with new system and scenario that I have not been familiar to before.

Initially I worked with the Division Water supply office in Tansen for 2 months and then been working with the consumers committee group until now. In order to understand the water supply system in Tansen I undertook field visit to the sites along with the officials from the committee and based on my observation I designed the water supply map of GIS. I expect the committee in order to plan and implement new work related to the water supply very effectively uses the map. I believe the Water supply pumping system in Tansen was constructed with JICA's assistance during the 1970's. Hence, a very old system is being used

today in spite of all the advance technologies available in the market.

My primary activity in the office includes orienting staff of Sanitation Division for operating water supply maintenance and methods to construct pipeline and facility.

In addition, I also conducted training in presence of government officials on September 13, 2019 for Plumbing (HDPE / House Connection) / Detect Leakage for local plumbers mainly focusing on reduction of Non-Revenue Water. The training provided good opportunity for acquiring new skills in order to improve the water supply and sanitation service in Palpa District.

I have also successfully developed a machine by using local resources to detect water leakages, which is very helpful for the office in order to reduce water waste. I am glad that I could utilize my knowledge and contribute for the benefit of the locals here in Tansen.

I have been in Nepal for almost 2 years now and it is almost time for me to go back to Japan, after completing my assignment. I feel the time given

to me was very limited and I was not able to fulfill many activities as planned. For the success of any program or a project, I believe field visit and continuous interaction with the officials and locals is necessary in order to understand things in detail. I also wish some of the government officials were cooperative during my assignment; it would have helped a lot in order to ease the process.

My suggestion to the committee and division office is to construct a facility that considers maintenance methods, additionally reduces Non-Revenue Water (NRW) at first, after then I hope they will use this water for distribution for the users.

Lastly, I am very thankful to all the people I worked with and to locals and other authorities who were supportive throughout my journey in Nepal. My experience of working here in Nepal have certainly increased and improved my knowledge regarding water supply system. This learning could act as a base for designing and conceptualizing innovative ideas in the sector of water supply back in Japan as well."



2ND INTERNATIONAL CONFERENCE ON CAPACITY DEVELOPMENT OF LOCAL LEVELS



The Second International Conference on Capacity Development of Local Levels for Implementation of Sustainable Development Goals (SDGs) was held on Nov 18, 2019 where then Honorable Minister for Federal Affairs and General Administration Mr. Lal Babu Pandit graced the event as its Chief Guest.

The primary purpose of the conference was to share experiences and practices on mechanism and methodology for effective capacity development of local levels on SDG and strengthen network and linkages for the implementation of SDGs at local levels.

The event was also attended by Executive Director of LDTA Mr. Pit Kumar Shrestha, mayors, deputy mayors of various municipalities, representatives from district coordination committees, rural municipalities, professors of universities, development partners, Chief Representative of JICA Nepal Ms. Yumiko Asakuma and members of local governments from other countries.

JICA's Project for Improving Local Governance Training through Capacity Enhancement on Research and Analysis (ILGT-CERA) began in January 2016 in Local Development Training Academy (LDTA). It aims to enable comprehensive training delivery mechanism along with establishing quality training to the local bodies' personnel through the action research and result analysis.





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