Baliyo Ghar Program
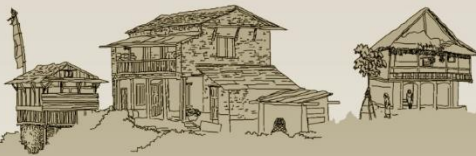
Community Based Awareness Activities for Disaster Resilient Reconstruction

A Summary Report

Enhancing Skills of Existing Masons through 7 Days Training
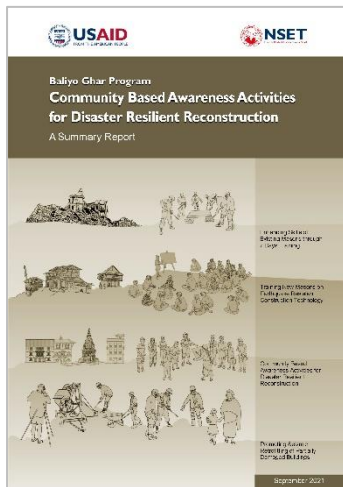
Training New Masons on Earthquake Resistant Construction Technology

Community Based Awareness Activities for Disaster Resilient Reconstruction

Promoting Seismic Retrofitting of Partially Damaged Buildings

September 2021

Baliyo Ghar Program

Community Based Awareness Activities for Disaster Resilient Reconstruction

A Summary Report

Program Period:

October 1, 2015 to September 30, 2021

Reporting Period:

October 1, 2015 to September 30, 2021

Design & Layout:

Chandan Dhoj Rana Magar

FOREWORD

National Reconstruction Authority Put forward a recovery vision allowing all the partners to align their actions with Nepal government plan and policy to build social harmony as a basis of resilience. National Society for Earthquake Technology-Nepal (NSET) found active on supporting Gorkha earthquake Reconstruction and Recovery prior to the establishment of NRA with National Planning commission. NRA is getting continuous support from NSET from the beginning of reconstruction and the technical support provided by NSET through its programme is commendable/ highly acknowledged.

Housing reconstruction program is one of the biggest challenges for NRA due to its sensitivity that it is directly related to the shelter need of affected families damaged by earthquake. The damaged was not limited to the physical losses of houses it's also impacted on socio-economic aspect of each family. The worriedness among the earthquake affected people was heightening. In such circumstances providing technical support and bringing hope to the individual family to stand with earthquake resistance house is supposed to be a nightmare which was converted into the reality now. And support of partners to the NRA is high.

NSET through USAID supported "Baliyo Ghar" program enlighten hope to about 60 thousand household with its socio-technical assistantship during house reconstruction. The capacity building trainings to masons, engineers and the policy makers are major deliverables that NSET complement on government efforts. On awareness raising component the utilization of mass media is remarkable. In specific the television program creates the opportunity to discuss the local challenges and reconstruction and recovery issues which is remains as a strong platform on advocacy as well as decisions dissemination. The technical research for innovative technology on retrofitting of houses is vital for enhancing the building resilience with minimum interventions on buildings are unique works done by NSET. The support provided by Baliyo Ghar program to draft the different type of training curricula, manuals and technical guidelines and standards are remarkable.

NRA acknowledge the technical support received during six years on reconstruction has high value and would like to express my gratitude for the NSET leadership and the working team and thankful to USAID for their support to NSET for implementation of Baliyo Ghar program.

Sushil Gyewali

Chief Executive Officer

National Reconstruction Authority

REMARKS

The housing reconstruction technical support program in a name of Baliyo Ghar designed for Gorkha earthquake housing reconstruction is strongly rooted on the NSET learnings and work experience on Pakistan housing reconstruction after 2005 earthquake. NSET engaged in **Training Support for Earthquake Resistant Reconstruction in Pakistan (TSERR)** for Earthquake Reconstruction and Rehabilitation Authority (ERRA) of the government of Pakistan for housing reconstruction. The experience of Gujrat reconstruction through the mason exchange program and the experiences working after Iran earthquake enrich the institutional experiences which is well reflected on Gorkha earthquake reconstruction and recovery through NSET different efforts. Before Gorkha earthquake NSET is engaged in different type of earthquake preparedness activities which may help to save many lives and property during gorkha earthquake. Unfortunately, the quantification of preparedness efforts and its contribution on saving life and property is not well studied so far.

Baliyo Ghar program is a one of the priority programs of NSET for housing reconstruction and recovery through which the institutional learnings and experience of NSET from around the world were systematically feed into the Nepal government reconstruction and recovery efforts. Being a professional organization the contribution of preparing PDNA with National Planning commission and engagement during preparation of PDRF are key involvement to shape the Nepal reconstruction and recovery. The technical support on development of Inspection mechanism, functions of enrollment camps and the support on developing institutional arrangement through the assign role of NRA-CEO technical advisor and the subject matter experts in a later course of NRA actions is a contribution of NSET as an institution.

Baliyo Ghar program at the field reaches to provide the socio technical support at household level. The training and capacity building of construction workforces are key contribution to create the reconstruction environment. The mass media mobilization helps NRA to understand the challenges raised during housing reconstruction which helps NRA to take a corrective measure. The local F.M stations brings the issues from the ground and discussed. The national and district level interaction conducted through the program brings synergy in reconstruction to resolve the issue at the different level of existing governance system making DLPIUs and district office more credible and accountable to the reconstruction beneficiaries.

I expressed my gratitude to the municipalities who support for the reconstruction efforts and thankful to NRA, CLPIU-Building, DLPIUs for their trust and providing us a working environment and providing the guidance. The partner organizations, HRRP and civil societies help us to be active and engaged us is different forum for discussion on reconstruction, thankful for their efforts. I acknowledge the support from USAID for providing funding and necessary guidance during program designing and implementation. And appreciate the dedication and professional work demonstrated by NSET staff during this reconstruction period.

Surya Narayan Shrestha

Executive Director

NSET-Nepal

PREFACE

Gorkha earthquake housing reconstruction is one of the successful efforts that Nepal deliberates to ensure the resilient reconstruction of private houses. Owner driven housing reconstruction adopted by Government of Nepal for such a large scale of housing reconstruction probably the largest owner driven reconstruction in the world so far. The topographical challenge of access road to supply construction materials at mountainous region is itself a complicated task. Despite all in a leadership of National Reconstruction Authority (NRA) is support from government, Nepalese people doners, I/NGO and civil societies the reconstruction of more than eight hundred thousand houses is about its completion within seven years after 2015 earthquake. However, the reconstruction of few urban settlements still has many issues and remaining reconstruction need to be completed.

The technical support provided by the partner organization is significant as mentioned by the NRA. NSET implemented Baliyo Ghar program to provide technical support to government efforts aligning with the government plan, policy, and procedures for reconstruction. The six-year Housing reconstruction technical support program begins on 1st October 2015 and ended on 30 September 2021 with the support from USAID. Most probably Baliyo Ghar program is one of the programs having longer program period almost similar life span of NRA effective life. Program support NRA in multitude of activities in three major aspects on technical support; policy, capacity building training and awareness raising for resilient reconstruction.

Baliyo Ghar program has a twofold of actions. On one aspect it has a direct reach to the reconstruction beneficiaries at household level to provide require socio-technical support on housing reconstruction through its program activities. On the other hand, the support on policy drafting and mass media activities its indirectly support to the entire beneficiaries among the earthquake affected district.

The mobilization of social mobilizers with engineers and construction technicians as a one mobile team for one ward of municipalities for about forty wards directly supported for the reconstruction of about sixty thousand houses which helps about thirty million people to assure the safe permanent shelter. The door-to-door technical support provided by the mobile teams remains instrumental to drive the result on physical reconstruction of houses at the initial days of reconstruction when in many areas people were completely unaware and confused about the rebuild of houses, reviving settlements from the ruins is a big challenge foreseen.

During reconstruction period, Baliyo Ghar program constructed 910 technology demonstration houses which trained 5,430 new masons where 26% percentage of participants were female. Similarly, the retrofitting technology demonstration on 74 houses trained 444 masons who were capable to retrofit the houses independently. The practicing masons were trained on earthquake resistant technology of houses, about 13,474 masons were trained. 2,554 engineers and architect trained in different professional skills. The elected local representatives were trained on Disaster Risk reduction and management. The television and radio program provided the platform of reconstruction, discussion information dissemination advocacy and policy decision which realize that the concept that the mobilization of mass media is equally important to support the reconstruction and recovery efforts.

I express my gratitude to all the housing reconstruction beneficiaries, local people, municipalities, CLPIU-building, GMALI, DLPIU; Dhading, Nuwakot and Kathmandu for their guidance and support during the program implementation. My sincere acknowledgement to USAID for continuous funding and supports, the program team who employed their tireless efforts on program implementation and thankful to the NSET-Board, executive director, NSET's divisions and experts at NSET for their contribution on program to make it successful.

Dr. Ramesh Guragain

Program Director and Deputy Executive Director

NSET-Nepal

LIST OF ABBREVIATIONS

ADB	Asian Development Bank
AIN	Association of International Nongovernmental Organizations in Nepal
BCRAC	Building Code Revision Advisory Committee
CBOs	Community-Based Organizations
CDO	Chief District Officer
CLPIU	Central Project Implementation Unit
CSO	Civil Society Organizations
DACFC	Development Assistance Coordination and Facilitation Committee
DCC	District Coordination Committees
DFID	Department for International Development
DLPIU	District Level Project Implementation Unit
DOR	Department of Roads
DOLIDAR	Department of Local Infrastructure Development and Agricultural Roads
DPR	Detail Project Report
DRCN	District Road Core Network
DRRM	Disaster Risk Reduction and Management
DRSP	Disaster Resilience of Schools Project
DUDBC	Department of Urban Development and Building Construction
DWSS	Department of Water Supply and Sewerage
ECED	Early Childhood Education and Development
EEAP	Earthquake Emergency Assistance Project
EIRR	Economic Internal Rate of Return
ESRP	Emergency School Reconstruction Project
EU	European Union
EXIM Bank	Export-Import Bank of India
GESI	Gender Equity and Social Inclusion
GIZ	The Deutsche Gesellschaft für Internationale Zusammenarbeit / German Corporation for International Cooperation GmbH
GMaLI	Grant Management and Local Infrastructure
GoI	Government of India
GoN	Government of Nepal
IEE	Initial Environmental Examinations
IDA	International Development Association
INGO	International Non-Governmental Organization
JFPR	Japan Fund for Poverty Reduction
JICA	Japan International Cooperation Agency
KOICA	Korean International Cooperation Agency
KVDA	Kathmandu Valley Development Authority
LRN	Local Road Network
MDTF	Multi-Donor Trust Fund
MoE	Ministry of Education
MoFALD	Ministry of Federal Affairs and Local Development
MoHA	Ministry of Home Affairs
MoHP	Ministry of Health and Population
MoUD	Ministry of Urban Development
NEA	Nepal Electricity Authority
NFN	NGO Federation of Nepal
NGO	Non-Governmental Organization
NNBC	Nepal National Building Code
NPC	National Planning Commission
NPR	Nepalese Rupee
NRA	National Reconstruction Authority
PCU	Project Co –Ordination Unit
PDNA	Post-Disaster Needs Assessment
PDRF	Post-Disaster Recovery Framework
PIU	Project Implementation Unit
PMC	Programme Management Consultancy
POs	Partner Organizations
PRC	People's Republic of China
RC	Reinforced Concrete
SEANep	Structural Engineers' Association Nepal

SDC	Swiss Agency for Development and Cooperation
SFD	Saudi Fund for Development
SMC	School Management Committees
TOR	Terms of Reference
TVET	Technical and Vocational Education and Training
UNDP	United Nations Development Programme
UNICEF	United Nations International Children's Education Fund
USAID	United States Agency for International Development
VRCN	Village Road Core Network
WASH	Water, Sanitation & Hygiene

EXECUTIVE SUMMARY

This is a final report of Baliyo Ghar program to consolidate the learnings of socio technical assistant for housing reconstruction after gorkha earthquake 2015. National Society for Earthquake Technology-Nepal (NSET) with the funding from USAID implemented the Baliyo Ghar program from october1, 2015 until September 30, 2021, to provide the socio technical assistant on housing reconstruction in coordination with National Reconstruction Authority (NRA). Baliyo Ghar program has three-fold of actions for socio technical assistance. The policy support to prepare the technical guidelines, manuals, training Curriculum and other relevant policy document related to the housing reconstruction, Training, capacity building of construction workforce and the awareness raising for the resilient reconstruction of houses. The policy document supported Nepal government to prepare the standard policy document related to housing for all earthquake affected area. Through the policy documents, mass awareness activities aired and broadcasted from radio and television program contributed for entire housing reconstruction efforts. However, capacity building efforts and technical support for household level was focused on four districts: Dhading, Nuwakot, Dolakha and Kathmandu named as program implemented districts. Within the program coverage districts one third the housing reconstruction beneficiaries were directly taken care off. In other area different partners provided the technical support. However, in technical aspect through the district reconstruction technology center formed by Baliyo Ghar program provided support to enhance the partners capacity on technical aspect of housing reconstruction. Training to the partners technical professionals, technical discussion and sharing were the key area of collaboration among the partners.

Similarly at the national level with the Center Level Program Implementation Unit (CLPIU-Building) the National Reconstruction Technology Center (NRTC) formed by the Baliyo Ghar program contributed to develop the different technical manual, curriculum, and policy documents. The training curriculum for masons, engineers, social mobilizers, correction manuals for houses, extension guidelines are few examples of policy document developed with the involvement of experts deployed by the Baliyo Ghar program.

At the end users' level, the mobile team consisting social mobilizer, engineer, and construction technician known as a mobile team provided the door-to-door technical support at household level to provide information related to the housing reconstruction such as government grant provisions, process etc. as a part of social mobilization and provided the technical supervision of houses by the engineers and construction technician during the construction of houses, for the planning and cost-estimate of the houses engineers work with the houseowner to meet the requirement and to plan the material and budget prior to the construction of house. This process of consulting individual beneficiaries helped a lot on timely completion of reconstruction at program areas. About 63000 household were benefited from this direct approach of intervention.

In this connection, the awareness raising activities conducted by the program at program implemented areas helps to prepare a reconstruction environment at the starting period when almost all of the stakeholders including government were not clear on steps of grant disbursement, housing inspection and it interlink. The campaign of social mobilization to disseminate government decisions at local level remains instrumental to rollout the grant disbursement process. This is how NRA came to start the grant agreement with beneficiaries from the Baliyo Ghar program implemented area. The rural market center of former VDC's- Singati bazar at Dolakha was chosen and grant agreement camp was first formed and tested. The learnings of which helps NRA to take the decision that the grant agreement must be done at former VDC office intending to decrease the challenges faced by the beneficiaries. The first enrollment camp was also chosen at Baliyo Ghar program district at Dhading where program mobile team were mobilized beforehand and certain level of awareness activities were conducted by the program. Both enrollment camp provided many learnings to the NRA and involved partner organizations. Enrollment processes were revisited, standardized on procedure, and scaled up to the other part of the reconstruction areas.

Baliyo Ghar program consider the theory of change (TOC) that if guidelines are standardized, local capacity and awareness increased the house owner will be able to reconstruct their houses to be disaster resilient. TOC further defined through the program goals which is to contribute to sustainable earthquake reconstruction. The program objectives to support disaster-resilient reconstruction of houses through standardized training, awareness, and demonstration in built with three intermediate results (IR) with its clear output level activities. The IR-1 improved policy and standardization of training, guidelines, and manuals for disaster-resilient construction technologies priorities its output level activities as curricula for awareness and training (including instructor development). The IR-2 Enhanced local capacity to apply disaster resilient construction methods and techniques designed with instructors' development trainings, construction workforce training, social mobilizers training, training to the government officers and support made for engaging local authorities in a process of institutionalization of safer building practices. The IR-3 increased awareness on disaster resilience construction in Nepal designed with the formal orientation sessions, Door-to-Door technical support, construction of demonstration models, Information Education and Communication (IEC) material designing and printing, radio program and dedicated television program on reconstruction are the key activities for achieve the attainment of desire outcomes under IR-3.

Targeting to the end users most of the activities were focused on program implemented districts which is one third part of Dhading, Nuwakot and Dolakha district were considered as a focused program areas where each house owners receive the technical support for their reconstruction not limiting to the reconstruction beneficiaries only. The provision of blanket technical support to each homeowner who were constructing their houses were the target groups.

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I   BACKGROUND

With an aim of supporting the Government of Nepal's owner driven approach for the reconstruction of private houses damaged during the 2015 Gorkha Earthquake, NSET has been implementing the "Baliyo Ghar Program" as a key part of the reconstruction portfolio of USAID/Nepal under the cooperative agreement AID-367-A-15-00005. Baliyo Ghar Program is providing comprehensive technical support to the GoN's owner driven model of housing reconstruction by promoting disaster resilient construction standards and design and empowering and supporting earthquake affected communities to "Build Back Better".

The program has two-fold goals:

- 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 program duration is from October 1, 2015 to September 30, 2021.

This is the summary report of the "Community Based Awareness Activities for Disaster Resilient Reconstruction" that were conducted as part of the socio-technical assistance for awareness raising activity under the program. This report highlights the strategies, outputs, outcomes and impacts of awareness raising activities such as community orientation, Door to Door technical assistance, Demonstration Models construction, Information desks, mass awareness activities like earthquake safety day, shake table demonstration conducted at different locations of the program area. Altogether, 6893 orientation events were conducted during the life of the program through which 146559 community people got oriented. Likewise, 48,569 earthquake affected beneficiaries got door to door technical assistance on earthquake resistant building construction. Moreover, total 263 information desks were established in different locations of Baliyo Ghar program coverage benefitting 7,787 people with the relevant information for earthquake preparedness and safer reconstruction.

Baliyo Ghar Program contributed to the overall reconstruction program of the Government of Nepal through mobilization of technical assistance at three levels: national, district and local. **Figure 1** shows the involvement and major program activities at the three levels.

National	• Technical support on Curricula, Guideline, Manuals, Advocacy etc. • Develop Instructors for other Districts • Support for research, study and documentation, reconstruction
District	• Establishment of District Reconstruction Technology Center (DRTC) • Training to Engineers and and Social Mobilizers • Support Project Teams • Support partner organisation and district level government offices on reconstruction
Local	• Establishment of Local Reconstruction Technology Centers (LRTCs) • House to House Technical Support in selected VDCs • Training for masons and houseowners • Awareness campaigns

Figure 1.   Baliyo Ghar Program activities at National, District and Local levels

Baliyo Ghar program implements activities in four districts namely, Dhading, Dolakha, Nuwakot, and Kathmandu. **Figures 2** show the coverage of Baliyo Ghar Program**.**
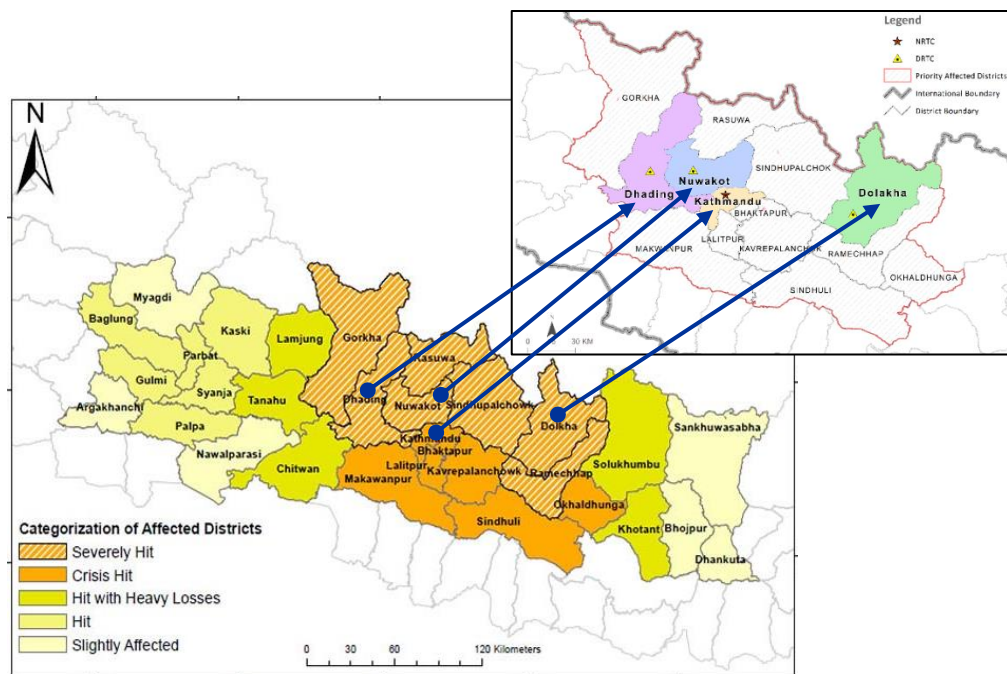
Figure 2.   Earthquake affected and Baliyo Ghar Program districts

The **Table 1** below highlights the program coverage in terms of number of wards and beneficiaries within the four program districts.

In these four districts, Baliyo Ghar program covered 23 wards of 3 Urban Municipalities (UM) and 43 wards of 12 Rural Municipalities (RM), 66 wards of 15 municipalities in total. Similarly, in terms of number of earthquake housing reconstruction beneficiaries, Baliyo Ghar provided direct technical assistance to 61,444 out of total 274,910 beneficiaries in the four districts. In total, 16.6% of the wards and 21.74% of the listed beneficiaries of the four

districts have been covered with blanket technical support through Baliyo Ghar Program.

Table 1: Coverage of Baliyo Ghar Program in terms of wards and beneficiaries

SN	Name of Districts	District Total		BG Coverage		BG Coverage (%)	
		Mun. (wards)	Beneficiaries	Mun. (wards)	Beneficiaries	Wards	Beneficiaries
1	Dhading	13 (104)	84,393	6 (31)	26,614	29.81%	31.54%
2	Dolakha	8 (67)	72,859	5 (21)	24,143	31.34%	33.14%
3	Nuwakot	12 (88)	78,770	3 (11)	8,983	12.5%	11.40%
4	Kathmandu	11 (138)	48,612	1 (3)	2,127	2.17%	4.38%
Total		44 (397)	284,634	15 (66)	61,867	16.6%	21.74%

1.1   Socio Technical Assistance Under Baliyo Ghar Program

The program primarily imparted knowledge, skills and awareness regarding disaster resilient construction techniques to earthquake affected communities in four of the most affected districts in Nepal. Further, the program assisted the government in developing policies, guidelines, norms, and training curricula to standardize the entire process of reconstruction under the leadership of the Government of Nepal (GoN) National Reconstruction Authority (NRA) and its project implementation units. The program covered a wide range of stakeholders targeted through its comprehensive technical assistance for awareness, capacity building and institutional improvements as shown in **Figure 3.**
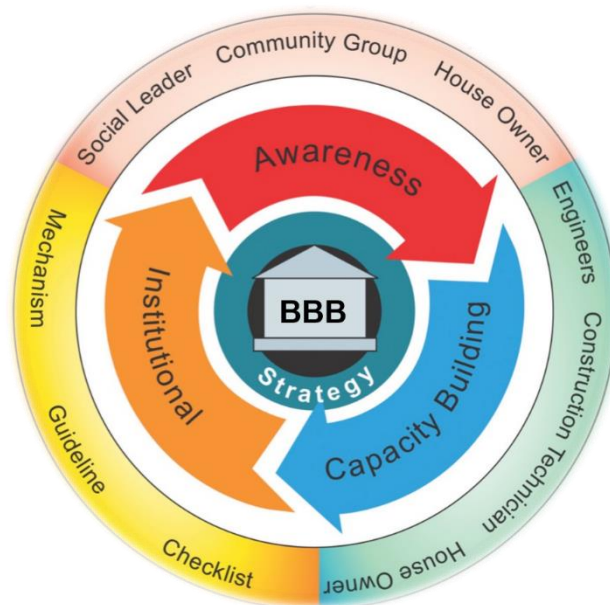

Figure 3. Baliyo Ghar Program strategy, key areas of interventions and relevant stakeholders

To enhance the local, district and national capacity to undertake the reconstruction process, the program targeted mainly six groups of beneficiaries at different levels:

1. **Construction workers** – masons (brick layers, stone layers, concrete workers), carpenters, bar benders, contractors; termed "mason" in general

2. **Social Mobilizers** – community mobilizers, social activists

3. **Technical professionals** – Structural and Earthquake Engineers, Civil Engineers, Architects, Sub Engineers, Assistant Sub Engineers deployed in earthquake affected areas by GoN, local governments and partner organizations.

4. **Common People** – house owners, beneficiaries, consumer groups, clubs, and community-based committees.

5. **Policy and decision makers** – elected representatives and officials at local (rural and urban municipalities), provincial and central level governments, district and central level NRA officials and PIUs, political leaders, officials at ministries and departments.

6. **Partner Organizations** involved in reconstruction and platforms.

Given the scale of the reconstruction required; vast numbers of trained and skilled human resources were required to undertake the massive campaign. Similarly, owing to the low level of existing knowledge on earthquake risks and mitigation, awareness raising through different approaches was also incorporated in the program. As such, Baliyo Ghar Program stipulated socio-technical assistance in six major themes, as categorized by the National Reconstruction Authority.

1. **Community Based Orientations:** In order to make the house owners aware on the need of earthquake resistant construction, massive level of awareness campaign consisting of closed classroom-based sessions on earthquake risks, mitigation measures and the technical and administrative provisions of reconstruction were conducted in program areas.

2. **Short Trainings:** Short term trainings (typically between 3 to 7 days) for engineers, masons and social mobilizers on different aspects of reconstruction and earthquake resistant construction. Moreover, engineers and social mobilizers trained as part of these trainings further developed into instructors.

3. **On the Job Trainings:** Vocational trainings targeted towards developing new skilled masons to support the demand of human resources during surge of reconstruction activity.

4. **Door to Door assistance:** Household level assistance provided to earthquake affected beneficiaries to support their decision making as well as supervise their construction in order to attain compliance.

5. **Demonstration Construction:** Construction of small- and large-scale demonstration models to aid house owners, masons, engineers and other stakeholders adequately visualize earthquake resistant construction techniques.

6. **Information Desks:** Stationery outlet aimed at providing information to a large group of beneficiaries in quick time and to increase outreach.

2 COMMUNITY BASED AWARENESS ACTIVITIES ON DISASTER RESILIENT RECONSTRUCTION

The massive scale of reconstruction required in the earthquake affected areas was commenced under the leadership of the National Reconstruction Authority (NRA) in an owner driven approach. The reconstruction was strategically implemented based on the Post Disaster Recovery Framework. Among the major objectives of the reconstruction campaign was the enhancement of local awareness and capacities to develop disaster resilience. To achieve this, the PDRF envisioned the provision of socio-technical assistance and facilitation to homeowners in addition to the financial grants. Among these, various community-based awareness, and engagement activities, were identified and implemented through the program.

1.2 Community Based Orientation Events

Community based orientation programs are collectively referred to the activities conducted in the earthquake affected areas, where beneficiaries were provided information on administrative and technical policies, guidelines and provisions and knowledge on earthquake resistant construction in a classroom-based setting. Typically, orientation program consisted of up to half a day of structured presentations, either using multimedia, printed materials or demonstration models and interactive lecturing methods.

2.1.1 OBJECTIVES

Baliyo Ghar program conducted large number of orientation and interaction programs targeted towards a wide range of stakeholders, house owners, masons, engineers, local authorities etc. The purpose of the program was to enhance awareness of earthquake affected beneficiaries regarding reconstruction policies and earthquake resistant construction. Specifically, orientation programs served the following objectives:

1. Enhance knowledge and understanding of stakeholders to undertake earthquake resistant construction of rural and urban buildings owing to standards prescribed in the National Building Code and the Minimum Requirements set forth by the NRA.

2. Disseminate information regarding various administrative, legal, and technical provisions of reconstruction.

3. Maintain uniform understanding and confidence among different stakeholders regarding reconstruction policies and technical provisions.

4. Discuss challenges and solutions to key issues of reconstruction amidst a wide range of audience to support reconstruction activities.

5. Develop outreach of Baliyo Ghar Program and provide information regarding its activities in its implementation areas.
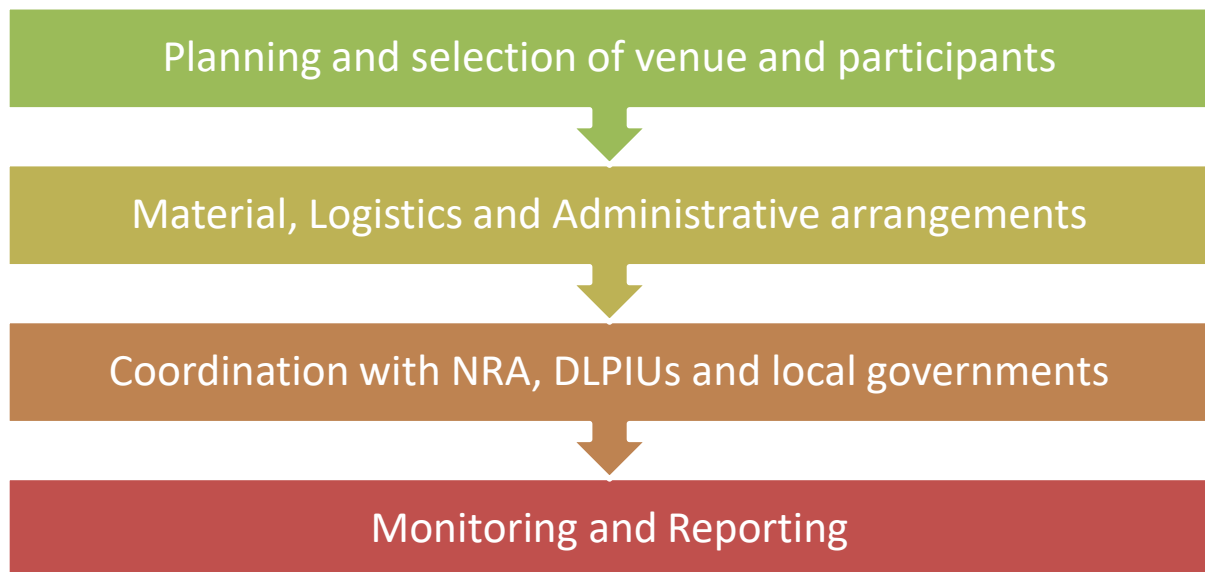
2.1.2 Development of Materials

Baliyo Ghar Program covered 66 wards in 15 different municipalities across the four program districts. As such, a wide diversity in the socio-economic and demographic distribution can be seen among the earthquake affected households in these program areas. The diversity required program activities, although under the same alias, be conducted in different modes depending upon the needs of the community as well as the availability of resources. Similarly, as the reconstruction was a fairly dynamic process with new information on technical and administrative provisions being produced on a regular basis, orientation events were also synchronized and remodeled with updates on reconstruction policies, technical norms and other information from the National Reconstruction Authority. Thus, orientation program across the program areas were diversified in terms of content, mode of delivery etc. The following table 2 highlights the key content and modes of delivery of orientation programs across the program duration.

Table 2:   Key content and modes of delivery of orientation programs

Program Period	Key Contents	Modes of Delivery
Year 1 (Oct 2015 – Sep 2016)	- Introduction to Nepal's reconstruction program - Introduction to Baliyo Ghar Program - Administrative policies for participation agreement - Theoretical concepts of earthquake risk management and earthquake resistant construction. - Housing designs, models, and construction as per Government of Nepal	- Interactive lectures (classroom based). - Information desk/orientation halls at enrollment camps. - Demonstration of small-scale models.
Year 2 (Oct 2016 – Sep 2017)	- Theoretical concepts of earthquake risk management - Earthquake resistant construction as per NRA technical requirements. - NRA Inspection and grant disbursement - Correction of non-compliant houses as per NRA correction manual	- Interactive lectures (classroom based). - Community visits and on-site technical assistance. - Demonstration of small-scale models. - Information desk at grant disbursement sites (banks)
Year 3 (Oct 2017 – Sep 2018)	- Theoretical concepts of earthquake risk management - Earthquake resistant construction as per NRA technical requirements. - NRA Inspection and grant disbursement - Correction of non-compliant houses as per NRA correction manual	- Interactive lectures (classroom based). - Community visits and on-site technical assistance. - Information desk at grant disbursement sites (banks) - Demonstration of small scale and actual models.
Year 4 (Oct 2018 – Sep 2019)	- Theoretical concepts of earthquake risk management - Earthquake resistant construction as per NRA technical requirements. - NRA Inspection and grant disbursement - Retrofitting of partially damaged buildings.	- Interactive lectures (classroom based). - Community visits and on-site technical assistance. - Information desk at grant disbursement sites (banks) - Demonstration of small scale and actual models. - Demonstration of on-site retrofitting.
Year 5 (Oct 2019 – Sep 2020)	Theoretical concepts of earthquake risk management	In small groups maintaining distancing and other COVID-19 protocols

Program Period	Key Contents	Modes of Delivery
	• Earthquake resistant construction as per NRA technical requirements. • NRA Inspection and grant disbursement • Retrofitting of partially damaged buildings. • Building Code Implementation and Building Permit Process • Non-structural earthquake risk mitigation.	• Door-to-door information campaigns
Year 6 (Oct 2020 – Sep 2021)	• Theoretical concepts of earthquake risk management. • Building Code Implementation and Building Permit Process • Non-structural earthquake risk mitigation. • Extension of reconstructed households	• In small groups maintaining distancing and other COVID-19 protocols • Door-to-door information campaigns

2.1.3 Implementation Mechanism

Planning and selection of venue and participants

Material, Logistics and Administrative arrangements

Coordination with NRA, DLPIUs and local governments

Monitoring and Reporting

The above flow chart shows the implementation process of orientation program conducted in Baliyo Ghar program areas. As shown in chart, firstly planning and selection of venue and participants is done. Then, materials and logistic necessary for the program was arranged. The necessary coordination with NRA, DLPIUs and local governments is also done. Mostly social mobilizers of wards were contacted for the information dissemination of orientation program. Further, orientation programs were conducted. The required registration sheet was filled after the program. Finally, the reporting of the orientation was done following DQA guidelines.

2.1.4 Outputs

With the objective of orienting people about the earthquake, its consequences, and measures to be adopted to build Earthquake Resistant houses, series of orientations were done in different parts of the program area in Dhading, Dolakha, Kathmandu and Nuwakot, district. With the time being the topics used

in the orientations were stretched to retrofit and correction of the house as well as the non-structural mitigation as per the need of the community. Altogether 6,893 orientation events have been conducted where 146,559 beneficiaries participated. As seen in **Figure 1:** 57% of total participants were males whereas 43% of the total participants were females.
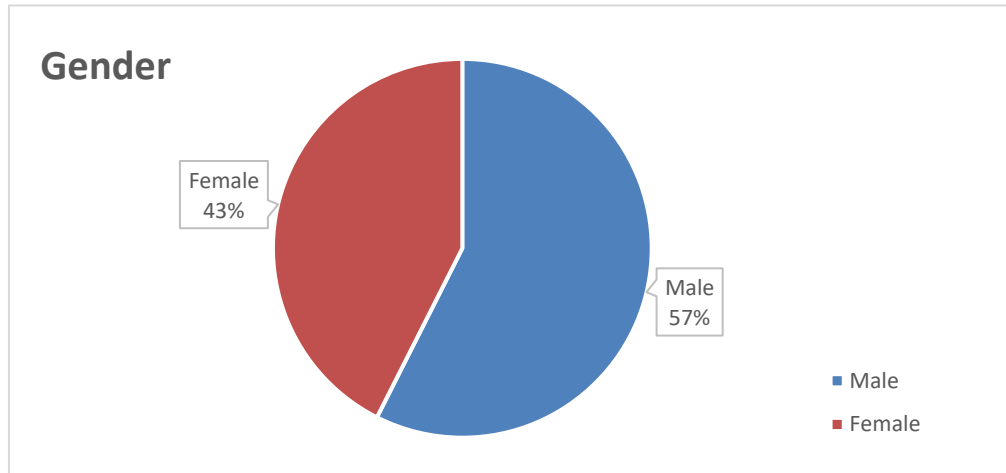

Figure 4.   Gender wise Disaggregation of Orientation

As the program was conducted in 4 different districts. The participants of orientations were also from different ethnic groups. **Figure 2** below shows that the highest ethnic group benefitted by orientations were Janajati which is 46% followed by B/C 31%, 12% Dalit, 10% Newar, 1% others. Muslim community in the program area were negligible as few of them participated in orientation were all migrated due to different purpose.
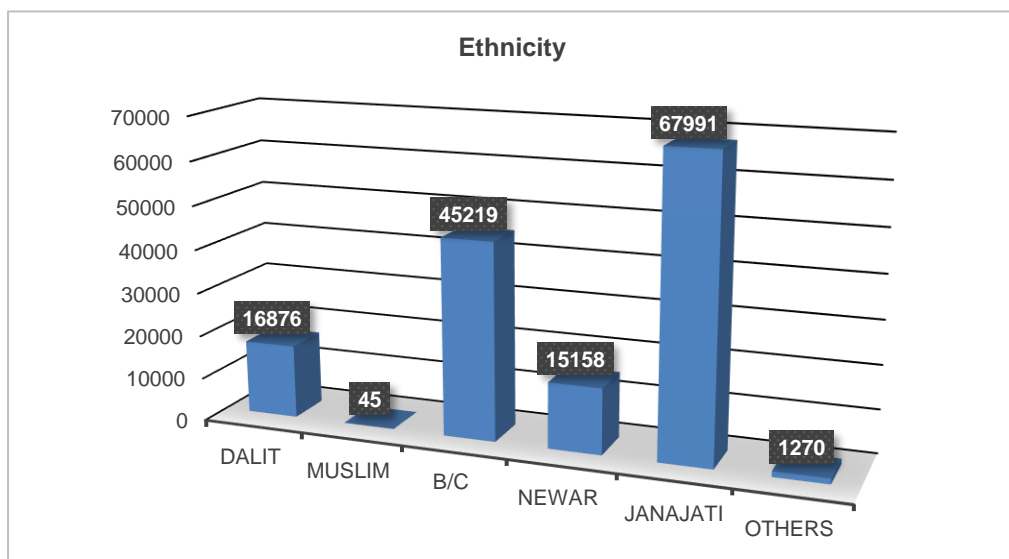

Figure 5.   Ethnicity wise Disaggregation of the Orientation

Similarly, the participants were also of different age groups. The **Figure 6** below shows the age wise distribution of participants benefited through orientation programs. Most of the participants were of age group >35 which was

58%, followed by 14 % of 15-19 age group, 9% of 30-34, 8% of 20-24 & 25-29 and only 3% of 0-14. The highest participants were of >35 as most of youngster were migrated to Kathmandu or nearby city for education and employment.
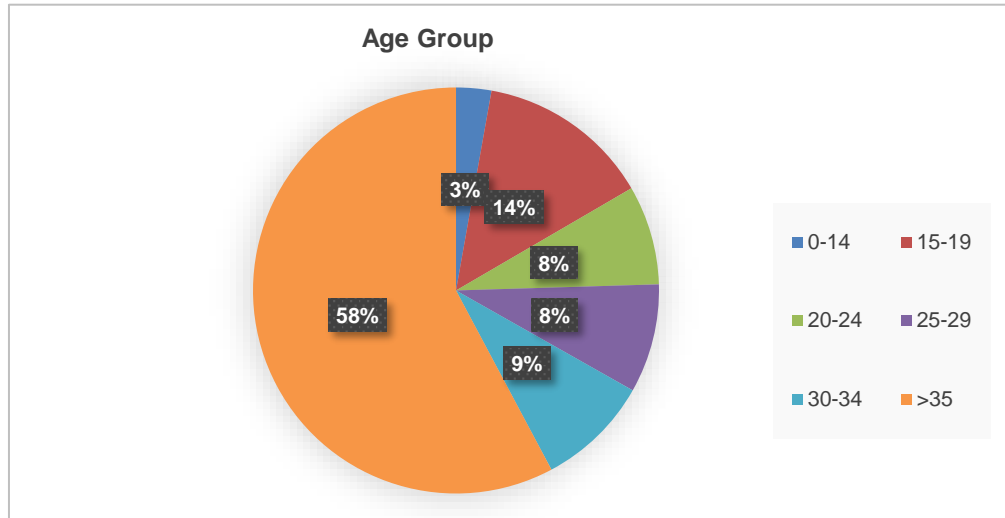
Age Group

Figure 6. Age group of participants

2.1.5 Contribution to National Reconstruction

The main purpose of the orientation program was to enhance awareness of earthquake affected beneficiaries regarding reconstruction policies and earthquake resistant construction. Through orientation programs, it is possible to boost knowledge and understanding to undertake earthquake resistant construction of rural and urban buildings owing to standards prescribed in the National Building Code and the Minimum Requirements set forth by the NRA. The challenges and solutions to key issues of reconstruction were discussed among a wide range of audience to support reconstruction activities. Similarly, orientation programs help in dissemination of information regarding various administrative, legal and technical provisions of reconstruction contributing to the safer resilient reconstruction.

2.1.6 Monitoring and Evaluation

The orientation data was collected in the format approved by the M & E of NSET. The data collection format consists of name of program, time, and venue along with participants' details like name, address, contact number, gender, age, ethnicity, occupation and status of reconstruction of their houses. The information collected in this registration format was entered in roster sheet and compiled monthly. The monthly compiled roster is then forwarded to the data analyst of the Baliyo Ghar. Similarly, the data information of the orientation roster was also shared in database. The program details along participants' details were entered in database by IDOs of the program districts.

The most important aspect of data management of the orientation is data quality assurance in field level. The data quality of the orientation program was maintained through three level checking process. Firstly, data is prepared by Mobile team and sign the document and forwarded to the LRTC. Secondly, LRTC team check the documents and sign which is forwarded to DRTC/IDO. Finally, DRTC/IDO verify the documents and sign and finalize the data. The finalized data is then entered in database and provided to the further reporting.

2.2   Door-To-Door Technical Support

With the view of none of the houses should be left behind from the technical assistance, to build the earthquake resilient houses, Baliyo Ghar Program mobile team at least visited the beneficiary's house once. During the visit mobile team assisted the house owner as well as the masons to circulate the information about the technical traits of reconstruction. As majority of the houses were damaged Baliyo Ghar had formed various duty stations in each of the working VDCs comprising of an Engineer, Social Development Officer and a Construction Technician who were responsible for providing the technical assistance within the ward.

2.2.1 Objectives

The main objective of Door-to-Door technical assistance or Mobile Clinic was to ensure that the houses that were to go under construction comply with the building code. There are few more objectives which are:

• To establish friendly relationship with the beneficiaries and communities.

• To understand and experience the actual scenario, issues, and challenges of reconstruction in the communities, and provide appropriate socio-technical support to resolve them.

• To provide free technical assistance and supervision of planned, ongoing, and completed construction so as to ensure compliance to building regulations set forth by NRA.

• To support and facilitate beneficiaries and NRA technical inspection team in inspection and documentation of houses in various stages and smoothen the process of grant disbursement.

2.2.2 Implementation and Mobilization Mechanism

Flowchart depicting implementation mechanism of door-to-door support:
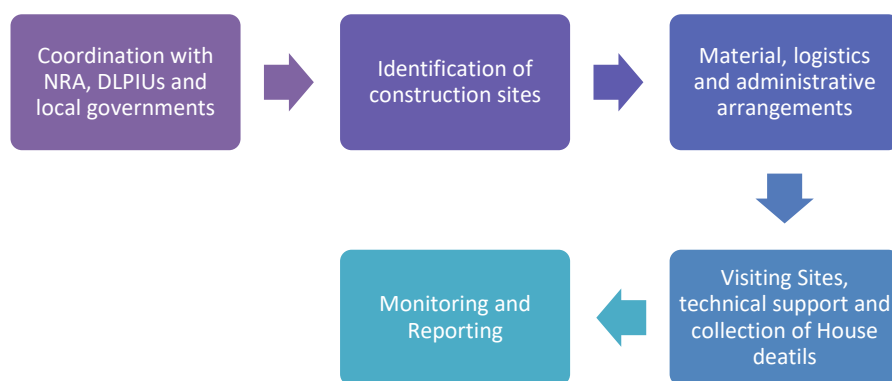
2.2.3 Major Outputs

As an integral component of socio technical assistance of Baliyo Ghar Program, all houses constructed in the working areas of 4 districts during the reconstruction process were provided with on-site technical and social assistance by the deployment of the mobile team through mobile clinics (door to door campaigns).

Table 3: List of Door-to-Door Assistance provided Former VDCs in BG Program area

SN.	District Name	Former VDC	Rural Municipality and Ward No.
1.	Nuwakot	Talakhu	Shivapuri RM-1
2.		Chhap	Shivapuri RM-2
3.		Likhu	Shivapuri RM-3
4.		Sikre	Shivapuri RM-4
5.		Mahakali	Shivapuri RM-5
6.		Samundradevi	Shivapuri RM-6
7.		Thanapati	Shivapuri RM-8
8.		Thansing	Likhu RM-5
9.		Thansing	Likhu RM-6
10.		Chaturale	Kakani RM-7
11.		Thansing	Kakani RM-8
12.	Dolakha	Alambu	Bigu RM-6
13.		Babare	Kalinchok-2
14.		Bhimeswor	Bhimeswor UM- 2,3,4,5,6,7
15.		Bhirkot	Tamakoshi RM-1
16.		Bigu	Bigu RM-7
17.		Chilangkha	Bigu RM-5
18.		Chyama	Tamakoshi RM-6
19.		Japhe	Tamakoshi RM-3
20.		Jhule	Tamakoshi RM-2
21.		Katakuti	Sailung RM-3,5
22.		Laduk	Bigu RM-4
23.		Lamidanda	Kalinchok-3,4
24.		Magapauwa	Sailung RM-3,4

SN.	District Name	Former VDC	Rural Municipality and Ward No.
25.		Malu	Tamakoshi RM-4
26.	Dhading	Darkha	Khaniyabash RM-3,4
27.		Dhuwakot	Nilkantha UM-14
28.		Jyamrung	Nilkantha UM-10,11
29.		Kalleri	Galchi RM-1,2,3
30.		Khalte	Nilkantha UM-1,5
31.		Kumpur	Siddhalek RM-5,6,7
32.		Marpak	Netrawati RM-1,2
33.		Nalang	Siddhalek RM-1,2
34.		Nilkantha	Nilkantha UM- 2,3,4,6,7,8,9,12,13
35.		Semdhung	Netrawati RM-2,3
36.		Sertung	Rubi Valley RM-3,4
37.		Tipling	Rubi Valley RM-1,2
38.	Kathmandu	Kageshwori	Kageswori Manahara UM-1,2,3

As seen in **Table 3** Altogether, 38 former VDCs, 9 in Nuwakot, 14 in Dolakha and 12 in Dhading and 1 in Kathmandu where more than 45000 beneficiaries were benefitted by Door-to-Door technical assistance. As seen in **Figure 3** below, 1190 beneficiaries have been benefitted in Kageshwori, 20848 beneficiaries have been benefitted in Dhading, 8037 beneficiaries have been benefitted in Nuwakot and 18499 beneficiaries have been benefitted in Dolakha through Door-to-Door technical assistance.
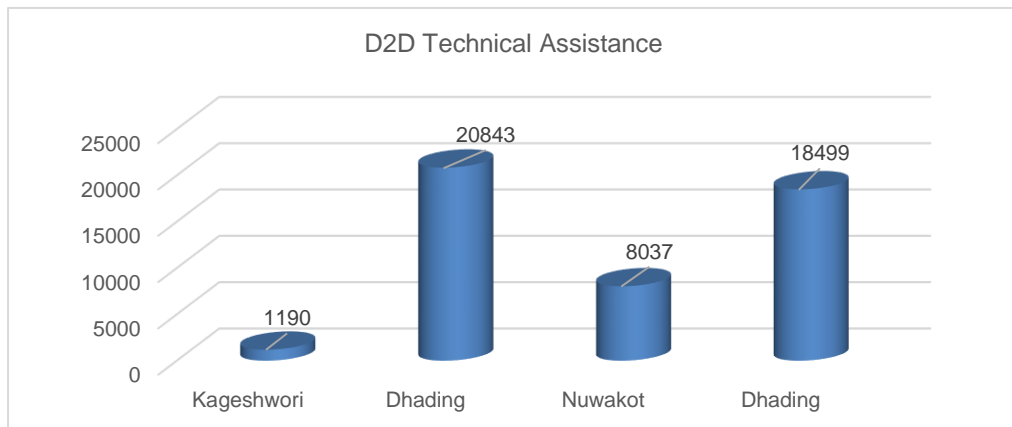
Figure 7. District wise door to door assistance (As of March 2021)

Overviewing the reconstruction status of houses, construction completed houses were more in every district compare to under constructed houses. This implies the soon completion of reconstruction in all districts.
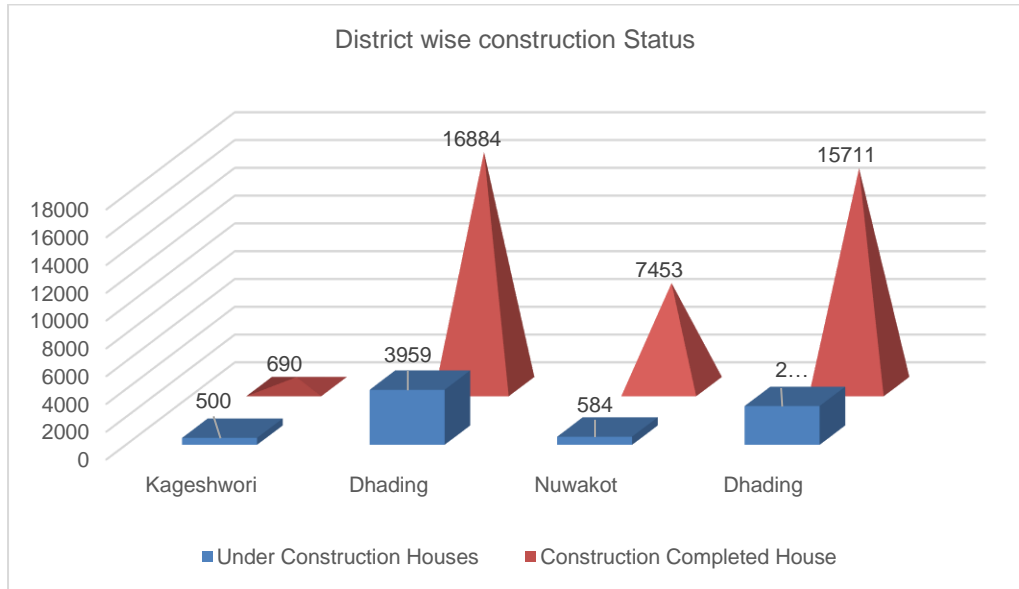
Figure 8.   District wise reconstruction status (As of March 2021)

The below **Figure 9** shows the different typology of buildings constructed in all 4 districts. The construction of SMM type was higher in Dhading, Dolakha and Nuwakot followed by BMC in compare to other types of building while BMC type is higher in Kageshwori followed by RCC type as this area is blooming semi urban settlement near Kathmandu city.
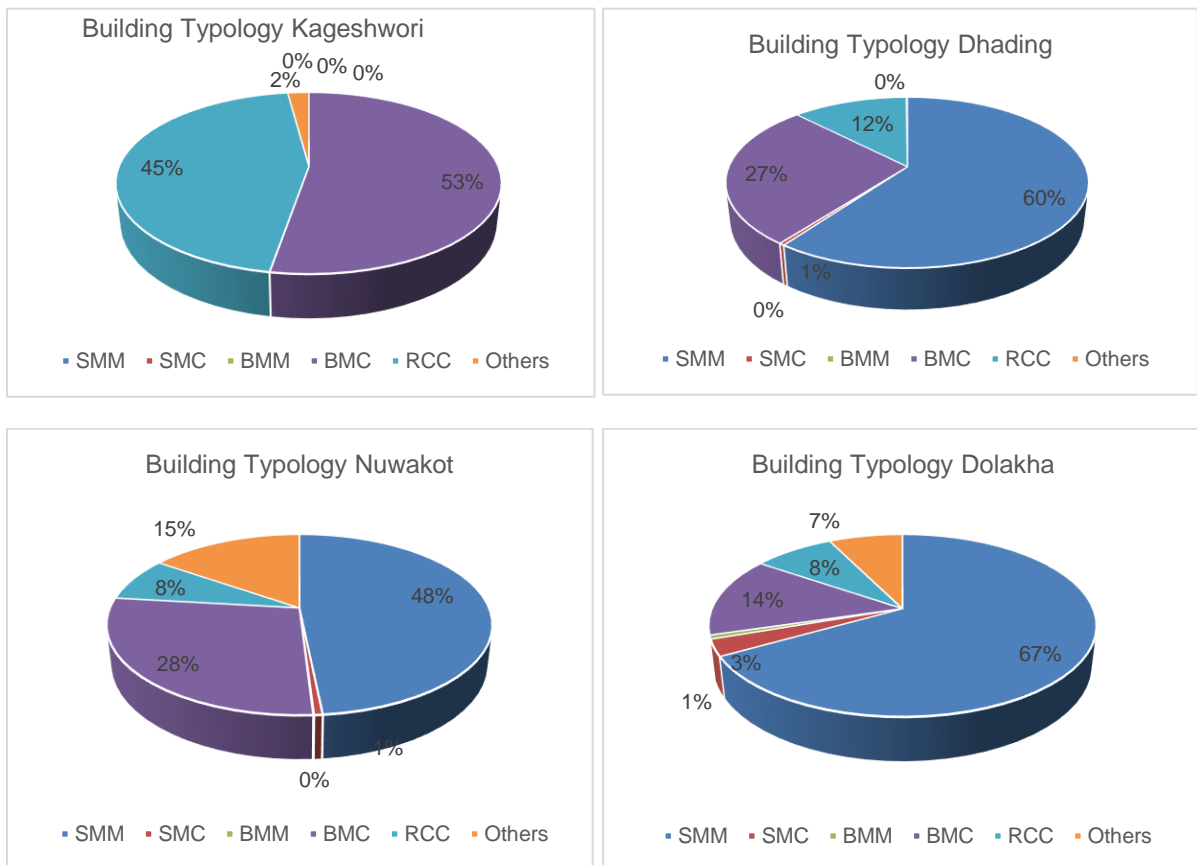
Figure 9.   District wise Building Typology (As of March 2021)

The house owner was also disaggregated gender wise. About 80% of the beneficiaries were male while only 20% were female. Most of the beneficiaries were male headed as evident by the data.
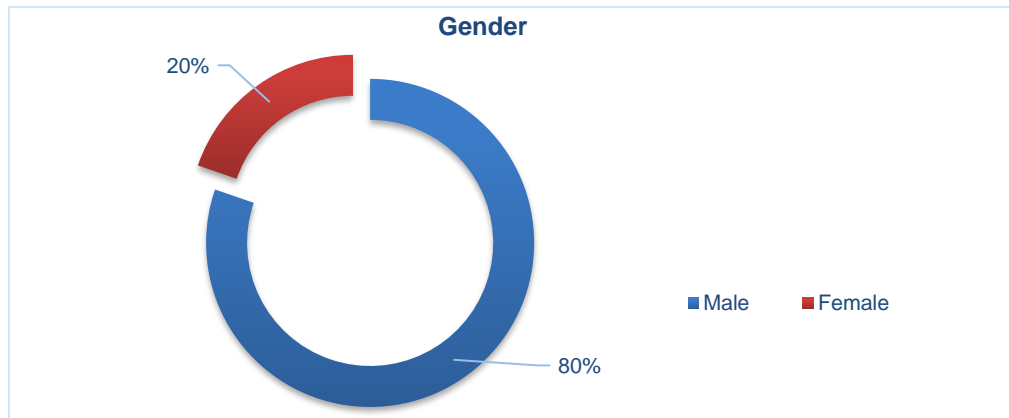

Figure 10. Gender of Beneficiaries of D2D Technical Assistance (As of March 2021)

The beneficiaries of D2D technical assistance were of different ethnic groups. The main ethnic group residing the BG program area benefitted by D2D technical assistance were disaggregated in the **Figure 11** below. Most of the beneficiaries were Janajati (39%) followed by B/C (38%). Only few were Newar (12%) and Dalit (11%). There was negligible presence of other ethnic groups.

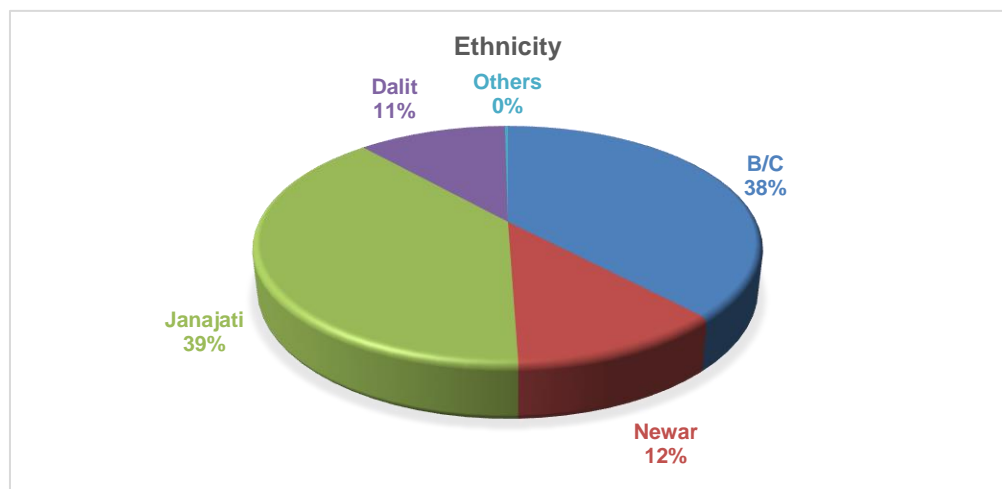Figure 11. Ethnicity of Beneficiaries of D2D Technical Assistance (As of March 2021)

2.2.4 Monitoring and Evaluation

Door-to-Door technical support was approached in order to fulfill the blanket coverage of technical support in all the program areas of Baliyo Ghar. The mobile teams were assigned their wards and coordination with the NRA, DLPIU-Technical persons and local government was done working within the

ward. After coordination, the reconstruction sites were visited at least once. The necessary technical advices and skill transfer was provided by technical person to the working masons while social mobilizers clarify the technical and other social issues to the house owners related to reconstruction.

Likewise, reporting of D2D technical assistance is similar to orientation program. The mobile teams collect the house owner details along with the house details in the mobile clinic form. This form was filled in every visit of the reconstruction sites. The monthly reporting of new and carryover construction was done to LRTC in beneficiaries tracking sheet. Then, LRTC teams report in mobile clinic reporting excel sheet along with tracking sheet to DRTC. IDOs in DRTC verify the data of mobile clinic in both sheets provided by LRTCs. Finally, data od D2D technical assistance was provided to Data Analyst of Baliyo Ghar.

2.3 Demonstration Construction

In urge of reconstruction, Baliyo Ghar program brought a concept of demonstration model construction in order to awake the working masons as well as other community people. Demonstration models were primarily constructed in order to develop hands on skill to the trainee masons during the training events so that their confidence to construct earthquake resistant buildings will be boosted up. Secondly, these models are intended visualization and easy understanding. Several small- and full-scale models of earthquake resistant construction of buildings were constructed throughout the program period. These models were constructed as part of different capacity building trainings of masons; small scale models were constructed as part of 7-days mason trainings whereas full scale house models were constructed as part of 50 days On the Job Trainings. Likewise, retrofit demonstration models were constructed from 25 days retrofit OJT for masonry buildings. The models did not only help trainees in the application of knowledge and skills in earthquake resistant construction but also allowed general public and earthquake affected beneficiaries to visualize and understand the earthquake resistant construction norms set by the government. In most cases, small scale models were placed temporarily for 3-6 months whereas full-scale models were constructed for vulnerable earthquake affected beneficiaries and will remain in the community for a long period of time.

2.3.1 Small Scale Demonstration Models

Introduction

Small scale demonstration models of RCC and masonry buildings were constructed during the practical session of mason trainings. These models demonstrate the earthquake resistant components of building such as proper laying of walls, connection of the cross walls, connection of wall with floor and roofs, position of bands and stitches, position of vertical reinforcement/wooden members, position of doors and windows etc. in case of masonry buildings.

Likewise, for RCC buildings, size and no. of reinforcement bars for structural elements of the building is shown in the demonstration model. The spacing of stirrups, position of reinforcements for the staircase and slabs is also demonstrated in the small-scale model of the RCC buildings.

Although, the existing masons had basic knowledge and skills required for the construction of a house, they lack specific knowledge and skills on earthquake resistant technology. So, in order to fill the gap, Baliyo Ghar Program conducted short-term training courses targeting the existing local masons in its program areas. Through these trainings two types of small-scale models were constructed Urban Model and Rural Model. These types of model were constructed during mason trainings within training days

Rationale

Only photographs and animated videos of earthquake resistant buildings were not sufficient to make people convinced to construct earthquake resistant buildings in the initial days of reconstruction. They were keen to see some kind of physical models so that they can realize whether it is much costlier or not, construction will be tedious or not and that will be stronger or not. Besides that, only theoretical training was not enough to build up the confidence of the masons to construct earthquake resistant buildings, so small scale demonstration model was of prime need at that period of time. The main purpose of small-scale demonstration model was to provide hands on skills of the technology of resilient construction. The masons in the training learned the proper way of construction using the same materials that were used before. It helps in easy understanding of technology.

Structural And Awareness Values

The small-scale demonstration models were found to be the strongest physical example to implement the theoretical knowledge that practicing mason got during the trainings and boost up their confidence to construct earthquake resistant building. Moreover, these small-scale demonstration models could convince houseowners on the strength of earthquake resistant buildings. Initially, people were not believing that houses constructed with earthquake resistant building construction technology can really withstand earthquakes, but once the models got constructed after mason training in their location, they started constructing their house with similar technology as that of demonstration models and reconstruction got its pace later on.

Outputs

As the training models were constructed during the training of mason, each training had one to two models as per the necessity. About 437 small scale models have been constructed so far. Among them 267 models were rural type model whereas only 170 models were urban type.

Demostration Models
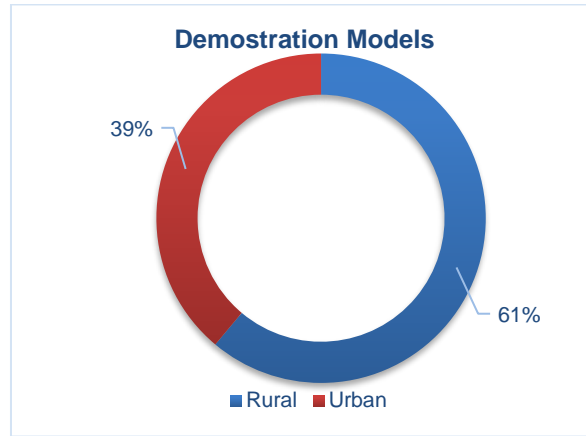
39%

61%

■ Rural ■ Urban

Figure 12. Type wise small scale demonstration Model

2.3.2 Full Scale Demonstration Models

With the similar approach of small-scale models, full scale demonstration models were also constructed. It was a full house demonstration model from foundation to roof. Unlike small scale, it has been constructed through On the Job mason training modality. The houses were constructed within 50 days for the marginalized, socio-economically back warded society and differently abled beneficiaries in priority basis.

Demonstration of Earthquake Resistant Construction of Masonry Buildings

To enhance local capacity in earthquake resistant construction and to support the reconstruction process, Baliyo Ghar Program conducted On the Job Training in its program areas in order to fulfill the high demand of trained masons for construction. The OJT has contributed to enhancement of local capacities to undertake earthquake resistant construction of rural and urban buildings at local levels with minimum external interventions. It helped in transfer of skills from existing masons to unskilled masons working as labors to increase the number of skilled human resource, thus supporting during the surge of the reconstruction process.

The major objectives of On-the-job training are as follows:

- •To produce new masons to fulfil the demand of skilled construction workforce for reconstruction at local level mostly at ward level of existing VDC/municipality.

- •To assist marginalized, socio-economically back warded society and differently abled people to enhance their skills on housing construction as a new opportunity for professional growth.

- •To construct Earthquake Resistant Buildings at local level to aware local people on earthquake resistant technology as a technology demonstration model.

The main purpose of full-scale demonstration model was to provide hands on skills of the technology of resilient construction for the new masons. The masons in the training learned the proper way of construction using the local materials like stones and wood along with the earthquake resilient techniques. It helps in easy understanding of technology.

Outputs of Demonstration Construction

The full-scale demonstration models were constructed in BG program area and non-BG program area. The total of 910 full scale demonstration models was constructed. Among them 276 were in BG program areas while 634 were in non-BG program areas as extension program.
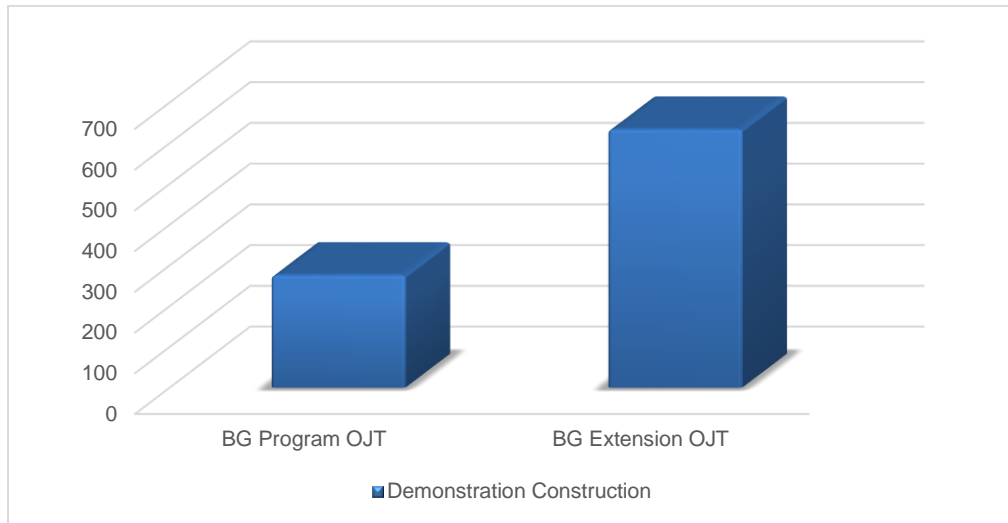

Figure 13. Full scale demonstration models in BG OJT and Extension OJT

Demonstration models can be of different types. The typology of full-scale demonstration models constructed during OJT were BMC, SMM and SMC. Most constructed model were SMM i.e., 66%, 32% were BMC while only 2% were SMC type.
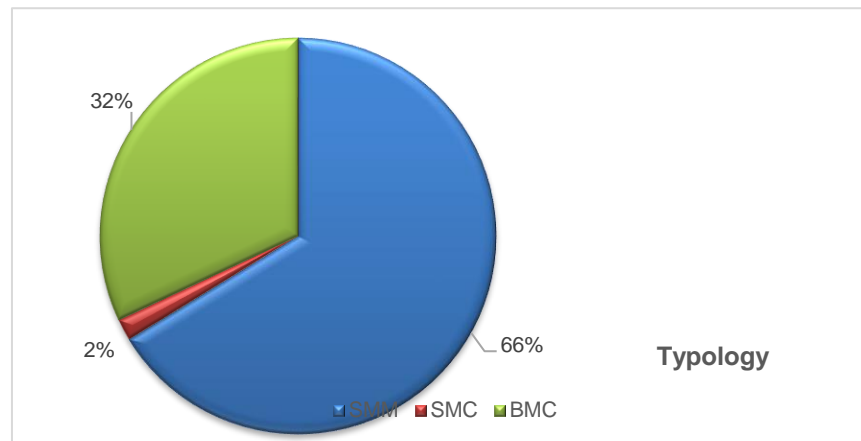

Figure 14. Typology of full-scale demonstration models

Demonstration of Techniques in Retrofitting of Masonry Buildings

Although none of the beneficiaries were listed as retrofit beneficiaries. Those houses which were not fully damaged and can gain its strength through some maintenances were selected for retrofitting. Masons who were trained before in rural or urban reconstruction technology were selected as retrofit trainee. 25-days mason retrofitting training was conducted who had previously received training on rural construction.

The specific objectives of the training are:

1. To enhance skill of practicing masons on retrofitting of masonry buildings.
2. To persuade the masons that retrofitting of the masonry buildings can be done by using locally available materials and indigenous technology.
3. To facilitate them in incorporating the retrofitting technology in the community.
4. It helps to combine classroom training with hands-on field exercises on the real field, which leads to enrich their knowledge in theory as well as practice by relating it.
5. To retrofit a real masonry house in the community in 25 days training period.

The retrofit training is expected to increase the scope of work of the local masons and thus help them find better opportunities in the construction sector in the district headquarters as well as other urbanizing centers. The training helps in enhancing the skill of the masons who are trained with seven days' mason training and are continuously working in retrofitting of masonry buildings.

Outputs of Demonstration Construction

Along with new demonstration models, some old houses were also kept for demonstration through retrofitting technology. The total of 74 retrofit demonstration have been constructed so far. Among them 43 were constructed in Dhading, 17 in Dolakha, 13 in Nuwakot and 1 in Kathmandu.
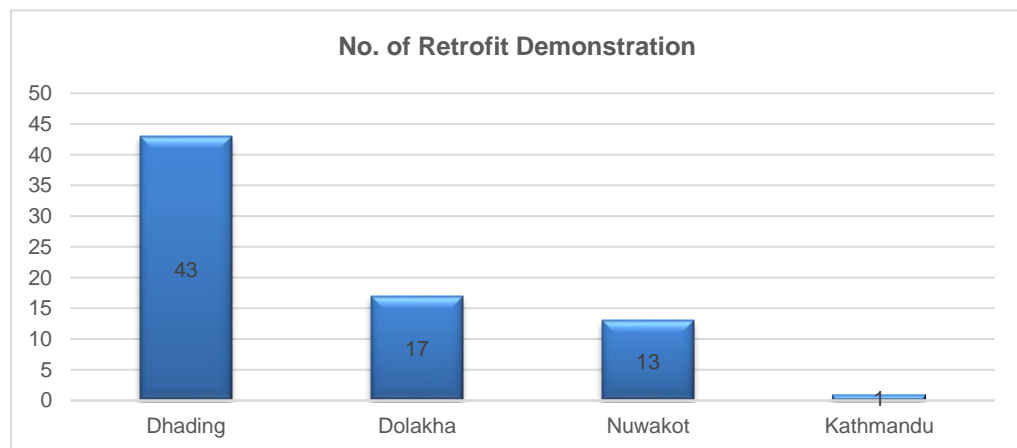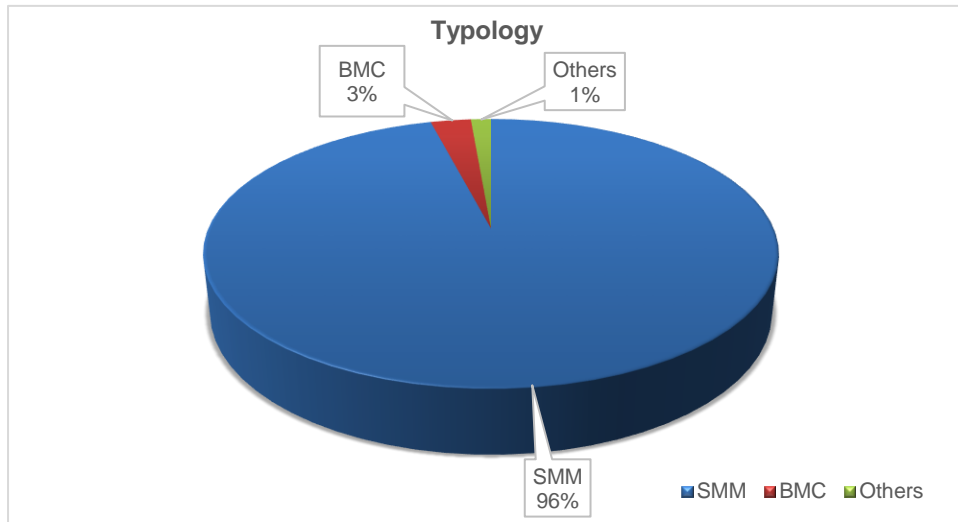

Figure 15. District wise retrofit demonstration

Like the full demonstration model, the most retrofit demonstration model constructed were SMM i.e., 96% while only 3% were BMC and 1% were other remaining type.

2.4   Information Desks

To support many people at a time information desks were conducted in different places of the districts where a group of people were provided with the NRA policy updates, construction technologies as well as their concerns regarding the policies and the reconstruction process. Information desks were very useful in distributing the publications and the IEC materials produced by the Program. These desks, in mobile form, were placed in strategic locations, such as during enrollment camp, at bank branch offices during tranche disbursement, at ward office or during any communal functions.

Information Desk is a resource intended to provide the beneficiaries with information and support related to institution's service. The purpose of an information desk was usually to troubleshoot problems or provide guidance about the service that the institution was being provided. Information Desk was to setup at DRTC Offices, outside of Local government offices and any other mass gathering with the purpose of providing service to clients who visit for Building Permit, to know about the procedure of receiving Government tranche or about the Guidelines published by GoN on reconstruction procedure and Earthquake Resistant Building Models. Information dissemination through information desk is one component of technical assistance package as per National Reconstruction Authority.

The activity target beneficiaries at various levels were: -

1. Common People – house-owners, persons who are going to construct building and are in building permit process
2. Masons- well trained and certified masons who are going to construct house owners' building and are in building permit process.

2.4.1 Objectives

The main objectives if information desks were:

- To provide guidance to common people involved in building permit system about the Municipal System and Service.

- To provide common people with basic IEC Materials focusing on earthquake safer building construction.

- To aware, the local people about the system of getting government tranche and process of reconstruction.

2.4.2 Implementation Mechanism

At the initial stage, information desk functioned daily with Social Mobilizer and Technical Officer with required IEC Materials and flowcharts for explaining the procedure of building permit and reconstruction. Later, it was run with a volunteer having basic knowledge about building permit process, building code and reconstruction procedure or could be oriented about these process and procedures, as only the basic information is provided during the help desk for which no technical officer is required.

Apart from providing service to beneficiaries about building permit process, building code and reconstruction procedure, local people were also oriented about the process. Separate orientation programs were planned if the number of beneficiaries who come to help desk is significant. After completion of building permit task of that day, local beneficiaries were gathered and oriented about the overall procedure of building permit system, earthquake and its preparedness, building code and its importance and major 10 key points for new reconstruction.

2.4.3 Major Outputs

Through information desk more than 7000 beneficiaries were benefitted in different program areas of Baliyo Ghar. The highest percentage of the beneficiaries were in Nuwakot i.e. 33%, while 28% beneficiaries were of Dhading and Dolakha both. Only 11% beneficiaries were benefitted in Kageswori.
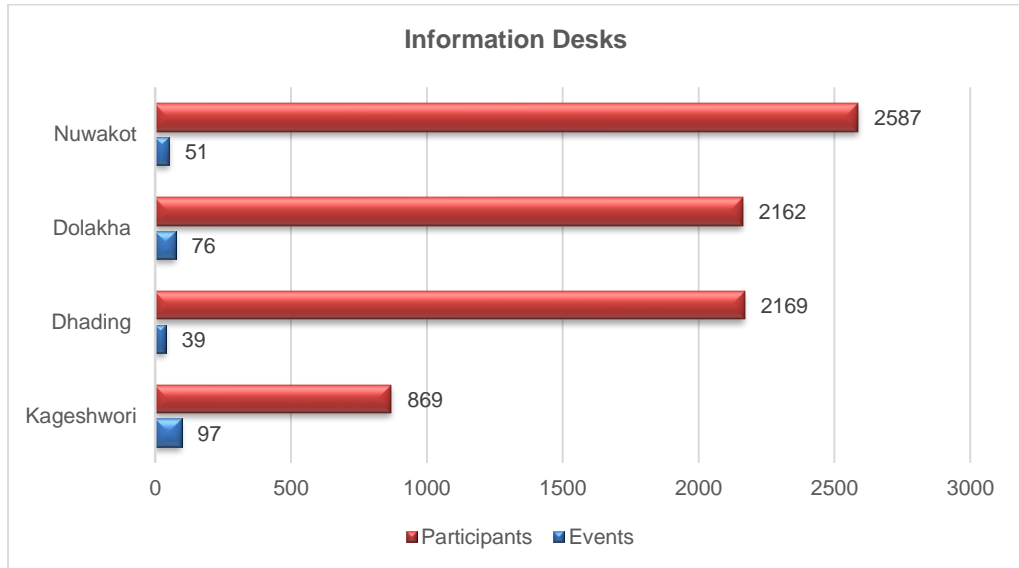
Figure 16. District wise information desk vs participants

Through information desks about 7000 beneficiaries were benefitted. Among them 68% were male and 32% were female beneficiaries.
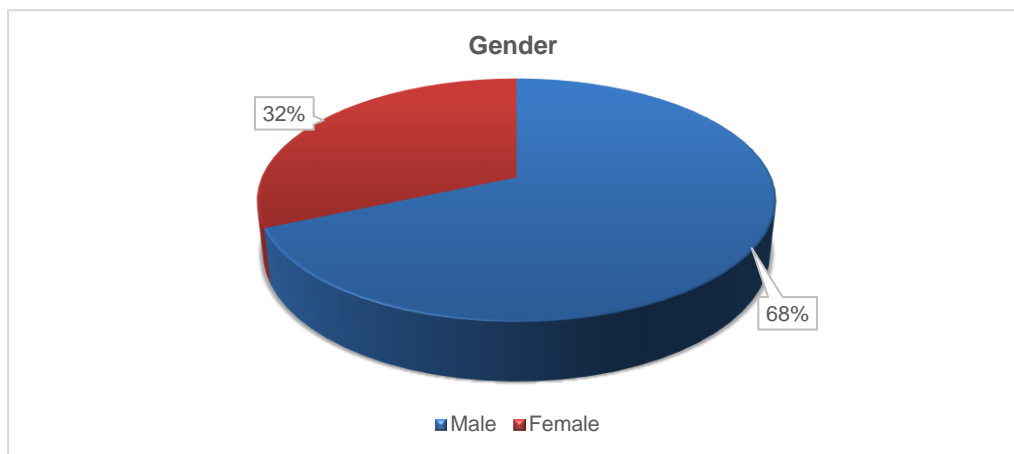

Figure 17. Gender disaggregation of information desks beneficiaries

The beneficiaries were of different ethnic groups. The high number of beneficiaries were from B/C 40% followed by Janajati 37%, Newar 15%, Dalit 6% and Other ethnic group like Muslim only being 2%.
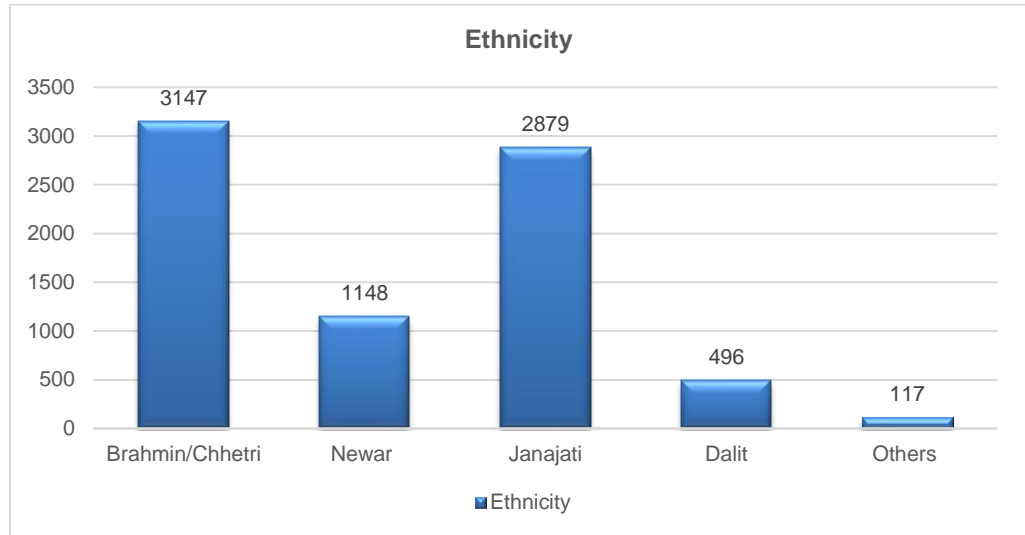
Figure 18. Ethnicity disaggregation of information desks beneficiaries

2.5   Mass Awareness Activities

With the motive to aware the large number of people in the community mass awareness activities are very effective. Mass awareness activities helps to alert different beneficiaries of different groups, localities, age and gender at a time. During mass awareness all targeted beneficiaries are given equal quantity of consciousness. Mainly two approaches of mass awareness were used in Baliyo Ghar Program, Earthquake Safety Day and Shake Table Demonstration.

2.5.1 Earthquake Safety Day

Raising awareness among people and authorities on forthcoming earthquake risk and techniques to mitigate the risks is a key for reducing the risk. Realizing this, Government of Nepal had declared Earthquake Safety Day in 1999 and has been observing ESD on 2nd Magh. Every year with the different slogan, ESD was marked on Magh 2. Different activities like information desk, documentary shows, speech competition, drawing competition, folk song competition, media interaction etc. were conducted in Baliyo Ghar program area.

The major activities conducted during ESDs were:
• Media interaction
• Rally
• Information desks with small demonstration models
• Documentary Show
• Speech Competition
• Drawing Competition
• Poem Competition
• Folk Song and Dancing Competition
The main objectives of ESD programs were
• To aware the larger mass through different approach
• To involve the community and students in awareness campaign

Outputs

On the occasion of Earthquake Safety day, different activities were conducted in different Baliyo Ghar Program areas. Among all these programs, highest events of activities were orientations benefitting more than 2000 beneficiaries.

Table 4:   List of activities conducted during ESD

Activities	Number of Events	Tentative participants
Rally	11	330
Media Interaction	2	50
Singing & Dancing Competition	3	36
Video/Documentary Show	52	936
Speech Competition	14	112
Essay Writing	8	56
Drawing Competition	9	135
Information Desk	29	870
Mason Training	5	100
Orientations	143	2288
Ward Stakeholder Meeting	18	144
Focused Group Discussion	11	77
Quiz competition	1	8
Poem Competition	2	16
Mason Refresher Interaction	8	48
Street Drama	1	6
Photo Exhibition	5	300
Total	318	5272

2.5.2 Shake Table Demonstrations

Without practical demonstration, even the best idea remains only an elusive theory. To demonstrate the value of earthquake resistant building techniques, Shake Table Demonstration has been held among earthquake-affected people in Baliyo Ghar Program area. Stone and Brick masonry shake table demonstration was exhibited targeting the community people to convince them about the feasibility of earthquake resistant construction and demonstrate how different earthquake-resistant elements can help buildings withstand the forces during an earthquake. Two scale models of Stone with mud and brick with mud each, one built in the ordinary way, and the other using earthquake-resistant techniques (concrete bands, stitches) were set up on a table and a series of simulated earthquake shocks were delivered. Demonstration held was one of the parts of program organized on the occasion of 19th Earthquake Safety Day, 2073.

Outputs

There were 3 shake table demonstration conducted in 3 working districts under Baliyo Ghar program.

District	Types of Shake table
Dolakha	Stone in mud
Dhading	Brick with mud
Nuwakot	Brick with mud

3 IMPACTS OF COMMUNITY BASED AWARENESS IN RECONSTRUCTION

Community based awareness has important part in reconstruction. Among the major objectives of the reconstruction campaign to enhance local awareness and capacities to develop disaster resilience community various community-based awareness and engagement activities were identified and implemented through the program. The certain target was set to achieve the progress in the program. In case of orientation program 92% target have been achieved. Similarly, 100% target have been achieved for D2D campaign, Demo House OJT and Training Models.
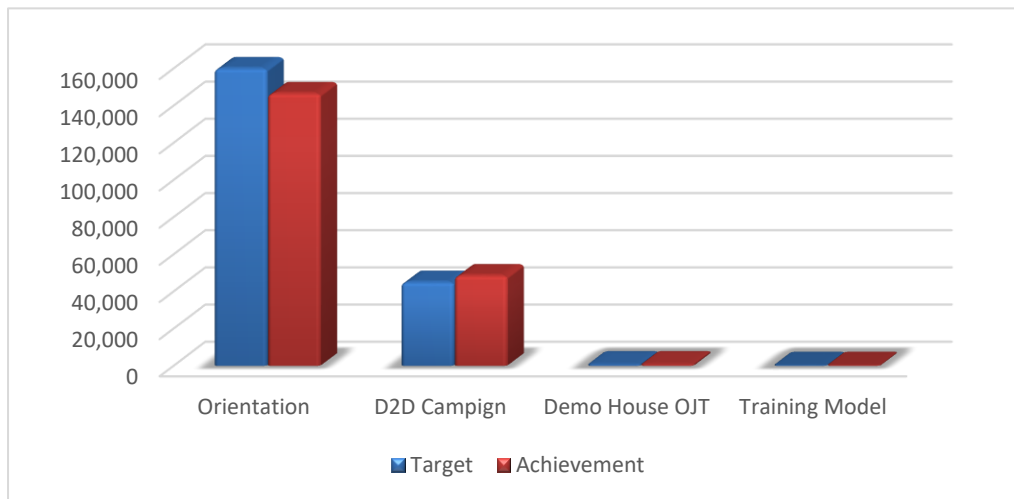

Figure 19. Target vs Achievement of Community Based Awareness

4 KEY LEARNINGS

• Community based awareness program plays vital role in spreading knowledge widely.

• Different approach for awareness was key for achieving the goals of awareness program.

• Awareness could be raised through verbal and nonverbal method. Demonstration models have been one of the successful techniques.

5   RECOMMENDATIONS

- Orientation curricula should be changed as per the necessity of the beneficiaries.

- Demonstration models and training models should be constructed near the ward offices where flow of people is more.

- Awareness raising activities should be comprehensive and impactful.

ANNEX 1.   Data Disaggregation of Different Community-Based Awareness Activities

i.   Orientation programs of Baliyo Ghar

District	No. of Events	No. of Participants	Gender		Ethnicity						Age						
			Male	Female	Dalit	Muslim	B/C	Newar	Janajati	Others	0-14	15-19	20-24	25-29	30-34	Above 35	NA
Dhading	1857	43624	24315	19309	6485	9	8913	5180	22701	333	855	4274	3445	3832	4277	26941	3
Dolakha	3211	62953	37047	25906	7129	24	25930	6096	23095	679	3105	12100	4966	5122	5214	32446	0
Nuwakot	1613	36851	21172	15679	2973	10	8847	3420	21403	198	152	3526	3004	3418	3384	23367	0
Kathmandu	212	3131	1659	1472	289	2	1529	462	792	57	0	323	185	333	348	1942	0
Total	6893	146559	84193	62366	16876	45	45219	15158	67991	1267	4112	20223	11600	12705	13223	84696	3

Door to door technical assistance of Baliyo Ghar

Districts	No. of HHs. Constructed/Benefited by Mobile Clinic	Status of construction		Building Type							House Owner (House Head Description)											
		Under Construction Houses (Number)	No. of Construction Completed Houses	Stone Masonry in Mud Mortar (SMM)	Stone Masonry in Cement Mortar (SMC) Cement Mortar (SMC)	Brick Masonry in Mud Mortar (BMM)	Brick Masonry in Cement Mortar (BMC)	RCC	Other Type		Male	Female	Brahmin/Chhetri	Newar	Janajati	Dalit	Muslim	Others	Single Women	Female Headed HH	Senior Citizens	People with Disabilities
Kageshwori	1190	500	690	0	0	0	623	534	25	1038	162	774	145	215	56	0	0	0	0	0	0
Dhading	20843	3959	16884	11657	78	1	5295	2371	1441	16351	4492	5347	2563	9751	3136	0	46	0	0	0	0
Nuwakot	8037	584	7453	4558	57	4	2618	739	56	6899	1140	2491	803	4080	658	0	4	55	414	23	0
Dhading	18499	2788	15711	13101	577	133	2788	1583	317	14712	3787	9807	2092	4862	1672	0	66	68	0	71	4
Total	48569	7831	40738	29316	712	138	11324	5227	1839	39000	9581	18419	5603	18908	5522	0	116	123	414	94	4

Information Desks of Baliyo Ghar

Districts	No. of Info. Desk	No. of Beneficiaries	Male	Female	Brahmin/Chhetri	Newar	Janajati	Dalit	Muslim	Others
Dhading	39	2169	1202	967	988	365	571	198	0	47
Dolakha	76	2162	1613	549	689	362	964	120	0	27
Nuwakot	51	2587	1912	675	1027	306	1109	112	3	30
Kageshwori	97	869	602	267	443	115	235	66	0	10
Total	263	7787	5329	2458	3147	1148	2879	496	3	114

ANNEX 2. DOCUMENTS (ADMINISTRATIVE/M&E) RELATED TO COMMUNITY-BASED AWARENESS ACTIVITIES

Data quality checklist for orientation

Item Code:			
Name of indicator			
Intermediate Result		Indicator type (Outcome/Output)	
Data source		Reporting period	
Data Generation Checklist			
Responsible Person:			

1	Is orientation program participants' registration sheet completely filled in prescribed format? (for reference registration sheet attached herewith annex) Annex: 13 Comments (if any)	Yes ☐ No ☐
2	Is filled up form and format sufficient for data disaggregation as required? (Age, gender, ethnicity, house owner type, occupation, education level, district, VDC/Mun., ward number) Annex: 13 Comments (if any)	Yes ☐ No ☐
3	Are data ready for reporting to concerned authority (LRTC/DRTC/HO) in prescribed format? Comments (if any)	Yes ☐ No ☐
4	Are orientation program photos maintained with proper caption and further use for reporting? (At least 5 photos with good caption) Comments (if any)	Yes ☐ No ☐
Checked by: Information and Documentation Officer		

ANNEX 3. PHOTOGRAPHS

Orientation Programs

Door to Door Technical Assistance

Door to Door Technical Assistance

Demonstration Construction: Small Scale, Full Scale and Retrofit

Information Desks

ESD programs

Shake Table Demonstration

Baliyo Ghar Project Team:

Ramesh Guragain
Ranjan Dhungel
Ayush Baskota
Pramod Khatiwada
Bishnu Hadkhale
Pranav Dahal
Achyut Poudel
Manish Raj Gouli
Hari Ram Pathak
Prakash Shrestha
Prabhat Khanal
Bigyan Thapa
Subash Dhakal
Vishma Basnet
Manoj Sharma Chapagain
Santosh khadka
Santosh Nepal
Govind Raj Bhatta
Sagar Chandra Adhikari
Lila Bahadur Bhujel
Sangib Shrestha
Manoj Adhikari
Geeta Bhandari
Shyam Baniya
Parbati Motra
Achyut Paudel
Arjun Ghimire
Gopal Gautam
Ram Shrestha
Bhimsen Nepal
Sujan Bhusal
Manoj Sharma Wagle
Mabin Panday
Suman Kumar Dahal
Suman Khanal
Samir B.K.
Bikesh Kasula
Naresh Sayaju
Resuna Koju
Sunil Lamichhane
Sujal Niroula
Anupam Kumar
Balkrishna Shiwakoti
Milan Shrestha
Aabiskar Timilsina
Santosh Shrestha
Puspa Kumar Bista
Kiran Shrestha
Bijesh Kaiti
Prabin Shrestha
Aashis K C
Kamal Hari Dulal
Laxman Khatri
Ganesh Prasad Acharya
Arjun Adhikari
Bikram Prasad Poudel
Kamalendra Mallik

Raj Lamichhane
Ganesh Prasad Pandey
Krijan Maharjan
Nawin Deo
Anand Prashad Pant
Dhruba Devkota
Aasish Tiwari
Tara Lama
Anuj Shrestha
Jenish Sharma
Binod Dahal
Ek Raj Gautam
Ranjan Basnet
Anil Bhattarai
Bipin Sapkota
Anisha Khatri
Saroj Kandel
Saroj Adhikari
Prajwal Sanjel
Aarjan Adhikari
Aashish Khadka
Santosh Kumar Shrestha
Nishkarsha Koirala
Ujjwal Niraula
Manoj Shrestha
Nischal Parajuli
Santosh Regmi
Kshitij Rai
Dundu Ram B.K
Bikesh Kila Shrestha
Manas Thapa
Shekhar Mahat
Sujeet Gurung
Dwaipayan Sharma
Suyog Bhandari
Dipesh Ray
Rajati Dahal
Dipesh Tiwari
Nilesh Rawal
Sabin Chand
Hemraj Bogati
Neeraj Upadhyaya
Sakar Maskey
Narayan Prasad Kharel
Manoj Bista
Aavash Ghimire
Keyur Pradhan
Bimarsha Kaphle
Jayesh Singh Gurung
Ramesh Dhimal
Dinesh Pradhan
Shreeram Lawaju
Summit Pokhrel
Sushil Kumar Shrestha
Kishan Adhikari
Sanjit Wagle
Jhalak Man Basnet

Sudip Karna
Kirti Chandra Joshi
Sasit Shah
Pratiksha Thani
Prakriti Paudel
Binaya Nepal
Santa Bahadur Jirel
Manisha Maharjan
Bipin Simkhada
Ram Prasad Acharya
Ved Prakash Chaudhary
Nirman Devkota
Hari Prasad Aryal
Shrawan Dhakal
Krishna Prasad Dhakal
Biwash Kafle
Ashok Dhungana
Sudip Raj Adhikari
Prakash Kumar Shrestha
Bipin Kumar Chand
Ganesh Bhattarai
Arunachal Pokharel
Ramesh Poudel
Janaki Somare
Nirmala Nepali
Surina Kayastha
Dirge Tamang
Ramesh Shah
Jagadish Shiwakoti
Laxmi Baniya
Sharada Kumari Joshi
Rojeena Timilsina
Sabitri Khatiwada
Dipak Kumar K.C
Bhabana Dhakal Bhantana
Ram Bahadur Nepali
Hemraj Itani
Dhan Bahadur Basnet
Subhash Tamang
Binata Bhurtel Paudel
Ganesh Gautam
Binita Silwal
Kaushila Shrestha
Janaki Sapkota
Dipendra Karki
Chiranjibi Bhusal
Susma Adhikari
Samjhana Lama
Arbin Adhikari
Shova Koirala
Indira Kumari Thapa
Tika Kumari Budhathoki
Bijay Kumar Baruwal
Nabina Dulal
Nita Bhandari
Sanu Maiya Shrestha
Sabita Wosti

Srijana Tiwari
Bimala Adhikari
Rajendra Bhattarai
Reshma Rai
Ranju Dhungana
Sujan Rai
Dewan Sing Maden
Dorje Lama Tamang
Krishna Bahadur Moktan
Rabindra Dhakal
Min Kumar Thapa
Kamala Aryal
Narendra Bahadur Shahi
Dipak Raj Ojha
Bhim Bahadur Nepali
Shambhu Ram
Niraj Bahadur Ayadi
Ishwor Dutt Joshi
Sushil Pandit

Utsav Rai
Simon Thapa (Tamang)
Sushila Bhandari
Bijay Tamang
Sushil Kumar Gurung
Mek Bahadur Tamang
Dhruba Neupane
Susmita Puri
Rikesh Maharjan
Bhuvan Khanal
Puskar Basnet
Nabin Raj Ruwali
Parbati Thapaliya
Yam Kumari Uchai
Pratima Parajuli
Sajaya Shrestha
Duni Ram Saru
Nimesh Bogati
Summit Maharjan

Mahendra Acharya
Sanita Sainju
Ronal Bikram Thapa
Puspa Khadka
Yeknath Acharya
Sachin Chaudhary
Sishir Khatri
Bighnesh Regmi
Milan Hadkhale
Anita Rajlawot Khatri
Arati Shrestha
Hridaya Man B K
Rammaya Silwal (Upadhyay)
Aang Dorje Lama
Yogesh Khatri
Chitra Bahadur Lama
Bikash Paudel
Subarna Thapa Kshetri

Experts

Amod Mani Dixit
Surya Narayan Shrestha
Shree Ram Singh Basnet
Bijay Krishna Upadhyay
Surya Bhakta Sangachhen
Bhubaneswari Parajuli

Nisha Shrestha
Rabindra Kumar Suwal
Kashyap Kumar Sharma
Hikmat Adhikari
Pradip Sedhain
Anjali Silakar

Khadga Sen Oli
Chandan Dhoj Rana Magar
Ram Krishna Sharma
Mahananda Timalsina

Niva Upreti
Adutiya Narayan Kanth
Dhirendra Kumar Dawadi
Mamata Banskota

Sumit Shrestha
Nischal Sedhain
Ashwash Akash Parajuli
Kundan Kumar Sah
Nirmala Rai

Dammar Singh Pujara
Kuber Bogati
Aditi Dhakal
Jyoti Mani Bhattarai
Sumit Maskey
Om kala Khanal
Ichcha Ram Parajuli

Hima Shrestha
Rajani Prajapati
Kirty Tiwari Jaisi
Rachana Kansakar
Rabin Chaulagain
Prayash Malla
Vibek Manandhar

National Society for Earthquake Technology-Nepal (NSET)

About NSET

National Society for Earthquake Technology-Nepal (NSET) was founded on June 18, 1993, with the vision "Earthquake Safe Communities in Nepal by 2020". NSET was conceptualized with main objective "to foster the advancement of science and practice of earthquake engineering and technology for mitigating the earthquake risk and increasing the seismic safety, and to enhance professionalism, professional engineering and scientific ethics. Bringing "substantial change in the application of technology to the many facets of earthquake disaster management for saving the lives of the people" has remained the guiding philosophy of NSET ever since its inception.

Today, NSET is considered as one of the major contributors in the field of earthquake risk management. Its seismic risk reduction approaches are now being replicated beyond the borders of Nepal. Consolidating the experience, knowledge, learning in disaster vulnerability reduction and preparedness to policy drafting and strategy development, and working with variety of stakeholders for more than two and half decades, NSET has now realized the need and decided, as stipulated by global thoughts, to expand its scope and works to managing multi-hazard situations, climate change adaptation and risk management, and integration of this synthesis of DRM and CRM into economic development efforts.

Vision

"Disaster Resilient Communities in Nepal by 2050"

Mission: "To contribute in enhancement of disaster resilience of the communities through development and implementation of appropriate technologies, inclusive and collaborative approaches in order to minimize and manage disaster risks."

Strategic Objectives

SO1: Develop and implement integrated and inclusive interventions related to Multi- Hazard Disaster and Climate Risk Management through development and enhancement of understanding, capabilities and resources of communities in Nepal and region

SO2: Assist in Institutionalization and Integration of validated understanding, approaches and technologies related to Disaster and Climate Risk Management into the laws, regulations, policies, initiatives and mechanisms in order to strengthen Disaster Risk Governance in Nepal.

SO3: Devise and integrate innovative, cost- effective and appropriate methods and measures in order to increase involvement and investment of public and private sector in Disaster and Climate Risk Management

SO4: Develop and promote effective and inclusive collaboration in order to enhance and scale-up innovation and R&D in the area of Disaster Risk Management.

SO5: Be a dynamic, sustainable and learning organization through enhancement of capabilities, networks and collaborations.