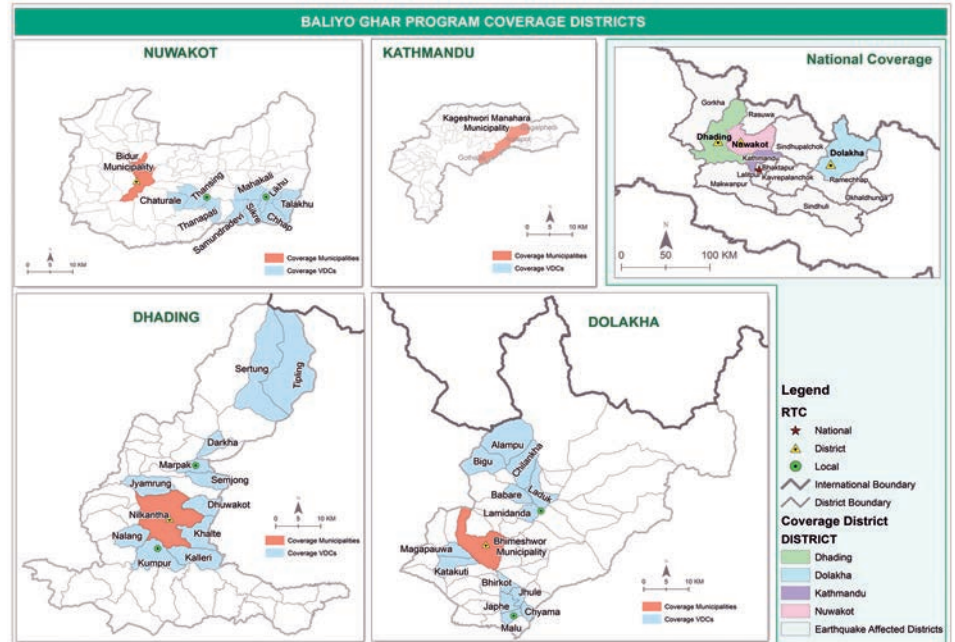


## Baliyo Ghar for Safer Reconstruction

Baliyo Ghar program is a five-year (October 2015–September 2020) Cooperative Agreement for Housing Reconstruction Technical Assistance implemented by National Society For Earthquake Technology-Nepal (NSET) with the core funding support from United States Agency for International Development (USAID). The program is being implemented in 4 districts (Kathmandu, Dolakha, Dhading and Nuwakot) out of the 14 quake-most-affected districts.

### Goal

- In shorter-term, the program aims at ensuring earthquake safer construction of all houses being reconstructed;
- For longer-term, the program aims to establish a system of disaster-resilient construction to achieve the goal of disaster-resilient communities in Nepal.



The goals will be achieved by providing technical assistance for reconstruction, and in future, for disaster-resilient housing designs and construction, and by improving the Government of Nepal's ability to

achieve long-term disaster resilience.

This project will not fund housing reconstruction, but will provide technical assistance necessary for owner-driven reconstruction.

## Baliyo Ghar Results Framework



## Theory of Change

The "Baliyo Ghar" program will contribute towards developing disaster resilient communities in Nepal by standardization of guidelines/manuals, enhanced local capacity as well as increased awareness on disaster resilient construction through development of disaster/earthquake resilient construction guideline/manual/curricula; capacity building of construction workforce and awareness raising of community; provided that people are able to reconstruct their houses through owner driven approach linked with compliance mechanism and financial assistance.

## Baliyo Ghar at National Reconstruction Technology Centre (NRTC)

- Preparation of SOP for Inspection
- Preparation of manual for inspection.
- Preparation Minimum requirements
- Preparation technical poster and booklet for NRA
- Preparation of training material for
  - Inspection training material
  - Basic technical Training
  - Mason training ToT
  - Engineers Training
  - Orientation for Community people
  - Orientation for Social mobiliser
- Involved as trainer in
  - Basic Technical training
  - Mason training ToT
- Technical Support and coordination to National Reconstruction Authority (NRA)
- Coordination with DUDBC and MoUD/CLPIU
- Research on Timber building, Stone building.
- Technical solution of field problem to field staff

## Activities Accomplished in Year 1

### 1468 existing masons trained with 48 Mason Trainings

In the Year 1 term, Baliyo Ghar has accomplished 48 mason trainings in the program implemented Dhading, Nuwakot and Dolakha. 1468 existing masons have enhanced their knowledge and skills in building earthquake resistant housings. Enhancing knowledge and skills of masons and construction workers of the earthquake affected areas on the earthquake-resistant construction technology is the main objective of the Mason Training course. This training course is meant for already existing skilled construction workers mainly masons (stone-layers, brick-layers), carpenters, and bar-benders. Generally, the existing masons have basic knowledge and skills required for construction of a house, but they do lack knowledge and skills on earthquake-resistant technology. This course helps to upgrade their skills to incorporate earthquake-resistant technology.

The course includes common basic contents such as need for earthquake-resistant construction, building configuration, quality of materials, overview of seismic retrofitting etc., and it has specific detailed sessions on either stone wall construction, brick wall construction or reinforced concrete frame construction.

### 18 Mason TOT accomplished, 556 Technical Professionals benefited

In the first year term of Baliyo Ghar 18 Mason Training of Trainers were conducted in Kathmandu, Dolakha, Nuwakot and Dhading in different time phases. Trainings were organized to acquaint technical professionals with skills regarding safer construction and also the tools and techniques to disseminate the knowledge to working masons. To enhance the knowledge and application skills on earthquake-resistant construction technology, specially focusing on the mostly prevailing construction typologies and materials and to develop Mason Training Trainers, 508 technical professionals (Engineers, Architects, Sub Engineers, Assistant Sub Engineers) were trained. Along with this 2 Basic Technical Training (BTT) for Technical officers has also been completed.

### 127 social mobilizers trained for effective social mobilization

To enhance the skill of existing social mobilizers to further train other social mobilizers on community facilitation for safer reconstruction 4 trainings for social mobilizers were conducted in year 1. The objective of the training was to equip social mobilizers with technical and social information so as to motivate and facilitate people to choose safer construction practices. 128 social mobilizers from different partner organization including Baliyo Ghar were trained and mobilized to the society in order to disseminate the technical information about earthquake-resistant construction technology.

Large number of social mobilizers is required to reach out to each and every household in the community to spread the awareness message. Hence, separate training courses for social mobilizers is organized to enhance their skills in facilitating the community, which will include simple modules on key technical aspects for the orientation of the community. This course developed by NSET is a 7-day course, which include simplified technical information about earthquake-resistant construction technology, basic knowledge and skills on effective social mobilization, and information about housing reconstruction program.

### 30152 Persons Benefited with 1047 Community Orientations

In order to make the house-owners aware on the need of earthquake resistant construction house to house awareness campaign was launched and 1047 community orientations were done in this period.

A mobile team consisting a technical officer and a social mobilizer were deployed to guide the community people on the proper construction techniques, choice of building typologies, materials to make their house earthquake resilient. Through the orientations 30152 persons have been benefited in acquiring information on earthquake itself, safety and preparedness, earthquake resistant elements in housing reconstruction government process in distributing grants in tranche and reconstruction in all.

## Feature Story

### Flattened districts being rebuilt to resist earthquakes



House of Bhimsen Thakuri, Makaibari Dolakha

The districts flattened by the April 25-Gorkha Earthquake have been reviving themselves by rebuilding collapsed houses. With their districts among the most earthquake-affected, the locals of Dolakha, Nuwakot and Dhading are rebuilding their homes with earthquake resistant methods and technology. Both stone masonry and reinforced concrete houses are being built in these three districts, where the house-owners are using trained masons and contractors. Women masons are actively participating, with their contributions adding to the impressive progress of the reconstruction campaign.

### Rebuilding Dolakha!

Bhimsen Shah Thakuri (44) at Bhimeshwor Municipality-12 Makaibari, Dolakha is building his stone-mud house with the elements that are said to resist earthquakes. And he was one who got influenced to build house with stone and mud as he thought stones were the enemies which was the main cause for collapsing his house. He was thinking of building RC structured house but because of lack of money he couldn't. At the meantime, Baliyo Ghar mobile team oriented at his community and he was convinced that



Under-constructed House of Buddhalaxmi



## The major highlights of Year 1 Program implementations:

- The five year program plan, Monitoring & Evaluation (M&E) plan, (EMMP) plan, Gender Equality & Social Inclusion (GESI) plan are developed.
- All human resources required for program hired, trained and deployed to respective position.
- District level implementation offices along with 3 District Reconstruction Technology Centre (DRTC)s and 6 Local Reconstruction Technology Centre (LRTC)s are established.
- Tripartite agreement between National Reconstruction Authority (NRA), Ministry of Urban Development-Central Level Project Implementation Unit (MoUD-CLPIU) and NSET was signed.
- Collaboration and coordination with Government of Nepal (GoN) and partner organization is strengthen like, deployment of Senior Technical Advisor at NRA and technical capacity building of partner organizations.
- The development of standard guidelines for training of rural and urban masons. This was approved from Government. This is an outcome level achievement.
- The baseline survey for general perception of people and professionals towards disaster resilient construction was completed.
- 16 numbers of Training of Trainers (TOT) level event on earthquake resistant mason training for technical professionals, 48 numbers of mason training events in local level, 4 social mobilizers training and 6091 numbers of orientation events for common people was completed.
- 18 number of half an hour television program related to technical assistance for housing construction were broadcasted and 126 Radio program were aired twice through 7 Radio stations.

## Baliyo Ghar at enrollment process

Baliyo Ghar Program assisted National Reconstruction Authority (NRA) to distribute the Housing Reconstruction Grant to eligible quake affected households which began from March 13, 2016 from Singati Dolakha. Grant distribution campaign begun with the first agreement between Jagat Bahadur Chettri, a local of Laduk-08, Dolakha



and Secretary of the same VDC Urmila Karki. An enrollment camp was established to facilitate the grant agreement where Baliyo Ghar took the lead and facilitated government in its campaign. The enrollment process gradually expanded to the other quake affected districts. Like in Singati, Baliyo Ghar team was mobilized in Nuwakot and Dhading to facilitate the process.

stones do not kill rather they need to be fitted well and now he is using trained masons to reconstruct his stone-mud house.

Buddha Laxmi Lama, 60, resident of Charikot-Charighyang, Dolakha, one of the most earthquake-affected areas in the district, is living in a temporary shelter with two daughters and grandchildren after the earthquake flattened her 2 storey house. At her age, it should be time to rest and guide the younger generations. When we visited her she was just returning home with a bulky grass bundle. 'It's being tough to accommodate 7 family members in the temporary shelter. I am waiting for the new house to be constructed so we have comfortable accommodation'- she says. Man Bahadur Tamang, a mason working



House of Soma Tamang

since 2052 B.S. has been awarded the contract to construct Lamas' house. Tamang took part in mason training conducted by the Baliyo Ghar Program in Charikot during March 2016.

Lama is hopeful that she can move her family into the new house after the Hindu festival of Dashain in October.

Some 300 meters north of Lama's construction site, Soma Tamang is constructing a reinforced concrete house on the same land where her previous stone-mud house collapsed during the Gorkha Earthquake. Tamang's husband is a driver and spends most of his time in Kathmandu. Hence Tamang, 28, is rebuilding her house with the aid of her brother Bal Kumar Tamang, who is a contractor and mason. Others involved in the construction are also trained masons who like the idea of constructing an earthquake resistant building.

## Women at Reconstruction!



Bal K Kafle and Damber K Kafle working together

Bal Kumari Kafle, 63, is mason and contractor in Bhimeshwar, Dolakha. She used to help male masons by carrying stones and mud at construction sites. At the end of July 2016, she received training from the Baliyo Ghar Program, implemented by NSET with funding support from USAID, and now she is serving as a mason. She is confident of her ability to build earthquake resistant buildings. At present, she is constructing Ram Prasad Neupane's house in Ramkot-Bhimeshwar-10, Dolakha with the assistance of her own daughter trained female mason Damber Kumari Kafle, 33.

## Government praises the initiations of locals

**Hari Prasad Sharma**

Senior Divisional Engineer, NRA, Regional office Dolakha

*'Because of various circumstances, there has been a late start to sorting out participatory agreements with earthquake affected households. But the locals are taking the initiative to reconstruct their homes before signing the participatory agreement. During the routine inspection, if their house is found to be code compliant, the government will provide them with grant money. Personally, I praise their initiative.'*



## Nuwakot Progressing at Same Pace

The safer reconstruction process is progressing in Nuwakot too. The pace of reconstruction is slow but steady. Nabaraj Shrestha, resident of the colony area in Trishuli has been living in a zinc sheet wrapped shelter and is ready to move into his new house. Employing trained masons in order to make his home safer and better, he started building his house in April and is hopeful it will be finished by October 2016.

Likewise, contractor and mason Ram Krishna Shrestha, 52, is one of the trained masons who participated in the mason training organized by Baliyo Ghar with the DUDBC Nuwakot division office 2



Nabaraj Shrestha in front of his under constructed house

months ago. Next to his temporary shelter he is now constructing an earthquake resistant home using the knowledge he gained at the training, with the help of four other trained masons.

At Samundradevi VDC, one of the most earthquake affected VDCs in Nuwakot, 854 house were totally destroyed. Among them, 789 house owners have signed the participatory agreement with government to receive their grants. Arjun Mahat, resident of Samundradevi VDC is using trained masons to rebuild his stone-mud house. Not only Mahat, those who have signed the agreement and those who don't have are reconstructing their homes.



House of Arjun Mahat

## 'Government providing a helping hand'

**Narayan Sapkota**  
Chief, NRA Regional  
Office Nuwakot

*'At Nuwakot, the participatory agreement process is about to finish. Those who have received the first tranches of their grants have started building their houses. With the help of different partner organizations, the government is providing a helping hand for them. We have engineering experts and social mobilizers to regularly guide and supervise the locals in reconstruction. We are hopeful Nuwakot will be rebuilt better and safer.'*

## Dhading Being Built Safer

Before even signing their participatory agreements, residents of Dhading are also rebuilding their flattened houses using earthquake resistant technology. In rural areas, stone, mud and timber houses are being constructed, while in urban areas and places with highway access reinforced concrete houses are being erected.

Dhan Raj Ghale, resident of Bungchung-Kumpur in Dhading is happy to see his house being built near his temporary shelter. He is using trained masons to build the reinforced concrete house. Top Bahadur Shrestha, one of the masons trained by the Baliyo Ghar Program, is constructing Ghale's home under the regular guidance of Baliyo Ghar's Mobile Team in Kumpur. Shrestha says 'After the training I came to know the key elements that should be applied in constructing houses. The house owner is also pleased to invest some additional money to make his house earthquake resistant.'



Dhan Raj Ghale and his mason Top Bdr Shrestha



Visiting after 2 months Ghale's home seem to be half prepared



# Baliyo Ghar Activities at Dolakha

NSET/Baliyo Ghar is providing technical assistance to 13 VDCs and 1 Municipality in Dolakha district for safe reconstruction.

Baliyo Ghar Dolakha accomplished 22 Mason Training with the objectives of enhancing capacity of local masons through technology transfer. Among 22 mason trainings 2 mason trainings were organized targeting the urban masons for building RC frame structure; likewise remaining 20 were for rural based masons. 22 Mason Training under Baliyo Ghar Program produced 665



Mason Bal Kumari Kafle at 10<sup>th</sup> Mason Training at Dolakha



Masons building demonstration model house at 18<sup>th</sup> Mason Training of BG at Japhe Dolakha

masons including 25 women masons at Dolakha District. After the training, most of the trained masons are engaged in housing construction at the different parts of the district. Now, the trained masons are expected to assist the reconstruction program through their involvement in safer housing construction at rural and urban areas of Dolakha District. The training will ultimately assist an approach of engaging at least one trained mason while constructing the house.

## Coordination among the stake holders

Coordination is of the important factor in conducting any program at ward and district level. So, the team of Baliyo Ghar coordinate with authorities at district level while organizing any programs. The formal letter is distributed at NRA, DUDBC, Municipality and VDC for the approval of training and other program each time. During the Mason ToT program some of the technical persons from respective authorities are requested to take some of the session at training. Similarly, the representative of respective authorities are requested to take part as guest at the opening/closing program. Therefore, there is a good coordination among the stake holders at district.

## Reflection of participant

At Jhule, one of the participants Ambika Nepali shared "This orientation program is very informative regarding earthquake safety and preparedness and other technical parts as well and should be conducted as many places as possible. Similarly, the program also should aware the other group of peoples through door to door campaign."

The concept of street drama, Dohori songs and other tools are being developed to convey the earthquake safety and technical components related messages at the community.

## How the masons participated?

Basically the capacity enhancement program is being organized as per the need and interest of local masons working at the field. The mobile team visits every ward or housing construction site for technical assistance. During their visit, the mobile team also note down the name of local masons who are in need of mason training. After the collection of name, they are informed through telephone. Sometime, the name list of local masons are collected taking help from ward representatives. Most of the time the training is organized at different ward according to the feasibility of the participants.

## DRTC established

District Reconstruction Technology Centre has been established at the district headquarter Charikot which serve as main hub for training support activities that happen at district and local levels. DRTCs work closely with the district level reconstruction co-ordination agency.





## TOT and Social mobilizers Training

Apart from enhancing the capacities of local masons and making aware to the community people, Baliyo Ghar Dolakha conducted 5 TOT for technical professionals to boost the technical knowledge and capacities of them. ToT program benefitted altogether 164 engineers, sub-engineers and assistant sub-engineers of DUBDC Ramechhap, DUBDC Dolakha, NSET TO and some of the freelancers as well. The training enhanced the technical aspects of earthquake resistant building and methodologies to conduct the mason training at the respective working areas to produce the skilful masons. 142 government technical officers, 15 NSET technical officers, 5 freelancers and 2 technical officers from partner organization (ENPHO/OXFAM) were trained in Mason ToT in the first year of BaliyoGhar Program.

Likewise, 2 social mobilizer trainings were organized under Baliyo Ghar program which trained 32 social mobilizers of NSET-Baliyo Ghar and 31 from partner organizations working in reconstruction at Dolakha District.



Technical Professionals of DUBDC, Ramechhap at 3<sup>rd</sup> Mason Training for Trainers at Simpani, Dolakha

### Mason's reflection

Mr. Gyan Krishna Shrestha aged 72 has 32 years experiences as mason in housing construction. Mr. Shrestha one of the participants of Mason Training - 14 at Bhimeshwor said, "This training made us to realize that, we built just shelter but not houses, so they couldn't resist the earthquake. We are glad to learn technical components at the training and now our focuses will be to add these components while constructing our houses."

Mr. Gyan Krishna Shrestha



### Community Orientations

Likewise, Baliyo Ghar Dolakha accomplished 464 orientation program benefitting 13614 community people at 13 VDC and 1 Municipality at Dolakha District. The orientation program is not only raising awareness on earthquake safety and preparedness but also changing the perceptions of people on safer housing construction. There is no specific mode in practice for conducting the orientation program at community. Basically, one and half hour orientation program covers the topic under earthquake safety and preparedness followed by the basic techniques for building the earthquake resistant house. Multimedia, flip-charts and ten-key messages are used as communication tools while conducting the orientation program. Most of the orientation programs are conducted in class-room whilst some of the orientation are conducted outside the class-room as per the availability of community people in coordination among the governmental agencies and other stake holders. At some extent orientation program is also organized targeting the representatives of different committees like Ward Citizen Forum, Sachetana Kendra, Mothers group, local political leaders etc.

### People's voice

**Mr. Styalin Shrestha** ex-chairman of Ward Committee Forum, Dolakha, shares his gratitude to Baliyo Ghar Program and plans to train all the masons of ward-4, Champuja area, "We know that the Baliyo Ghar Program will definitely help to produce skillful masons and provide technical assistance in building earthquake resistant building. The community peoples are going to be directly benefitted from this program. And am sure that, this will definitely fill-up the gap of government in reconstruction at Dolakha District. We wish best of luck to the team of NSET."

**Radhika Thapa** from Gaurisankhar VDC is running Chiya Pasal at BMP-10, Dolakha. She shared, "I know about Baliyo Ghar program through radio. I see the engineers of Baliyo Ghar providing technical assistance at the housing construction site. I am also planning to visit BaliyoGhar office to take suggestions, as I am planning to build a house very soon."



# Baliyo Ghar at Nuwakot

NSET is providing technical assistance to 9 VDCs and 1 Municipality in Nuwakot district for safer reconstruction through Baliyo Ghar Program. Baliyo Ghar - Team Nuwakot accomplished 10 mason trainings at 9 VDCs and 1 municipality to enhance the skills, capacity and knowledge of 292 local masons.

One of the participant of Mason training, Mr. Ram Raja Kumal resident of Pipaltar, Bidur-5 said "I am thankful to be part of this training. I am looking forward to use all the earthquake resistant techniques I learned in my sites and now I think I can convince the house owners for safer reconstruction. It also helped me to change my perception regarding the housing reconstruction"



Likewise, Mr. Saila Tamang, 60 years, a native of Hilekartike, Likhu-5 is the one of the participant of mason training in Talakhu VDC. He said, "I have been working as mason for 25 years now. After orientation from #Baliyo Ghar Staff, I felt the training in earthquake resistant construction practice is very important so I waited for the training to begin and now I am glad to be part of it."

The masons were informed about the training through municipality and VDC personnel's. They were also directly informed during the mobile clinic visit by mobile teams. The municipality and VDC Secretary were informed about the training and coordinated for each training.

## Mason TOT

Apart from enhancing the capacities of local masons and awaring the community people, Baliyo Ghar Nuwakot conducted 7 TOT for technical professionals to boost the technical knowledge and capacities of them. The engineers, sub engineers and assistant

sub engineers from DLPIU- Nuwakot and DLPIU- Rasuwa, NSET and other POs participated Mason TOT. The total of 214 govt. TOs were trained so far while 30 TOs were from partner organizations and 14 TOs from NSE.





## Social Mobilizers Training

To enhance knowledge on social aspects and technical aspects of building the earthquake resistant building, 1 social mobilization training was conducted at Nuwakot with total 31 participants. Among them 15 participants



were from the #Baliyo Ghar Program districts and 10 participants were from Bidur Municipality along with 6 participants from Citizen Awareness Center of Nuwakot.



## People's voice

**Mr. Kishor Rasailee**, secretary of Likhu VDC in Nuwakot District is very positive towards the NSET-Baliyo Ghar Program. He said, "Baliyo Ghar Program is here to serve locals of Likhu who will be benefited in reconstruction and I am ready to provide direct or indirect assistance whenever and wherever needed."

**Mr. Prem Bahadur Thapa** 64, Salime-5 Mahakali is the party representative and Chairperson of Nepali Congress for Mahakali VDC. He said, "Being financially strong is not sufficient, but building the earthquake resistant structure with technology, selection of appropriate construction materials is equally important."

## Community Orientations

Likewise, Baliyo Ghar Nuwakot accomplished 229 community orientations to aware the locals for safer reconstruction. 6018 locals benefited by the orientations. The orientations are conducted through classroom based power point presentation, using flex in Chautara and Tea Shops and as well as using flip charts. The coordination were done with social mobilizers of Municipality and VDCs, health volunteers, cooperative groups,

women groups and locally active leaders.

Bina Shrestha, 26 & Punya Shrestha, 30 of Baguwa-09, Trishuli thanked Baliyo Ghar for informing them about the earthquake safety, preparedness and hints for safer reconstruction. Bina said, "We came to know about technical ideas while constructing our own houses along with the idea of non-structural mitigation."



Orienting About Earthquake and Its Preparedness in Mahakali VDC, Nuwakot



# Baliyo Ghar at Dhading

*NSET is providing technical assistance at 11 VDC and one Municipality in Dhading district for safer reconstruction through Baliyo Ghar Program.*

## Mason Training

Baliyo Ghar - Team Dhading accomplished 16 mason trainings at 11 VDCs and 1 municipality to enhance the skills, capacity and knowledge of 502 local masons. The first mason training was conducted at a remote VDC of Dhading, Darkha on 27th Jan 2016. This was the first mason training conducted under USAID funded and NSET implemented Baliyo Ghar Program. The training activity focused more on skills for safer construction of stone masonry buildings in rural areas using locally available materials. Altogether 28 masons from all wards of Darkha VDC enhanced their technical knowledge and skills through the training.

In the introductory session, participants were asked to list out their expectations from this course. Many participants wished to get knowledge about earthquake resistant building construction in rural areas. One of the participants Mr. Raj Kumar BK said, "We have constructed many buildings but none of them survived after earthquake. Though we have skill on constructing buildings, we are lacking something technically. We are expecting to gain technical knowledge regarding building construction so that we can construct safer buildings now onwards."

Remarkably, on commemorating a year anniversary of Gorkha Earthquake, mason training started at Marpak VDC, Dhading from 24th April 2016 where Dhan Bahadur Ghale member



*First Mason Training of Baliyo Ghar Program at Darkha VDC Dhading*



of Constitution assembly and Dilip Bhandari, Division Chief, DUDBC Dhading jointly inaugurated the program,

where fifty more people were present consisting representatives of political parties, V.D.C. secretary, President of Red Cross, Secretary of District NGO Federation, journalists, 28 mason trainees and local people were present.

Mr. Sushil Gyawali, CEO of National Reconstruction Authority (NRA) inaugurated the 4th mason training at Nilkantha Municipality on 17-23 May, 2016. On the opening session, addressing the participants Mr. Gyawali said, "We will only be safe when we construct Baliyo Ghar and the responsibility of safeguarding life of Nepalese people is in your hand now. I hope you will apply the knowledge in your site and spread earthquake safety message in your community." He stressed on role and responsibility of mason for safe reconstruction and the importance of mason training.



*Address by Mr. Gyawali, CEO of NRA*



## Community Orientations

Likewise, Baliyo Ghar Dhading accomplished 364 community orientations to aware the locals for safer reconstruction. 10451 locals benefited by the orientations. The orientations are conducted through classroom based power point presentation, using flex in Chautara and Tea Shops and as well as using flip charts. The coordination were done with social mobilizers of Municipality and VDCs, volunteers, cooperative groups, women groups and locally active leaders.



## Mason TOT

Apart from enhancing the capacities of local masons and awaring the community people, Baliyo Ghar Dhading conducted 4 TOT for technical professionals to boost the technical knowledge and capacities of them. The engineers, sub engineers and assistant sub engineers from DLPIU- Dhading, NSET and other POs participated Mason TOT.



## Social Mobilizers Training

To enhance the knowledge of Social Mobilizers being deployed in Dhading, Baliyo Ghar conducted 1 social mobilizer's training with 32 participants. The training was organized to enhance knowledge on social aspects and technical aspects of building the earthquake resistant building. The training aims in making common understanding on basic information about societal aspects for community development and social mobilization. Similarly, the participants are made familiarized about earthquake safety, preparedness and technical aspects that will assist in safer housing construction.



### People's voice

**Dhurba Prasad Aryal**, a resident of Nalang VDC Jyamiswora, Dhading, after participating the mason training said, "I had been working in the field of building construction for last couple of years but my technical knowledge was limited. This training has helped me understand the methods of constructing earthquake resistant rural buildings. Besides, the training has facilitated to uplift my technical knowledge which originally was at level zero."

**Mr. Anta Bahadur Shrestha and Bichari Ghale**, participants of Mason Training at Kumpur - 3 shared, "We got to learn about many things; about foundations, pillars, beams, stairs, windows and bands; and all other components in a buildings. So we are extremely happy. From this training, we have learnt about what earthquakes are and other things that were previously unknown to us. Earthquake has given us the opportunity to come and meet at this point. We did know how to build houses but not with proper technology which we have learned here. We have gained knowledge on how to use construction materials and place them properly. Also, as we have newly learnt about these things, we might make mistakes during construction of buildings, and expect help from instructors at that time."



# 3 Basic Trainings for government technical professionals

To provide basic knowledge about Housing Reconstruction Program and basic information on organization structure and systems for reconstruction, the introductory training program was conducted for the technical professionals hired by the National Reconstruction Authority (NRA) and Department of Urban Development and Building Construction (DUDBC). The introductory training was

The introductory training program was designed to provide basic knowledge and information on several policy and procedure related to reconstruction and applicable technology for safer construction in the villages and municipalities of earthquake impacted districts of Nepal. The training was designed to address the urgent need of mobilizing this large pool of engineers

requirements.

First training for engineers was conducted at United World Trade Centre, Tripureshwor whereas rest 2 trainings were conducted at Karki Banquet, Babarmahal. In total, 2485 technical professionals participated in a 2-day introductory course. One of the participant at the first training, Engineer Ajeet Tiwari, 24 was quite satisfied participating on the



Basic Training for Sub and Assistant Sub engineers at Babarmahal

organized by NRA, Central Level Program Implementation Unit (PIU) of Ministry of Urban Development (MoUD) and DUDBC where Baliyo Ghar program supported technically with funding support from USAID Nepal. Human Resources to plan, organize and conduct the training and logistics were provided by Baliyo Ghar/ NSET with consent from NRA.

in guiding the enrollment process and providing orientation on safer building construction in the villages. Instructors from NRA, CLPIU, DUDBC and NSET made the participants aware and capable of explaining to common people about earthquake-resistant construction technology and approved housing standards, designs and minimum

training. He said, 'the training was very instructive, persuasive and educational, I have learnt a lot.' Another participant at 2nd training conducted at Babarmahal sub-engineer Laxmi BK said, '2 Days training changed my perspectives. I found myself, as if I was at O level. But after the training I am very clear on engineering, reconstruction and Building codes etc.'





# Case Stories

## Perception changed, pleased to be in safe home

To orient community people on earthquake risk, preparedness and methodologies of earthquake resistant construction, the mobile team of NSET-Baliyo Ghar was accelerating its activities reaching house to house at different wards of Bhimeshwar Municipality, Dolakha. The team reached Ukhubari on 10 July, 2016 and met Ms. Brinda Khadka. Khadka, resident of Bhimeshwar Municipality-11, Ukhubari, one of the earthquake survivor, who seems to be happy being in safe home.

She shared, "When last-year earthquake hit Nepal, I was in pregnancy phase and was suffering from labor. The shaking of quake was occurring continuously, which made the situation very serious. During such situation, there was less possibility of using the vehicle to take me at hospital transportation and neither the hospitals was near.

Seeing me in such pain my family was compelled to take a decision of carrying me to Charikot hospital which was 5 km away from home. Then we heard the news that the roads were in worst condition. By hearing about my situation, one of my relatives managed a vehicle to take me to Jiri hospital which was 60 km away.

After, passing such situation and a minor surgery I gave birth to twin baby at Jiri hospital. I was very happy but there was no house to take rest after returning hospital. We felt the need of a proper



place for staying so I and my family member managed some tents and zinc sheets and built a small temporary cottage for some period. It was very difficult to live during the scorching heat of summer and huge rainfall of rainy season but somehow we managed.

It was after nine months of earthquake, we managed some amount to build the stone-mud house. We had felt and seen the pain of losing the house due to earthquake. So we felt the need of trained mason's

involvement in building our house and managed the trained masons accordingly. Similarly, we took the help of technicians to ensure the use of techniques in building the earthquake resistant.

Now, I am happy that I have a safe house for me, my kids and family. I believe this year we don't have to bear the heat and cold under the temporary cottage that we had face right after the earthquake of April and May."

## पिलरवाला घरलाई मूकम्प प्रतिरोधी बनाउन ध्यान दिनुपर्ने १० मुख्य कुराहरू

**१. निश्चित आकारबाट चुरा उठाई**

चुरा उठाउँदा ध्यान दिनुपर्ने कुराहरू:

- चुराको आकार १५०x१५०x५० भन्दा ठुलो नगर्नु।
- चुराको आकार १५०x१५०x५० भन्दा सानो नगर्नु।
- चुराको आकार १५०x१५०x५० भन्दा ठुलो नगर्नु।
- चुराको आकार १५०x१५०x५० भन्दा सानो नगर्नु।

**२. स्पष्ट तार बन्नु प्रणाली**

तार बन्नु प्रणालीको बारेमा ध्यान दिनुपर्ने कुराहरू:

- तारको व्यास ८mm भन्दा ठुलो नगर्नु।
- तारको व्यास ८mm भन्दा सानो नगर्नु।
- तारको व्यास ८mm भन्दा ठुलो नगर्नु।
- तारको व्यास ८mm भन्दा सानो नगर्नु।

**३. अतिरिक्त तारबन्दीको व्यवस्था गरिने**

अतिरिक्त तारबन्दीको बारेमा ध्यान दिनुपर्ने कुराहरू:

- अतिरिक्त तारको व्यास ८mm भन्दा ठुलो नगर्नु।
- अतिरिक्त तारको व्यास ८mm भन्दा सानो नगर्नु।
- अतिरिक्त तारको व्यास ८mm भन्दा ठुलो नगर्नु।
- अतिरिक्त तारको व्यास ८mm भन्दा सानो नगर्नु।

**४. पिलर र त्रिज्या बढियो बनाउनु**

पिलर र त्रिज्या बढियो बनाउनुको बारेमा ध्यान दिनुपर्ने कुराहरू:

- पिलरको व्यास १५०mm भन्दा ठुलो नगर्नु।
- पिलरको व्यास १५०mm भन्दा सानो नगर्नु।
- पिलरको व्यास १५०mm भन्दा ठुलो नगर्नु।
- पिलरको व्यास १५०mm भन्दा सानो नगर्नु।

**५. बीसको तुलनाका उक्त बढियो पिलर**

बीसको तुलनाका उक्त बढियो पिलरको बारेमा ध्यान दिनुपर्ने कुराहरू:

- बीसको व्यास १५०mm भन्दा ठुलो नगर्नु।
- बीसको व्यास १५०mm भन्दा सानो नगर्नु।
- बीसको व्यास १५०mm भन्दा ठुलो नगर्नु।
- बीसको व्यास १५०mm भन्दा सानो नगर्नु।

**६. घरको (चुल्ला) तल**

घरको (चुल्ला) तलको बारेमा ध्यान दिनुपर्ने कुराहरू:

- घरको (चुल्ला) तलको व्यास १५०mm भन्दा ठुलो नगर्नु।
- घरको (चुल्ला) तलको व्यास १५०mm भन्दा सानो नगर्नु।
- घरको (चुल्ला) तलको व्यास १५०mm भन्दा ठुलो नगर्नु।
- घरको (चुल्ला) तलको व्यास १५०mm भन्दा सानो नगर्नु।

**७. खानाघर (फुटो र खाना) को निरुद्धता**

खानाघर (फुटो र खाना) को निरुद्धताको बारेमा ध्यान दिनुपर्ने कुराहरू:

- खानाघर (फुटो र खाना) को निरुद्धताको व्यास १५०mm भन्दा ठुलो नगर्नु।
- खानाघर (फुटो र खाना) को निरुद्धताको व्यास १५०mm भन्दा सानो नगर्नु।
- खानाघर (फुटो र खाना) को निरुद्धताको व्यास १५०mm भन्दा ठुलो नगर्नु।
- खानाघर (फुटो र खाना) को निरुद्धताको व्यास १५०mm भन्दा सानो नगर्नु।

**८. फ्रेम डिजाइन गारोहलाई बाँच्ने**

फ्रेम डिजाइन गारोहलाई बाँच्नेको बारेमा ध्यान दिनुपर्ने कुराहरू:

- फ्रेम डिजाइन गारोहलाई बाँच्नेको व्यास १५०mm भन्दा ठुलो नगर्नु।
- फ्रेम डिजाइन गारोहलाई बाँच्नेको व्यास १५०mm भन्दा सानो नगर्नु।
- फ्रेम डिजाइन गारोहलाई बाँच्नेको व्यास १५०mm भन्दा ठुलो नगर्नु।
- फ्रेम डिजाइन गारोहलाई बाँच्नेको व्यास १५०mm भन्दा सानो नगर्नु।

**९. पिलरलाई छोटो गर्नु**

पिलरलाई छोटो गर्नुको बारेमा ध्यान दिनुपर्ने कुराहरू:

- पिलरलाई छोटो गर्नुको व्यास १५०mm भन्दा ठुलो नगर्नु।
- पिलरलाई छोटो गर्नुको व्यास १५०mm भन्दा सानो नगर्नु।
- पिलरलाई छोटो गर्नुको व्यास १५०mm भन्दा ठुलो नगर्नु।
- पिलरलाई छोटो गर्नुको व्यास १५०mm भन्दा सानो नगर्नु।

**१०. पक्का तारबन्दीको व्यवस्था**

पक्का तारबन्दीको व्यवस्थाको बारेमा ध्यान दिनुपर्ने कुराहरू:

- पक्का तारबन्दीको व्यवस्थाको व्यास १५०mm भन्दा ठुलो नगर्नु।
- पक्का तारबन्दीको व्यवस्थाको व्यास १५०mm भन्दा सानो नगर्नु।
- पक्का तारबन्दीको व्यवस्थाको व्यास १५०mm भन्दा ठुलो नगर्नु।
- पक्का तारबन्दीको व्यवस्थाको व्यास १५०mm भन्दा सानो नगर्नु।



## Mrs. Karki, a Symbol of Inspiration

After participation in orientation program conducted by Baliyo Ghar team, Mrs. Sabitri Karki resident of Marpak-2 Dadatole, Dhading approached with the Mobile Team separately. She wanted to rebuild her house which she thought it should resist earthquake and requested for assistance and needful suggestions. Mobile Team suggested her to wait for few days as first mason training was going on in Markpak so that she could use trained masons. She followed the suggestion of Baliyo Ghar and waited for few days to employ trained mason

in rebuilding her home.

Soon after the training was accomplished Mrs. Karki started reconstructing her building with the involvement of two trained masons that participated in Marpak Mason Training. In the construction process, Mobile Team, Engineer and Sub-engineer regularly supervised the construction progress and gave technical input to mason and necessary technical consultation and counselling to Mrs. Karki.



*Karki's Home came to its full shape in 40 days.*

During the period of construction Mrs. Karki, who is 65 years old, expressed, "mudstone masonry buildings were the main causes of death of people at the time of earthquake. I used to believe stone masonry cannot hold earthquake shock. But provision of component like bands in different level, corner stitches, gabion wire reinforcement of walls, and other techniques make me believe new stone masonry house can also with hold the shake from massive earthquake. I have not seen such provision in my old house as well in my neighbor houses that was constructed before 25 April massive earthquake."

Her house construction was completed in 40 days. Nowadays she lives in her newly built rebuilt house. When she met NSET/



Baliyo Ghar Mobile Team she often expresses "I feel safe and confident enough to stay in my mudstone masonry house which is built with earthquake resistant technology. Thanks for your team."

In her old age she is active and she says that money is not everything to construct earthquake resistant house but will power is. She got full support from her son. She is happy with her son and also with NSET/Baliyo Ghar for the technical assistance. She is now very glad that she got an opportunity to be featured in the first episode of "Baliyo Ghar" TV program. She has become the source of inspiration for Marpak towards earthquake resilient reconstruction.



# Promoting Safer Reconstruction through Mass Media

Mass media has been one of the most effective means to reach to wider population for awareness raising through disseminating information, knowledge and ideas. Baliyo Ghar program has collaborated with various media mainly television channels and local FM radios stations at central level as well as in program districts for the production and broadcast of regular weekly magazine and messages on earthquake resilient construction techniques. Also, social media has been massively used within the scope of awareness raising and information sharing.

Following briefs the media activities implemented under Baliyo Ghar program:



BG Communication Team interacting with Journalists of Nuwakot

## A. Baliyo Ghar Radio Programs

Baliyo Ghar partnered initially with 7 radio stations from Kathmandu Valley and districts to jointly produce and disseminate regular weekly magazine format programs focusing on various aspects of safer reconstruction. Radio partners were explored through open sealed bid calls in May 2016. In Kathmandu, negotiation done with total 5 radios namely; Radio Sagarmatha 102.4, Ujjyalo 90 Network, Radio Audio 106.3, Mero FM 93.5, Janasanchar FM 107.9. Likewise, 1 each local FM radio got selected in Dolakha and Dhading districts, namely Kalinchowk FM from Dolakha and Radio Dhading from Dhading district.

Each of the partnered radios produce and air regular half an hour weekly Radio Magazine “Baliyo Ghar” and air twice a week. All together 7 radios produced 126 unique radio programs and broadcasted 252 programs in Year 1. Radio programs cover almost all parts of the Baliyo Ghar implemented districts namely, Dolakha and Dhading. Yet 7 more radio stations shall be added in Year 2 to expand the reach and coverage.



Promo of Radio Program with respective logo of partner radios

Also, Baliyo Ghar partnered radios propagate messages on promoting safer reconstruction. Each radio does air awareness messages 10 times daily.

The program has developed 4 different Public Service Announcements (PSAs) focused on making people aware in the reconstruction process as follows:

1. PSA on Tranches of Reconstruction Grant that Government provides
2. PSA on commitment from different domains of society for safer reconstruction
3. PSA on safe housing reconstruction by Cine-Artist
4. PSA on Drawing Approval of houses being built

These PSA concepts are developed consulting with National Reconstruction Authority (NRA) and produced after having due endorsements from the Authority.

## B. Baliyo Ghar TV Programs

Weekly Half-an-hour TV Magazine Program “Baliyo Ghar” has been great platform for learning, sharing and advocating for safer reconstruction. Each of the program episode



A Television Program Promo Screen Shot

goes on broadcast from 4 National Television Channels weekly 3 times from each. The program covers diverse issues of reconstruction policy instruments to technology to local practices and various phases and aspects of reconstruction processes. With the aim of reaching most of the earthquake affected districts through different TV channels, Baliyo Ghar partnered with All 3 Media Ghar, a production Agency and is broadcasting Baliyo Ghar TV program through 4 different channels. All 3 Media Ghar produces the half hour program and makes broadcasted through 4 different Television Channels namely, Kantipur TV, News24 TV, Image TV and Avenues TV. A single Episode of Baliyo Ghar TV program is being aired 12 times a week as a TV channel broadcasts the program thrice a week. These TV channels are broadcasting the above mentioned 4 PSAs 10 times a day. In the Year 1, 210 episodes of Television program have been broadcasted. Following is a promo shown in TV program broadcast.



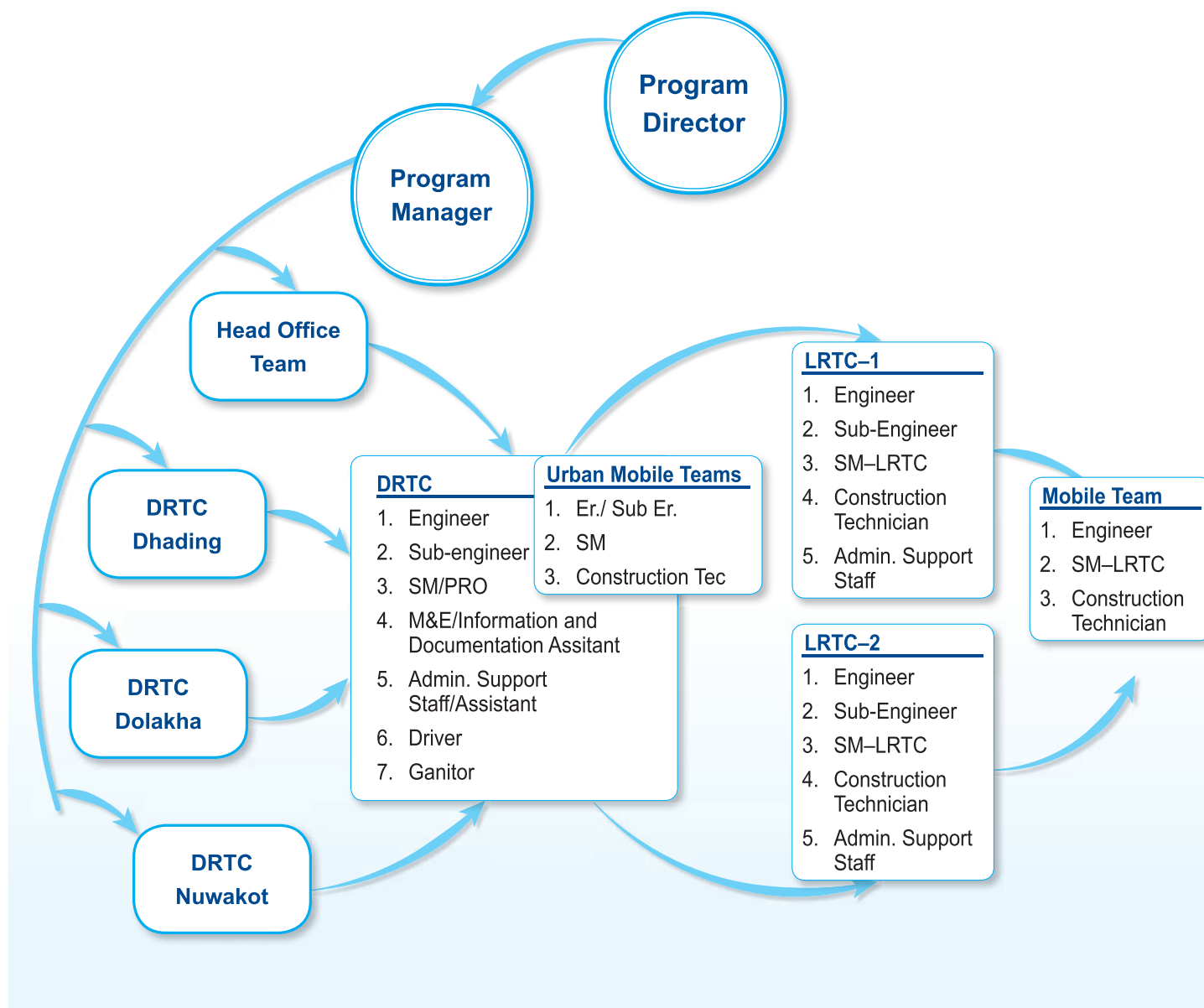
## C. Awareness through Social Media Network

Social media has been one most effective tool and platform these days. Baliyo Ghar has exclusive pages on Facebook, twitter and Youtube channel to serve with information, knowledge and ideas on safer reconstruction.

Apart from these, Baliyo Ghar is also coordinating with mass media in raising social awareness on reconstruction. Coordinating with National Broadsheets, National Radio stations and organizations, local mass media and media personals has also been a regular activity of Baliyo Ghar Communication team and helping them to find cases, stories of the earthquake affected people and achievements in reconstruction.



## Organizational Structure of Baliyo Ghar Program





# Our Publications



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