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# 8 YEARS OF EARTHQUAKE RECOVERY: REBUILDING RESILIENT NEPAL THROUGH BUILD BACK BETTER

On 25 April 2015, a devastating earthquake of magnitude 7.8 struck Nepal with its epicenter in Gorkha. As a result, nearly 9,000 people were killed and over 22,000 injured. More than half a million houses were completely or partially destroyed, leaving around 3 million people homeless. Over 7,000 schools across the country were damaged, leaving the future of thousands of children in uncertainty. Most of the ancient cultural heritage sites were left in rubbles. Among the most affected regions were Gorkha, Sindhupalchowk and the Kathmandu Valley where the damages of the earthquake were not limited to the physical infrastructures, but it also disrupted people's livelihoods and the local economy.

Immediately after the earthquake, the Government of Japan and JICA provided emergency relief assistance and since then, JICA has been providing assistance to Government of Nepal in reconstruction and recovery based on the principle of Build Back Better (BBB). JICA's BBB - based reconstruction and recovery support has covered various sectors, such as housing and school reconstruction, cultural heritage restoration, infrastructure reconstruction, livelihood recovery, DRR education and recovery planning, and disaster preparedness.



## EMERGENCY RELIEF

The Government of Japan was one of the first international responders to act quickly by sending a team of experts to the field. Japan Disaster Relief (JDR) team which included the Rescue, Medical, and Self Defense teams arrived in Nepal to provide assistance. Emergency relief supplies were sent through JICA, which included tents, blankets and other essential items to the people affected by the disaster. JICA quickly rehabilitated damaged Kathmandu-Bhaktapur Road and Sindhuli Road, and the Government of Japan also provided Emergency Grant Aid by supporting their ongoing humanitarian assistance along with recovery and reconstruction efforts including 184 classrooms in three districts namely Gorkha, Dhading and Nuwakot.

## EMERGENCY HOUSING RECONSTRUCTION PROJECT (EHRP)

JICA played a significant role in Nepal's reconstruction and recovery efforts after the earthquake. One of JICA's key initiatives was the Emergency Housing Reconstruction Project (EHRP), funded with the Government of Japan's Official Development Assistance (ODA) loan. The project was designed to use earthquake- resistant standards to reconstruct houses and help people rebuild their lives. JICA also took the initiative to design earthquake-resistant houses and provided trainings to engineers, house owners and masons to ensure they are equipped with the necessary skills and knowledge to construct earthquake-resistant buildings in the future. The Community Mobilization Program was introduced to directly involve the community in the housing reconstruction process. Through EHRP, JICA provided financial (around 35,000 beneficiaries) and technical (around 95,000 beneficiaries) assistance for the housing reconstruction in Gorkha and Sindhupalchowk.



# 8 YEARS OF EARTHQUAKE RECOVERY: REBUILDING RESILIENT NEPAL THROUGH BUILD BACK BETTER' contd. from page 1

# EMERGENCY SCHOOL RECONSTRUCTION PROJECT (ESRP)

With the aim of contributing to the overall recovery and development of earthquake affected communities, particularly in education, JICA provided ODA loan of 112 million US dollars to implement the Emergency School Reconstruction Project (ESRP). ESRP was implemented based on designs and structural guidelines developed by JICA. Under the project 274 schools were re-constructed and handed over across six districts - Gorkha, Rasuwa, Nuwakot, Dhading, Makwanpur and Lalitpur, based on the earthquake-resistant type design guidelines formulated by JICA under the principle of "Build Back Better". The project was recently completed and held it closing ceremony on May 10, 2023.

# REHABILITATION AND RECOVERY FROM NEPAL EARTHQUAKE (RRNE)

The Project on Rehabilitation & Recovery from Nepal Earthquake (RRNE) was launched only two months after the earthquake and provided multi-dimensional support for Nepal and its people. Three regions; Gorkha, Sindhupalchowk, and the Kathmandu Valley were targeted for re-construction and rehabilitation of infrastructures. JICA's Quick Impact Projects (QIPs) played a vital role in the immediate recovery of Gorkha and Sindhupalchowk districts by reconstructing government buildings, bridges, health posts and hospitals in Sindhupalchowk and Gorkha. Altogether 22 priority public facilities were built in Gorkha and Sindhupalchowk. Through JICA 's grant assistance, the reconstruction of Bir Hospital and Paropakar Maternity & Women's Hospital in Kathmandu was completed in the year 2019. Similarly, five bridges were constructed in Gorkha, and the water supply system for Chautara, Sindhupalchowk was rehabilitated.

## LIVELIHOOD RECOVERY

Along with infrastructure programs in Gorkha and Sindhupalchowk, JICA contributed to capacity development of people whose livelihoods were severely affected by the earthquake. JICA supported the communities through livelihood enhancement training programs such as vegetable growing, quality seed production, and goat raising. Following the success of these programs and building upon JICA's past recovery and reconstruction efforts, JICA launched the Project for Participatory Rural Recovery (PPRR) to increase the capacity of local governments and community groups. The aim of this program is to increase capacity of local governments and community groups through various livelihood-based Community Recovery Projects. The PPRR has succeeded in incorporating communities' needs in the annual and periodic plans of local governments.

#### CULTURAL HERITAGE

Almost all the ancient cultural heritage sites of the Kathmandu Valley had taken a severe hit from the earthquake. JICA dispatched Japanese experts to the Department of Archaeology to support the rehabilitation of the Shiva temple and the Agamchhen temple in Kathmandu Durbar Square, and the Degu Taleju temple in Patan Durbar Square.

#### DISASTER RISK REDUCTION (DRR)

Now that eight years have passed since the devastating earthquake and most of the recovery and reconstruction works have been completed, JICA's reconstruction assistance is gradually shifting its focus from post-earthquake reconstruction to disaster risk reduction, transforming to projects for building a disaster resilient country and preparing for future disasters. JICA believes that disaster risk can be reduced through Pre-Disaster Investment and the model of Build Back Better. JICA is supporting the Department of Urban Development and Building Construction (DUDBC) to improve the compliance mechanism of the Nepal National Building Code through the "Project for Promotion of Nepal National Building Code Compliance for Safer Building Construction (NBCC)". JICA is currently supporting to strengthen capacity of National Disaster Risk Reduction and Management Authority (NDRRMA) through the "Project for Strengthening Disaster Risk Governance for Resilience in the Kathmandu Valley (REKV)".

Increasing investment in long-term Disaster Risk Reduction (DRR) and strengthening the resilience of the country is the way forward for the development of Nepal. JICA will continue to support the government and people of Nepal to build a disaster resilient Nepal.

## **REBUILDING RESILIENT NEPAL VIDEO**

JICA's assistance for reconstruction and recovery has almost come to an end, and the focus of JICA's assistance has shifted to longterm capacity building to contribute to future disaster risk reduction, drawing on the lessons learned from this reconstruction and recovery assistance. This video aims to showcase the various efforts and achievements that have taken place in the last eight years since earthquake, highlighting how JICA's assistance has contributed to realize BBB and further to support strengthening of resilience in Nepal.

To view the video please click in the link below: https://youtu.be/\_NflOvwSKnc





# CLOSING CEREMONY OF THE EMERGENCY SCHOOL RECONSTRUCTION PROJECT

Central Level Project Implementation Unit (CLPIU) / Ministry of Education, Science and Technology (MoEST) organized a "Closing ceremony of Emergency School Reconstruction Project": Nepal -Japan cooperation post Nepal Earthquake 2015, on May 10th, 2023, in the presence of Minister of MoEST Honorable Mr. Ashok Kumar Rai as the Chief Guest. About 100 participants representing the government, development partners, civil society, academia, and media were part of the ceremony.



Patan Secondary School students with Ambassador of Japan, JICA Chief Representative, Project Director of CLPIU and School Principal



Patan Secondary School building, Lalitpur

During the ceremony, Minister for Education, Science and Technology, Honorable Mr. Ashok Kumar Rai thanked the Government of Japan for providing its assistance for reconstruction of the 274 Schools and 765 buildings with the concessional loan after the earthquake and contributing towards enhancing the education sector.

Secretary of MoEST and the Chairperson for the event, Mr. Ram Krishna Subedi recalled the long history of Japanese cooperation to education through different schemes. He opined that it has been instrumental for enhancing access and quality education and capacity of education system in Nepal. He also requested for continuous cooperation to the sector.

Ambassador of Japan to Nepal, H.E. Mr. KIKUTA Yutaka reiterated "Japan's assistance aim is not only limited to the rebuilding and retrofitting of the schools, but also to build back to the further extent under the concept of "Build Back Better". It contributes to the improvement of education services and earthquake resilience for sustainable socio-economic growth. He further stated his hope on cooperation between Nepal and Japan will further strengthen the friendly relations the two counties have developed over the years."

At the beginning of the ceremony, project director of CLPIU Mr. Dilli Ram Luintel presented synopsis of school reconstruction including ESRP. In addition, JICA also provided a brief overview of Japanese assistance for reconstruction and recovery in Nepal through presentation and video show.

Mr. OKUBO Akimitsu, Chief Representative of JICA Nepal, emphasized that JICA will make more efforts so that the children studying at schools of ESRP will inherit the more resilient Nepali society as a result of its cooperation.

"I did not enjoy having my lunch before because there was no water and hand wash in the toilet. But after the functioning of the new buildings we now have good arrangement of drinking water. Now the atmosphere has totally changed and has become student friendly.

Earlier, science had to be studied only in books but we now have a modern chemistry lab, so we are able to practice the topics studied in the book well. I also think computer study should not be limited to books, so we now also have proper computer lab to gain practical knowledge."- Saroj Pariyar, Class 9, Patan Secondary School, Lalitpur.



Chief Representative of JICA Nepal Mr. OKUBO Akimitsu receiving the Certificate of Appreciation from Minister of MoEST Mr. Ashok Kumar Rai



# **45 YEARS OF JICA SERVICE IN NEPAL!**



JICA is celebrating its 45th year of service in Nepal (1978-2023) this year. Since 1978, JICA has supported Nepal's developmental efforts ranging from physical infrastructure such as transport, energy, water, and sanitation to social infrastructure such as agriculture, health, education, governance, peace building and disaster management

In order to realize JICA's vision "Leading the World with Trust," JICA Nepal continues to take the lead in building a strong bond with Nepal by providing maximum support to Nepali people and the Government of Nepal for sustainable peace and prosperity aiming to support Nepal's growth in a comprehensive manner.

# **JICA** in History

# **KATHMANDU VALLEY WATER SUPPLY SERVICE IMPROVEMENT**

As a result of the master plan study conducted by JICA from 1989 to 1990 for the development of water sources to cope with water scarcity in Kathamandu Valley, eight water supply projects were identified to be implemented in three phases with target year 2001.

Stage 1: i) Mahankal Chaur ii) Bansbari

Stage 2: iii) Balaju iv) Lambagar v) Sundarijal vi) Shaibu

Stage 3: vii) Manohara viii) Balkhu

Accordingly, Government of Nepal requested JICA's support for five priority projects.

Initially, two priority projects in Mahankal Chaur (26.5 million Liter Per Day (MLD)) and Bansbari (22 MLD) were implemented between 1992 to 1995. In the second phase, Manohara project (intake facilities, water treatment plants, Minbhawan Elevated tank, Singhadurbar Elevated Tank) and Shainbu Project with 2,700 m3 reservoir tank were constructed from 2001 to 2003. These projects were considered as significant in improving the water supply situation before the commencement of the Melamchi Drinking Water Project. Even at present these facilities serve as key water supply facilities to distribute potable drinking water to Kathmandu denizens by Kathmandu Upatyaka Khanepani Limited (KUKL).

The project for Improvement of Kathmandu Water Supply Facilities construction in 3 phases were as follows.

## PHASE I (1992): GRANT ASSISTANCE

- 1. Water Treatment Plant Facilities and Equipment (Bansbari)
- 2. Water Treatment Plan Facilities and Equipment (Mahankalchaur)

## PHASE II (2002): GRANT ASSISTANCE

- Water Treatment Plant Facilities and Equipment (Manohara, Bode, Bhaktapur)
- 2. Transmission Facilities
- 3. Construction of Minbhawan Reservoir
- 4. Construction of Singhadurbar Reservoir

- PHASE III (2003): GRANT ASSISTANCE
- 1. Augmentation of Reservoir Tank
- 2. Distribution Network Facilities (Shainbu, Lalitpur)

After completion of project water supply service significantly improved with potable drinking water reducing risk of water borne disease and public health. Currently, KUKL is supplying water through these systems to Kathmandu denizens.



Bansbari Water Treatment Plant



Manohara Water Treatment Plant



# TRAFFIC SAFETY WORKSHOP ORGANIZED BY JICA EXPERT TEAM AND DEPARTMENT OF ROADS

Sindhuli road or the BP Highway 160 km was constructed under the grant assistance of the Government of Japan with advanced mountain road construction technology, which reduced travel time about five hours traveling from Kathmandu to eastern sector of Nepal and vice versa. The road was opened to the general public on 2015 which increased the commercial activities along the road side including movement of people and commercial vehicle.

Increase in intra-regional traffic due to economic development in the area along the Sindhuli road, increase in traffic demands between Kathmandu and Eastern Terai and additional traffic due to opening of Mid hill highway and Sunkoshi bridge at Khurkot are some of the major reasons that lead to increase in the traffic volume of Sindhuli road.

Traffic count in the year 2019 at Dhulikhel and Bardibas were 11,446 and 7894 (Veh/day) respectively. However, increasing number of vehicles especially high number of motorcycles and tipper trucks carrying construction materials lead to fatal accident cases as well.

In the year 2021 alone, the recorded road accidents were fourteen fatal, sixty-seven seriously injured, thirty minor injured and four vehicle damages only.

The main causes/risk factors of accidents in Sindhuli road are mainly unsafe road user behaviour, vulnerable road users, narrow road design and lack of footpaths and bus stops.

In this context Department of Roads (DOR) and JICA Expert Team jointly took an initiative for organizing the Traffic Safety workshop on December 16, 2022 under The Project for the Operation and Maintenance of the Sindhuli Road Phase 2 (SROM2) supported by JICA. This workshop brought together all the stakeholders under single umbrella with a motive to improve traffic safety along the Sindhuli Road as well as all the national highways in country.

The Workshop titled "The Reduction of Road Accident and Improvement of Comfort for Road Users along Sindhuli Road" focused mainly on discussions for identifying the problems in traffic safety in the Sindhuli Road and identifying the current activities of SROM2 and determining the capabilities of the projects which could reduce the traffic causalities. Workshop also highlighted the commitment of Nepal Government about reduction of Road Traffic Injuries (RTI) by 50 % (The second decade of Action for Road Safety 2021-2030).

Altogether there were seventy-three participants from different organizations like the Ministry of Physical Planning and Transport (MOPIT), DOR, World Bank (WB), Asian Development Bank (ADB),

World Health Organization (WHO) and other relevant groups/ organisations working towards improving traffic safety in Sindhuli Road.

The workshop was conducted primarily by professionals form JICA Expert Team comprising of Mr. H Shinkai, Mr. M Iwamaru, Mr. B S Rana, Mr. S R Adhikari, Mr. N Dhaubhadel and Chief of Road Safety and Traffic Unit Mr. Bel Bahadur Bhujel.

The first presentation was presented virtually by Mr. Hiroki Shinkai, Chief Advisor of JICA Expert Team, and SROM2. In his presentation he highlighted the outline of Sindhuli Road Project form feasibility stage to the current stage. He also presented the detail design, operation and maintenance work and road safety measures adopted in the project. After the Mr. Shinkai presentation, Mr. Motoki Iwamaru, Deputy Chief Advisor continued his presentation on the output and activities of SROM2 which is currently being implemented with support by JICA.

Mr. Bel Bahadur Bhujel from DOR presented the presentation on the Road Safety Status of Nepal, Likewise Mr. Bindu Shamsher Rana, JICA Expert presented on the topic of Traffic Volume Trends and Traffic Accident Situation in the BP Highway and Traffic Safety Management Plan for the BP Highway.

Most participants strongly agreed that the workshop improved their knowledge level about the traffic safety and majority of the participants valued the data and statistical part of the presentation. Also they were confident that the discussions carried out in the program would certainly serve as an influential knowledge for future planning to develop an effective strategy to enhance the Road Safety in all highways of Nepal.

Road safety is the prime importance to secure the life of the people and different factors like design, awareness, information system and proper maintenance which are most vital for road safety. Thus, this workshop provided the platform for the consortium effort for ensuring safer road in BP Highway and other road by utilising the past experiences and knowledge.

Mr. Gopal Sigdel, Secretary of MOPIT addressed the program as a Chief Guest where he expressed his gratitude to JICA and Government of Japan for the continuous support in different stages in the construction of Sindhuli Road and other transport infrastructure in the country. In addition, he appreciated JICA's continuous efforts in technical and financial support for developing the transport sector and also emphasizing in Road Safety.



# JICA LONG TERM TRAINING PARTICIPANT RETURNS POST COMPLETION OF MASTER'S DEGREE PROGRAM IN JAPAN

One of JICA's long-term training program participant, Mr. Bikram Rai returned to Nepal in March 2023. He undertook master's course in Japan, since FY2021 and completed his course requirements

Mr. Rai is a scholarship recipient in the Agriculture Studies Networks for Food Security (Agri-Net) Program. His research title is "Performance Assessment of Kankai Irrigation System and Mahakali Irrigation System Stage I & II" in Okayama University, which primarily focuses on the water management aspect for managing the limited water in the irrigation system for enhancing production in comparison with two case study in Nepal based on the Japanese practices, strategies and techniques to the water resources and agricultural sector.

After his return to Nepal, Mr. Rai is currently working on the Rani Jamara Kuleriya Irrigation Project, Tikapur, Kailali under the Department of Water Resources and Irrigation. Mr. Rai's activities in duty includes assuring the proper irrigation in the field to enhance the agricultural production by constructing, operating, and managing the irrigation systems and to mitigate the disaster caused by the water resources.

## EXCERPTS FROM MR. RAI'S REMARKS:



Mr. Rai (extreme left) during his Graduation Ceremony in Okayama University

"Firstly, I am very grateful that I got an opportunity to explore and expand myself, grateful to JICA for that. As an engineer, my job is to assure the proper irrigation in the field to enhance the agricultural production by constructing, operating, and managing the irrigation systems and also to mitigate the disaster cause by the water resources.

I enrolled at the Okayama University for master's course on October 2020 but due to COVID pandemic I was not able join as per time schedule. Thus, my study period postponed to April 2021 to March 2023. The purpose of my study was to know about the Japanese practices, strategies and techniques in the water resources and agricultural sectors.

I had the most wonderful experience during my stay and study in Japan. I was mesmerized by their loyalty, humbleness, respectfulness, and punctual behavior. I observed that Japan has a unique way of systematic management for every task which is helping in the smooth operation of government leading to continuous development of the country. I also had opportunity to know about the Japanese culture and history of Japan (i.e., Samurai period, Edo period, Meji period). I really appreciate the will power of people to build the nation after the World War II because without strong will power Japan would not be able to restore and rebuild the country rapidly. I had opportunity to visit many places which were well kept, clean and beautiful.

During my study period, JICA managed many study tour which were beneficial as I learnt about the Japanese history of agriculture and strategy. I was highly impressed by the "one village one product" movement to promote the local agriculture, in which they assign the one agricultural product in one area that is highly productive to that area and make the special product of that area and promote it. This could be applicable in Nepal as well to promote the Nepalese agriculture.



Mr. Bikram Rai in the field during his study tour in Tokyo

In Nepal food production is not sufficient to feed the country's population. We have been importing tons of food from other countries. One of the reasons for this situation is also the absence of proper irrigation facilities. So, in my study, I have focused on the water management aspect to manage the limited water in the



irrigation system to get more production and benefit. I will definitely make use of this knowledge in future.

I would like to express my gratitude to JICA that I have established good networking with many people from many countries because of this program." Long -term training program is one of the fundamentals of JICA's Technical Cooperation activities which includes obtaining both master's and PhD degrees. The program supports human resource development where participants are accepted in Japan from developing countries in various fields such as agriculture, forestry, fisheries, administration, transport, and medical sciences etc.

**Brief News** 

# JICA COMMITTED TO STRENGTHEN POWER SECTOR DEVELOPMENT IN NEPAL

Power Summit 2023 in Nepal was held on 18-19 April, and Dr. KIKUKAWA Takeshi, JICA's expert made a presentation on the topic of "Capitalizing the hydropower resources in Nepal for addressing the climate change in the region" in the event. He presented recommendations regarding (i) Planning Hydropower Facility and Ammonia Development, (ii) Mobilizing Finances and (iii) Expediting the international power/ energy trade in the South Asia Region. Likewise, he reminded about the long history of developing hydropower resources in Nepal although the significance is just recognized as to the efforts leading to its effectiveness and efficient economic development. He further reiterated the idea of detailed planning and smooth implementation in hydropower sector in Nepal.

JICA has assigned Dr. KIKUKAWA Takeshi as JICA's Hydropower Planning Advisor to the Nepal Electricity Authority since 2021 for supporting the hydropower development in Nepal. He has Ph.D. in finance, MBA in finance and BS in civil engineering from Hokkaido University. He has been working in consultancy services for energy sector development such as generation plants, transmission network, distribution business, climate change, energy efficiency, and oil & gas supply chain. His assignment in NEA includes strengthening the capacity of hydropower planning and organization framework for implementation. It is expected that NEA strengthens capacity to continuously formulate the candidate projects for new development.

JICA is supporting power sector in Nepal for improving policy making and planning, through the preparation of integrated power system development plan, construction quality control, etc. to realize a stable power supply in Nepal. In addition, JICA is supporting the development of storage-type hydropower generation, the improvement and expansion of electricity distribution linking large supply and demand areas, and the development of power distribution networks in urban and remote areas using ODA loans and other schemes. Out of the total power generation in Nepal, 11% of it is coming from hydropower stations funded by JICA (as of April 2023).



Dr. KIKUKAWA making his presentation at the Power Summit



Dr. KIKUKAWA receiving token of appreciation at the Power Summit



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