

REPORT

OF THE REVIEW OF THE PROJECT

Resilient Communities Through Building Back Better in Districts Most Severely Affected by 2015 Earthquake

Submitted to

Comprehensive Disaster Risk Management Programme

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EXECUTIVE SUMMARY

Introduction. This report presents the outcome of the review of results of the project “Resilient Communities through Building Back Better in Districts most severely affected by 2015 Earthquake,” which was managed by Comprehensive Disaster Risk Management Programme (CDRMP) of United Nations Development Programme (UNDP) in Nepal. Funded by ECHO, the project was implemented over 20 months from May 2016 through Dec 2017 in two severely earthquake affected districts: Sindhupalchowk and Dolakha. Within these districts, the project worked in erstwhile ten village development committees (VDCs), comprising five VDCs in each district. After the adjustment of local government jurisdictions in 2017 the project site fell into one municipality and one village municipality in each of the two districts, covering four local government jurisdictions, with a total of 20 Wards within them.

Results--outcome and outputs of the project. The project had an outcome, “affected communities build back better through resilient housing reducing vulnerabilities to future disasters, maximizing the use of locally available resources.” It was further envisioned from the project that, “Village communities in 10 VDCs of most severely affected districts are equipped with a reconstruction action plan and necessary capacities through information, knowledge and skills to undertake reconstruction of disaster resistant housing in an inclusive manner.” The following were the project’s four outputs:

- Output 1. Communities in erstwhile 5 VDCs in each district formulate VDC level reconstruction action plans (RAPs).
- Output 2. Training of 550 local artisans on locally appropriate construction technologies through demonstration of 65 affordable, disaster-resistant houses appropriate to their local context providing a menu of design and technology options enabling affected households to make an informed choice.
- Output 3. Ten Awas Nirman Saathi (trained masons with social skills) and two Mobile Technology Clinics reach out to affected households to facilitate their construction plans to be consistent with build back better principles
- Output 4. Reconstruction Action Plan priorities operationalized through the Reconstruction Grant support for 50 most vulnerable households and establishment of two Safer construction and material support Clinic in each district.

This Review was commissioned by CDRMP for the review of the results, for which a set of criteria – relevance, effectiveness, efficiency, sustainability and impact—and a number of questions were used (Table 3). The review was conducted as a brief assignment—involving 15 work-days for the reviewer. Within this, the Reviewer reviewed project documents and other relevant texts, held consultation with project teams, and visited project sites in Sindhupalchowk and Dolakha where consultations were held individually or in groups of local communities (community livelihood group, Reconstruction Action Plan committees), MTC engineers, RAP chair, elected representatives, official of National Reconstruction Authority (NRA), individual reconstruction grantees , house-owners, and partner NGO personnel. The Reviewer also observed some of RAP meetings, the handover of a Technology Demonstration House, and inauguration of a safer construction clinic, and ongoing construction work. The field visit was carried out together with the Project Coordinator, and the project team was debriefed on the main findings of the Review in Jan 2018.

This Review report presents the observations on the activities on each of the four result areas. It then presents its findings against each of the five review criteria used in this review. It also identifies key lessons from the project that emerged from the project’s interventions and experience, and provides a list of activities and processes that UNDP may like to communicate with its stakeholders. It also can be used by NRA and broader reconstruction community and by the CDRMP/ECHO project. The main recommendations that came from the project are the following:

Recommendations for NRA/Broader Reconstruction Community

- Enhance diligence to ensure that only “needy” households receive the grants.
- Avoid debt trap: provide alternative access to financing, rather than high-interest loans.
- Provide income generation and livelihood support activities beyond support for house construction in order to avoid debt trap amongst the vulnerable population.

Recommendations for CDRMP/ECHO project

- Engage with the government and district level (NRA/DUDBC officials) to acknowledge and adopt low-cost, earthquake resistant technologies
- Ensure compliance (comprehensive monitoring of construction) in construction, to ensure that grantee’s houses will receive II & III installment of NRA grant.
- Ensure continued support and facilitation for CLG managed “safer construction clinics” in order for them to operate on break –even, financially sustainable manner.
- Consider early field mobilization after project commencement, especially by recruiting and contracting partner NGOs/service providers.
- Integrate/harmonize RAPs into new local government structure.

ACRONYMS

ANS	<i>Aawas Nirmal Saathi</i>
CDRMP	Comprehensive Disaster Risk Management Programme
CLG	Community Livelihood Group
CDO	Chief District Officer
DCC	District Coordination Committee
DDC	District Development Committee
DDRC	District Disaster Relief Committee
DJSS	Deep Jyoti Samaj Sudhar Sangh
DUDBC	Department of Urban Development and Building Construction
ECHO	European Civic Protection and Humanitarian Aid Operations
MTC	Mobile Technology Clinic
NRA	National Reconstruction Authority
NGO	Non-Governmental Organization
PDNA	Post Disaster Needs Assessment
PDRF	Post-Disaster Recovery Framework
PEB	Project Executive Board
RAP	Reconstruction Action Plan
REDC	Rural Enterprise Development Centre
SIDEK	Sindhu Development Kendra
SUK	Sindhu Utthan Kendra
TDH	Technology Demonstration House
UNDP	United Nations Development Programme
VDC	Village Development Committee

1 INTRODUCTION

1.1 Project introduction

This document presents the report of the review of results of the project “Resilient Communities through Building Back Better in Districts most severely affected by 2015 Earthquake,” which was managed by Comprehensive Disaster Risk Management Programme (CDRMP) of United Nations Development Programme (UNDP) in Nepal. The project commenced in May 2016 with its end date of August 2017. A request for modification of the project was made in July 2017 and a no-cost extension as well as some modification on project results were granted in August 2017. Accordingly, the project was extended on no-cost basis to Dec 2017. Thus, the project was implemented over a period of 20 months between May 2016 to Dec 2017. The project had a budget of 956,750 Euro, and was funded by European Civil Protection and Humanitarian Aid Operations (ECHO).

The project was implemented in the erstwhile 10 VDCs, five VDCs in each of Sindhupalchowk and Dolakha districts which were amongst the most affected districts of the Gorkha earthquake. This earthquake struck Barpak village in Gorkha district with the magnitude of 7.6 on 25th April 2015 at 11:56 am, followed by over 300 aftershocks of the magnitude of over 4.0 by June 7th (NPC, 2015). There were initial counts of over 8,790 casualties and 22,300 injuries from the earthquake (NPC, 2015). While lives of one-third of Nepal’s population were affected by the earthquake, seven of the 75 districts of the country were categorized as “severely-hit” (highest severity) and other seven districts were “crisis hit” (second highest severity). The two project districts of Sindhupalchowk and Dolakha were amongst the “severely-hit” districts, as identified in the PDNA (NPC 2015).

1.2 Results: outcome and outputs

This project had an outcome, “affected communities build back better through resilient housing reducing vulnerabilities to future disasters, maximizing the use of locally available resources.” It was further envisioned from the project that, “Village communities in 10 VDCs of most severely affected districts are equipped with a reconstruction action plan and necessary capacities through information, knowledge and skills to undertake reconstruction of disaster resistant housing in an inclusive manner.” The following were the project’s four outputs:

- Output 1. Communities in erstwhile 5 VDCs in each district formulate VDC level reconstruction action plans (RAPs).
- Output 2. Training of 550 local artisans on locally appropriate construction technologies through demonstration of 65 affordable, disaster-resistant houses appropriate to their local context providing a menu of design and technology options enabling affected households to make an informed choice.
- Output 3. Ten Awas Nirman Saathi (trained masons with social skills) and two Mobile Technology Clinics reach out to affected households to facilitate their construction plans to be consistent with build back better principles
- Output 4. Reconstruction Action Plan priorities operationalized through the Reconstruction Grant support for 50 most vulnerable households and establishment of two Safer construction and material support Clinic in each district.

1.3 Project site and beneficiaries

The project was implemented in ten Village Development Committees (VDCs) of two districts – Sindhupalchowk and Dolakha. After restructuring of local governments, the area covers in each district a Rural Municipality and a Municipality, altogether covering 20 Wards¹ (see Table 1).

Table 1: Project sites and beneficiaries in the two districts

Municipality/Rural Municipality	No of Wards	VDCs under Old Structure (Number)
A. Sindhupalchowk district		
1. Sangachok-Gadhi Chautara Municipality	2	Kubhinde and Irkhu VDCs (2)
2. Indrawati Rural Municipality	6	Bhotsipa, Sipapokhare and Badegaun VDCs (3)
B. Dolakha District		
1. Bhimeshwor Municipality	2	Boch and Lankuridanda VDCs (2)
2. Shailung Rural Municipality	5	Fasku, Katakuti, and Magapauwa VDCs (3)
Total number of wards/VDCs	15	10

Total of 11,052 households/families affected by the 2015 EQ are the beneficiaries of the project. They benefited from

- Technology Demonstration Houses,
- Reconstruction Action Plans,
- trained artisans (masons/carpenters) and
- awareness raising through MTCs and Awan Nirman Saathi.
- Reconstruction grant (in-kind) support
- Establishment of Safer construction & Material support clinics

1.4 Objectives of the review

The purpose of this review, as specified in the TOR, is to assess the results (expected outputs and outcomes of the project in major four areas:². The specific objectives are:

- To assess usefulness of the Reconstruction Action Plans (RAPs) in facilitating the reconstruction in the project VDCs (now reorganized into Rural Municipalities or Municipalities) and their potential as effective community-based instruments for local governments to guide reconstruction works.

¹ The Wards are the lowest level of political-administrative unit – each local government (Rural Municipality or Municipality) has five or more Wards.

² These areas include: a) Reconstruction Action Plans (RAPs) are owned by the local authorities (gaunpalikas/nagarpalikas) and RAPs are supporting in local reconstruction, b) TDHs are demonstrative for local people and house-owners are adopting the housing typologies, c) the trained artisans (masons/carpenters) have proper skills on the rural housing technologies and are supporting reconstruction in the districts, and d) public/house-owners of project areas have better understanding and awareness for constructing safer houses.

- To assess TDHs constructed under the project in terms of: (i) targeting -gender and social inclusion considerations with focus on marginalized community members, (ii) appropriateness of technologies: hazard resistance, cost effectiveness, replicability, use of local materials, and participation of the house owners as well as the usefulness of TDH in technology transfer to the communities and artisans.
- To assess effectiveness of OJT for local artisans during TDH construction and post-training status of trained artisans supporting local reconstruction process.
- To assess role of socio-technical facilitation by the project through *Aawas Nirman Saathi*, Mobile Van Technological Clinics (MTCs), community mobilizers and technical staff in reconstruction process particularly the evidence-based feedback from the community stakeholders.
- To recommend for appropriate mechanisms/approaches for strengthening ownership by the local authorities and identifying potential learning for larger reconstruction process led by the Government of Nepal/ NRA.

1.5 Review Criteria and Questions

This review adopts the following criteria and questions for this review:

Table 2: Review Criteria and questions

Review Criteria	Review Questions
Relevance	<ul style="list-style-type: none"> • How relevant was the overall design and approach of the project? • How relevant were the different activities planned by the project?
Effectiveness	<ul style="list-style-type: none"> • To what extent the project activities were delivered effectively in terms of quality, quantity and timing? • How the project approach was effective from the perspective of 'Inclusion' - particularly focus on gender and social inclusion of the marginalized and the poor through technology transfer, reconstruction action planning and training. • What were the lessons at initial stage and how were feedback/learning incorporated in the subsequent process of planning and implementation?
Efficiency	<ul style="list-style-type: none"> • How efficiently were the resources including human and material resources used to achieve the above results?
Sustainability	<ul style="list-style-type: none"> • What are the sustainability aspects of the project? • What are the plans or approach of the local authorities/RAP committees that ensure the initiatives will be continued after the project ends?
Impact	<ul style="list-style-type: none"> • How do the initiatives indicate that intended impact will be achieved in the future?

2 METHODS AND PROCESS OF THIS REVIEW

2.1 Review approach

Compliance to the Terms of Reference (TOR). This review was carried out in reference to and strict observance of the objectives, scope and evaluator’s responsibilities as laid out in the Terms of Reference issued by UNDP/CDRMP. It concentrates on five specified criteria—relevance, effectiveness, efficiency, sustainability, and impact—and the corresponding evaluation questions provided in the TOR.

Informed by and adherence to UNDP/UN system on evaluation norms, principles and standards. This review was made consistent with and informed by the norms, principles and standards outlined in UNDP and UN system more generally. For instance, UNEG’s “Standards for evaluation in the UN System, 2005, and UNDP Handbook for Planning, Monitoring and Evaluation, 2009 were some of the references considered while conducting this review. It is also informed by ideas on Building Back Better (BBB) as articulated by agencies such as UNISDR.

2.2 Process and steps

The overall methodological approach of this evaluation was qualitative. The following were the processes and steps envisaged for this evaluation.

1. **Task clarification and identification of collaborators/beneficiaries.** The reviewer first consulted the project team to familiarize with the project, its objectives, project locations, and beneficiaries. In the consultation, key field stakeholders were also identified and potential informants determined.
2. **Conduct desk review.** The desk review was carried out subsequently in regards to the design, delivery and results of the project; UNDP evaluation principles and norms and standards; specific definitions of review criteria; and thematic review of reconstruction.
3. **Elaborate methodology and field check-list in the Inception Report.** An inception report was presented after the desk review. The report elaborated the proposed methodology with an action plan (see Annex A) and general checklist of questions to be posed to project team and stakeholders in the course of consultation (see Annex B).
4. **Field visits, observations and consultations.** This review involved a four-day joint field visit, involving the Reviewer and Project Coordinator during 26-29 December 2017. The visit covered project sites in Sindhupalchowk and Dolakha where consultations were held individually or in groups of local communities (community livelihood group, Reconstruction Action Plan committees), MTC engineers, RAP chair, elected representatives, official of National Reconstruction Authority (NRA), individual grantees of reconstruction, house-owners, and partner NGO personnel. The Reviewer also observed some of RAP meetings, the handover of a TDH house, and inauguration of a safer construction clinic, and ongoing construction work. The reviewer interviewed these participants and made observations of field level processes and activities. During these interviews, “general checklist” given in Annex B formed the main basis, and the interviews were largely conversational and open-ended.

The details of all consultations and events carried out for this review have been presented in Annex C.

5. **Data analysis.** This review involves collating together of qualitative data and triangulation of the data, along with verification from the project team, to develop observations on the results, draw key lessons and recommendations for this report. At appropriate places reference texts and project documents were also referred.
6. **Debriefing meeting and report submission.** A debriefing meeting was held in CDRMP/UNDP office in January with the project team and suggestions were reviewed. A draft report, along with the suggestions received in the debriefing meeting, was subsequently submitted to CDRMP/ECHO team. This final report thereby represents the Reviewer's observations, by taking into account the comments and suggestions from project team.

3 FINDINGS OF THE REVIEW

This section presents in brief the assessment of overall results and continues with the review of the project in relation to the five criteria and corresponding review questions posed in the TOR.

3.1 Overall review of results

This project had an outcome, “affected communities build back better through resilient housing reducing vulnerabilities to future disasters, maximizing the use of locally available resources.” It was further envisioned from the project that, “Village communities in 10 VDCs of most severely affected districts are equipped with a reconstruction action plan and necessary capacities through information, knowledge and skills to undertake reconstruction of disaster resistant housing in an inclusive manner.”

3.1.1 Key achievements on the result areas

The project initially focused on three results or outputs but the result and outputs were revised in the course of no-cost extension (July/August 2017) and are presented in the second column of Table 3. Main achievements against each of these four result areas (outputs) are presented in the third column. The Reviewer’s observations on these results are presented in the next sub-section.

Table 3: Project Outputs (Revised) and achievements

Result	Outputs	Key achievements (as of Dec 2017)
01	Communities in erstwhile 5 VDCs in each district formulate VDC level reconstruction action plans (RAPs)	<ul style="list-style-type: none"> • Reconstruction Action Plans for all the 10 project VDCs (now fifteen wards of four (Rural) Municipalities were prepared • The RAPs were handed over to the respective local government authorities (newly elected Ward representatives). • RAP was treated as a dynamic document, and is being updated on monthly basis by RAP committees in coordination with house-owners, and ward representatives
02	Training of 550 local artisans on locally appropriate construction technologies through demonstration of 65 affordable, disaster-resistant houses appropriate to their local context providing a menu of design and technology options enabling affected households to make an informed choice.	<ul style="list-style-type: none"> • Total of 40 TDHs, 4 each in each of the erstwhile ten VDCs, were constructed and additional 25 TDHs (15 added for Dolakha and 10 for Sindhupalchowk for the extension period) were also completed. • Some 550 local artisans (masons and carpenters) were trained through On-the-Job-Trainings (OJTs) integrated into TDH construction.

03	Ten <i>Awas Nirman Saathi</i> (trained masons with social skills) and two Mobile Technology Clinics reach out to affected households to facilitate their construction plans to be consistent with build back better principles	<ul style="list-style-type: none"> • At least 500 households incorporated disaster resistant construction features until stage of grant disbursed on the advice from the <i>Awas Nirman Saathis</i> and Mobile Clinics • around 400 house-owners (of above 500) were technically supported from start to completion of their houses. • Over 5000 house-owners were oriented at key stages of TDHs construction through MTCs.
04	Reconstruction Action Plan priorities operationalized through the Reconstruction Grant support for 50 most vulnerable households and establishment of two Safer construction and material support Clinic in each district.	<ul style="list-style-type: none"> - 50 most poor and vulnerable house-owners built disaster resilient houses through the financial support received. - Four Safer Construction and material support Clinics established to support the communities to build back better through supply of materials and dissemination of information on safer construction practices, in each district.

3.1.2 Observation on the results

The following are the main observations on each of the four result-areas.

1.Reconstruction Action Plan (RAPs) and RAP Committees. The formulation of RAP and the formation of RAP committee formed the basis for interventions at the local level. RAPs were found to be prepared with community consultations and were made for the erstwhile VDCs. It was found that the RAPs have been handed over to the respective (or most relevant) Ward representatives, who have committed to bring the RAPs into use in their disaster or reconstruction planning. It was also noted that the RAP process was very useful to identify the most vulnerable household to target project support (as a grantee, or TDH construction) and to identify other needs and priorities (such as maintenance of drinking water projects etc). RAP members also mentioned that the committees were useful in discussing the construction, identify grievances, create awareness on compliance to the design norms of National Reconstruction authority.

Two key challenges were noted. First, while the RAP committees served as important link between support agencies and the local populace, they are not registered and do not have their own funds to become functional over extended period without additional support or encouragement. Secondly, with new structure from mid-2017, geographic coverage of all of the RAPs do not exactly correspond to the newly formed political-administrative jurisdictions (mostly Wards). Therefore, integration of the RAPs into local level disaster or reconstruction planning is likely to involve additional effort.

2. Technology Demonstration Houses (TDHs). It was noted that the CDRMP/ECHO project introduced the “GI Wire Containment Building Technology” which was adopted from reconstruction experience in India.

With this technology, the project hoped to enable a more economical construction of earthquake resistant private houses (with estimated cost of NPR 450,000) for an average 2-room house (each room of size 12 feet by 12 feet) at approximately two-third the cost for other commonly used technologies. Project participants mentioned that the technology was better suited to remote conditions, as it can offset the need of significant amount of water, does not need motorable road as it involved little to be transported from outside, and could be constructed in significantly lower cost. The project targeted the most vulnerable households in the villages for constructing the TDH, which involved the use of GI wire as well as other low-cost technologies by using mostly locally-available materials.

During the TDH construction, the project trained masons and carpenters on the resilient house construction skills. It was found that the trained masons became capable of working in GI wire technology, other low-cost technologies as well as more conventional technologies adopted by the house-owners. Accordingly, they got jobs easily, with a wage rate of NPR 1000/day—in fact, there was shortage of trained people in both the districts.

It was observed that

- a. The construction of TDHs started late in the project, as the GI wire technology was not included in the NRA design menu initially
- b. Even after the GI wire technology was include in NRA manual, the main challenge was to secure buy-in from NRA and DUBEC officials at the district level—as engineers were trained on capital-intensive technologies and less inclined to prefer low-cost constructions.
- c. Individual attitude of district-based NRA/DUBEC officials also mattered in promoting the technology: it was noted that officials in Dolakha were more receptive than those in Sindhupalchowk.
- d. The adoption of GI wire technology by the locals has also been slow. Firstly, the local people were not certain about if they will receive the installments from NRA (which is provided in three installments for a total of NPR 300,000). Secondly, all the specific materials (e.g. GI wire) needed for the technology were also not readily available in the local hardware shops. Thirdly, locals tended to have a preference to more commonplace technologies, than to less-conventional GI technology.

3. Technical Facilitation to House-owners for safer reconstruction. This involved the deployment of Mobile Van Technology Clinic (MTC) and the training for and mobilization of ten *Aawas Nirmal Sathis* (ANSs). The project mobilized two MTCs – one in each district- where an engineer travelled through all project VDCs inside the district to create awareness on safer construction and on meeting compliance needs, using audio-visual and learning materials. These campaign sessions, which were about an hour-long, were organized in coordination with RAP committees. In these sessions, the engineers interacted with the locals and provided their contact number for the locals to consult them when in need.

Similarly, the project trained ten ANSs, one each for the erstwhile VDC, on technological menus for safer house construction and on NRA compliance requirements. They were then mobilized for door-to-door visits to motivate resilient house construction and to provide hands-on support while construction work was ongoing. It was noted that the service of ANS was very critical, as the local people struggled hard to

have visits from NRA engineers who were supposed to inspect constructions and forward recommendations for the disbursement of installment from NRA.

It was also noted that, while villagers in one village (Katakuti, in Dolakha) were very impressed by the regular visit and support from ANS, a Dalit house-owner who was also an ECHO project's grantee in Dumindanda village (under Indrawati Rural Municipality in Sindhupalchowk) appears not to have received technical supervision from the ANS. We noted that the construction of the house of this Dalit old man was at variance with NRA norms: its depth of the DPC was less than prescribed (which is 6 inches), and the RCC was done for whole of the floor which was not required. This construction, however, was reportedly suggested by the NRA engineer, but there was a risk that the house-owner may be declined another installment on that technical ground, if some another engineer monitors that construction subsequently. On top of this, the man invested unnecessarily in the RCC structure, which adds burden to the loan he has already taken from a local group, on top of the first installment from NRA and additional NPR 50,000 of materials support from ECHO project.

Such loop-holes in service provision from ANS at least in some places within the project sites may add up to the risk of debt trap amongst vulnerable households, which has already been documented elsewhere (e.g., TAF, 2017).

4. Support Grants for safer construction and support to CLG for safer reconstruction clinic. This result area was added after project's no-cost extension in August 2017, and involved the support grant to most vulnerable households and support for the establishment of community-based "safer reconstruction clinics." The project identified most vulnerable households in the localities who needed support on top of NRA grants, as the latter in itself was not sufficient to cover the costs of a resilient building. The grant from UNDP/ECHO project was worth of NPR 50,000 in construction materials. The grantee households were identified through the deliberation in RAP Committees, keeping in mind about who needed the support most. Accordingly, it was found that the grant was targeted to households in the critical need to start the construction.

Similarly, four safer construction clinics were supported after the extension of the project, by recruiting an additional NGO in each of the two districts. The NGOs facilitated the formation of four community livelihood groups (CLG) organizing a group of people in relatively accessible areas, provided them with enterprise development training, and provided materials support worth of NPR 800,000 to start the business of supplying hardware for the construction of low-cost, mainly GI-technology materials as well as other construction materials.

It was, however, noted that while providing the support for the CLG-led clinic provided an opportunity for the communities to access low-cost construction materials at economical rates, the clinics themselves faced a number of challenges.

- They were freshly trained on enterprise operation and had just begun to exist from Dec 2017, and will face challenges of surviving in the market without continued technical and facilitation support, such as market linkage, attracting customers, procurement of materials at competitive prices, and ensuring continuous supply of materials

- They were not sure of benefit sharing amongst themselves and their institutions were still not formally incorporated.
- Further challenge was about how they could raise further funds to cover for their office expenses, staffing and to maintain the balance of supply and demand fluctuations.
- Overall, there seems to be need for continued support and facilitation beyond the termination of project in December 2017.

In addition to the observations on the project's results above, we present our observations on the five key review criteria – relevance, effectiveness, efficiency, sustainability and impact.

3.2 Relevance

The relevance of this project was reviewed in relation to its **a) design and approach and b) different activities** planned by the project. In terms of design, the project operated under CDRMP, which has a Project Executive Board (PEB) co-led by Ministry of Home Affairs and UNDP, that provided strategic directions and guidance in project implementation and approved the project's annual plans and progress. With a reconstruction focus in this particular ECHO project, its key stakeholders included National Reconstruction Authority (NRA), Department of Urban Development and Building Construction (DUDBC) and ECHO's country portfolio in Nepal.

At the district level, the project activities were implemented with close coordination with District Disaster Relief Committee (DDRC) chaired by Chief District Officer (CDO), District Coordination Committee (DCC – earlier DDC), National Reconstruction Authority's district unit, DUDBC's district unit and other stakeholders supporting the overall reconstruction process in the districts. NGOs were recruited and engaged for specific functions in both the project districts.

This project was managed by CDRMP, which employed some of its regular staff for project implementation. A separate team at center comprised Project Coordinator and Admin/Finance Assistant. In each of the two districts, the project teams comprised of District Project Officer, District Engineer and Senior Social Worker. The district teams were supported through a team of junior staff (Junior Engineer, Overseer/Sub-Engineer, *Awas Nirman Saathi*- trained masons, Community Mobilizers) for delivering the project outputs. These junior staff were managed by local NGOs hired by CDRMP: SUK-Nepal in Sindhupalchowk and DJSSS in Dolakha. During the extension period, these NGOs were also engaged in local level coordination and hand over meetings/workshops. An additional NGO was hired in each district during the extension period for conducting activities related to result 4.

In terms of the activities, the project started with creating local institutional basis (the RAP committee) which established the basis of local level discussion and decision-making, such as on the adoption of resilient house construction and the identification of households to support TDH construction and grantee support. It then engaged in awareness raising awareness in resilient construction and moved on to promote low cost technologies in house construction, by recruiting ANSs and simultaneously providing training for masons and carpenters. The project created awareness on safer construction through MTC and created an institution – called community livelihood group (CLG) through which safer construction clinics were established and beginning their operation. These clinics were supported to work as community-managed hardware shops and points for disseminating low-cost house construction technologies.

It was found in the Review that the design and approach of the project were relevant to the local context and needs. The sequence of interventions and engagement of local actors were necessary for conducting the activities initially planned in the project, and for those activities that were added through project extension.

The project's activities were very relevant to the local needs in the two districts and were also confirmed through relevant documents. The districts were selected from amongst the most affected districts, as identified in the post-disaster need identification (PDNA) (NPC, 2015), and the interventions complemented the effort of National Reconstruction Authority, especially in regard to the latter's work on private house construction. UNDP drew on its international experience in promoting the construction of low-cost and resilient private houses. For this, project worked in training masons, carpenters as well as NRA engineers that were recruited for overseeing the construction work. The training addressed the critical gap on human resource, as it was already realized in 2015: "The need for trained engineers and masons is immense in Nepal, in view of the large number of houses and other buildings to be constructed." (UNESCAP 2015, p36). The project's work on RAP was also consistent with the policy priority of 13th and 14th plans as well as NSDRM which emphasized the need of local level planning for addressing disasters (NPC 2014, 2017; MOHA 2009). The activities were also consistent and aligned with UN Development Assistance Framework 2013-2017 (GoN & UN, 2012) outcome 7, "People living in areas vulnerable to climate change and disasters benefit from improved risk management and are more resilient to hazard-related shocks." The activities were found contributing to vision and objectives of the post-disaster recovery framework 2016-2020 (NRA 2016).

3.3 Effectiveness

The effectiveness of this project was reviewed in relation to delivery of the project in terms of quality, quantity and timing; inclusion; lessons and feedback into subsequent planning. It was found in this Review that the project generally delivered its activities in time, but some delays were caused primarily due to the election of local governments in mid-2017 and parliamentary elections in Nov/Dec. In particular, the project's promotion of low cost GI wire technology was not initially included in the NRA manual and officials in one of the two districts (Sindhupalchowk) were personally more hesitant to promote the GI wire technology, while those in another district were more forthcoming. The numerical targets were achieved within the project period.

It was found that the project adopted inclusion as a key approach in selecting TDH households and grantee households, and also in the training of masons. In household selection, in particular, the RAP committees were tasked with selecting households that were most vulnerable within their locality. The RAP committees considered gender and social inclusion considerations in making recommendations for training, TDH and grantee decisions.

The project drew up lessons from the first year of work – mainly on the need of TDH, the need of inclusion of community livelihood group and training and promotion of safer construction clinics (community hardware shops) were documented and were operationalized during the extension phase.

3.4 Efficiency

The project was found to be working effectively. The project emphasized the use of locally available and low-cost materials in its promotion of safer house construction technology. It mobilized the mix of project personnel and consultants, with most of social mobilization component entrusted to locally hired NGOs in both districts. Some delay in the buy-in of GI wire technology by NRA and its personnel in the districts was apparent – and it could be addressed with more deepened engagement with officials at national and district levels and by providing necessary training early on in the project. Another delay was noted in the effective operation of safer construction clinic, which was caused by delays from the federal and provincial elections of Nov /Dec 2017. This activity was a new one approved from project extension and CLGs will need additional support and encouragement beyond the project period.

3.5 Sustainability

The sustainability aspects of the project include the institutional foundation (ie, the RAP committees and RAPs), knowledge and skills (trained ANSs, trained masons and carpenters, trained engineers), the buildings (TDH, and grantee houses) and CLG-led safer reconstruction clinic.

It was noted that RAPs were handed over to respective local government representatives and the RAP committees will continue working on making important reconstruction decisions and supporting their members. It was found that NRA engineers have become increasingly receptive of the low-cost construction technologies and skilled persons have received employment with good wages. The TDH and grantee household support also enabled the most vulnerable households to afford to construct their houses and reduce debt-burden. It was further noted that safer construction clinics have just begun their outlets and key people trained on enterprise skills.

It was further noted that, due to the local-level restructuring in the course of the project implementation, there will be a need to integrate RAPs into local government planning process. It is further advisable that the CLG-managed safer construction clinics receive further technical and financial support to enable them operate in profitable ways.

3.6 Impact

The expected impact of this project was the enhanced ability of vulnerable households to build back better with local resources. The project introduced low-cost technology, facilitated the availability of materials for that technology, trained local human resource, provided additional support to TDH or grantee households chosen from amongst the most vulnerable. There was appreciation from district agencies for this approach, yet adoption of this technology has been relatively slow compared to other, more expensive technologies. It is indicative of the need for further deepening social engagement for attitude change toward the choice of technologies and disseminating the clear message that NRA would make grants for the GI wire technology as well.

4 MAIN LESSONS

4.1 Key lessons

The following were the key lessons that came through during this review:

- There is potentially space for more widespread adoption of low-cost housing construction promoted by UNDP, as people are taking loan for house construction with the use of more expensive technologies.
- Engagement with government authority (the NRA) is essential to secure buy-in of the technology promoted by UNDP. The delays in acknowledging the technology delayed other activities in the project.
- Additional support to the most vulnerable essential to avoid debt-trap to the rural poor (may be livelihood enhancement through on/off farm or skill enhancement etc.)
- Low-cost technology looks every essential but there has to be more concerted effort for promoting the technology widespread adoption.
- It is necessary to deepen social facilitation and enhance flexibility in technical specification from NRA for widespread adoption of low-cost technology, as other technologies while being expensive seem to be culturally privileged.
- It is important that government officials / engineers and technicians also receive training on low-cost technologies early on in the project.
- Some households very keen on receiving up to second installment, without really requiring the 'houses' – proper diligence is needed to avoid the waste of funds from NRA.

4.2 Sharing the project's experiences

Some of the project interventions—the work from project team or partners—directly or indirectly connected to the project's result areas were highlighted as important during the field consultations of this review. Some of these—as listed below—may be of interest for communication to UNDP's stakeholders:

- GI Wire technology. The virtues of low-cost houses and the challenges encountered and process adopted in its promotion.
- The training and mobilization of Aawas Nirman Saathi. The ANSs were immensely helpful to the local population – they demonstrated how technical skills could be mobilized by employing local persons and at low costs and in an accessible manner.
- Training and mobilization of masons – and their income generation, provisioning of services to local population.
- Project's engagement with municipal authorities to relax the procedure of approval of house design. The project supported the design process on one hand, and secured the waiver of approval cost for houses other than with those made with RCC technology.
- Road standard on the "right of way" (in Chautara). Negotiated flexibility of RoW for the construction of houses for needy households.

5 RECOMMENDATIONS

The following are the main recommendations from the review—which are presented for NRA and broader reconstruction community and for CDRMP/ECHO project separately.

Recommendations for NRA/Broader Reconstruction Community

- Enhance diligence to ensure that only “needy” households receive the grants.
- Avoid debt trap: provide alternative access to financing, rather than high-interest loans.
- Provide income generation and livelihood support activities beyond support for house construction in order to avoid debt trap amongst the vulnerable population.

Recommendations for CDRMP/ECHO project

- Engage with the government and district level (NRA/DUDBC officials) to acknowledge and adopt low-cost, earthquake resistant technologies
- Ensure compliance (comprehensive monitoring of construction) in construction, to ensure that grantee’s houses will receive II & III installment of NRA grant.
- Ensure continued support and facilitation for CLG managed “safer construction clinics” in order for them to operate on break –even, financially sustainable manner.
- Consider early field mobilization after project commencement, especially by recruiting and contracting partner NGOs/service providers.
- Integrate/harmonize RAPs into new local government structure.

7 REFERENCES

- GoN & UN (2012) *United Nations Development Assistance Framework for Nepal, 2013-2017*. Kathmandu: Government of Nepal (GoN) and United Nations Country Team (UN).
- GoN & UN (2017) *2018-2022 United Nations Development Assistance Framework for Nepal*. Kathmandu: Government of Nepal (GoN) and United Nations Country Team (UN).
- MOHA (2009) *National Strategy for Disaster Risk Reduction (NSDRM)*. Kathmandu: Ministry of Home Affairs.
- NPC (2015) *Nepal earthquake 2015: Post – Disaster Needs Assessment. Vol.A: Key findings*. Kathmandu: National Planning Commission (NPC).
- NPC (2017) *The Thirteenth Plan: Fiscal Year 2069/70- 2071/72 (BS) [Nepali text]*. Kathmandu: National Planning Commission.
- NPC (2017) *The Fourteenth Plan: Fiscal Year 2073/74- 2075/76 (BS) [Nepali text]*. Kathmandu: National Planning Commission.
- NRA (2016) *post-disaster recovery framework 2016-2020*. Kathmandu: National Reconstruction Authority (NRA).
- TAF (2017) *Aid and recovery in post-earthquake Nepal: Independent Impacts and Recovery Monitoring Phase 4, Qualitative Field Monitoring, April*. Kathmandu: The Asia Foundation, UKAid, SDC and Democracy Resource Centre.
- UNESCAP (2015) *Regional earthquake recovery dialogue for building back better, organized by United Nations Economic and Social Commission for Asia and the Pacific (UNESCAP), SAARC Disaster Management Centre, and National Planning Commission*.
- UNISDR (2017) *Build Back Better in Recovery, Rehabilitation and Reconstruction: Consultative Version*. United Nations Office for Disaster Risk Reduction.

8 ANNEXES

8.1 Annex A. Proposed Work Plan

Activities against the deliverables	Date
1. Deliverable 1: Inception report	
1.1 Review documents	18- 22/12/17
1.2 Submit and present inception report	22/12/17
2. Deliverable 2: Preliminary findings and presentation	
2.1 Interviewing with UNDP/CDRMP team	22/12/17
1.3 Field visit and interactions (Sindhupalchowk & Dolakha) <ul style="list-style-type: none"> • CDRMP/project staff; NGO team meetings/group discussion • District agencies (District DUDBC—Department of Urban Dev and Building Construction; District NRA; others) • Local government officials: Mayors/ Ward chairpersons/staff • NGO team meetings/group discussion • “reconstruction committee” • Masons/Saathis • Individual households/community members • Community Livelihood groups (operating safer construction & material support clinic) • Reconstruction grantees 	26- 29/12/17
2.4 Prepare/present preliminary findings	31/12/17
3. Deliverable 3: Draft evaluation report and presentation	
3.1 Prepare and share Review Report	3/1/18
3.2 Make presentation	3/1/18
4. Deliverable 4: Final report	
4.1 Gather and incorporate feedbacks	4/1/18
4.2 Edit and finalize the report text and SUBMIT	5/1/18

8.2 Annex B. General Checklist

(A)

1. **Activities of the project?** Do you know the project's activities? How were they carried out? What were done? How useful were they?
 - **What are AHA** of this project?
 - **Missing activities** that need to be included in future work
2. **By whom and how** were project activities delivered? How different inputs were brought together? Was there a space for refinement?
3. How do you describe the **design of the project**? How did it work? What were issues? Can it be done better?
4. **Effectiveness.** Delivery of activities? How do you rate the quality? Were they effective? Were they done in time? Which activities were delayed? Why?
5. **GESI in technology transfer**, RAP process and training: How as GESI considered? How were the poor, women, Dalits or Janajatis considered in the activities or decision-making? Where were issues? How the issues were addressed? Any suggestion for improvement?
6. What did you **learn by the middle of the project**? Were there any suggestions received for correction? Were such suggestions incorporated? How? Evidence?
7. **Efficiency:** How many staff and resources invested? What were the key inputs at project, village, district, and VDC levels? How was staff time accounted? Do you see space for more efficient work?
8. What will be the **enduring aspects/legacies of the project**? What legacies are envisioned? Skills, plans, follow-up, ownership, funding?
9. What are the **plans or commitment** of – a) local governments, b) other government agencies, and c) individual households, SAATHIS, and reconstruction committees to carry on with the achievements of this project?
 - Do you believe these plans/commitments will be actually realized? Why? How?
10. Will the housing in the project area will be safer and affordable in the long run? Will the disadvantaged groups afford these kinds of houses?

(B)

11. **Are RAPs useful?** Who will use them and how? Will new municipalities/ village municipalities adopt them? Do they guide household decisions for construction?

12. **Quality of TDHs** – How do they look like? a) do you think the TDH were of good quality? B) were they affordable? C) did they consider GESI aspects? D) appropriate in terms of technology – hazard resistance, cost effectiveness, replicability, use of local materials, participation of homeowners?
- Will the people follow the TDH? Which social groups will follow, and which others not?
 - Were the TDH useful to transfer knowledge to communities and artisans?
13. How was **OJT/TDH construction** useful to the artisans? Did it enhance their skills? Did the skill raise their incomes? Employability? What are success stories, success rates?
- 14. Role of**
- a) *Aawas Nirman Saathi*
 - b) Mobile Van Technology Clinics (MTCs)
 - c) Community mobilizers
 - d) Technical staff
 - e) operating Safer construction clinics through community livelihood group (CLG)
 - What did they do, how, and how useful? Can this be made better?
15. **Ownership**: present status of ownership and how to improve ownership of local authorities?
16. **Learning** for reconstruction process – GoN/NRA?

(C)

17. **RAP preparation**—How was that plan prepared? Who holds these plans now? Who prepared? Is it useful to villagers / local government? Did you participate? Who will use them?
18. **TDH**--How does they look like—where, in whose land, how much was expended; who were involved? Who owns them? Are they of good quality? Are they affordable?
19. **Trained Artisans and their support in reconstruction**- what skills did they have? How long / how were they trained? do they have appropriate skills? How did the trained artisans support reconstruction to individuals?
20. What it means to be safer houses? How did you know that? How can anyone construct a safe house? Can you afford to build a safe house? Do you have any suggestion for improving on the model?

8.3 Annex C. Details of Consultation and meetings for this Review

Consultation Date/Place	People interviewed/consulted	Discussion Agenda & Remarks
20th Dec 2017 Kathmandu	Pragya Pradhan, Senior Project Officer, CDRMP	<ul style="list-style-type: none"> - Project introduction - Collection of project documents
22nd Dec 2017 Kathmandu	Pravakar Thapa, Project Coordinator, CDRMP, ECHO project	<ul style="list-style-type: none"> - Additional details on the project and results - Plan for joint field visit
Travel to Sindhupalchowk		
26.12.2017 Irkhu, Safeer Construction Clinic, Chautara Municipality Ward 8	Consultation with Community Livelihood Group (CLG) members (and others) <ul style="list-style-type: none"> - Ms. Tamang - Sanimaya Tamang - Dashrath Rauniyar, project team - Prahlad Khadka - Mr Shrestha - Pemba Tamang, ANS - Mr Tamang—RAP member - Dambar Shrestha- RAP member - Sanjiv Lama - Bhagawati BK – SIDEK social mobilizer 	<ul style="list-style-type: none"> - Operation of Safer Construction Clinic - Community Livelihood group - Challenge of clinic - Aha of project activities
26.12.2017 Irkhu, Chautara Municipality-8	Consultation with CDRMP/ECHO project engineer <ul style="list-style-type: none"> - Divas Dahal, MTC Engineer 	<ul style="list-style-type: none"> - Activities and process of MTC - Its results - Adoption of GI wire technology - Adoption of different technologies in house construction
26.12.2017 Irkhu, Chautara Municipality -8	Consultation with partner NGO official <ul style="list-style-type: none"> - Bhavanath acharya, Sindhu Utthan Kendra (SUK) (UNDP’s partner NGO) 	<ul style="list-style-type: none"> - Implementation modality of the partner NGO - Key process and activities and results - Institutionalization of RAP - Technologies in reconstruction of houses - Challenges of RAP committees/ RAP use - Efficiency versus delays - Aha of the project
26.12.2018 Deepbagar Village @ Irkhu, Chautara Municipality 8 Sindhupalchowk TDH Site	Consultation with RAP committee chair <ul style="list-style-type: none"> - Mankaji Tamang (Chair, Reconstruction Action Plan Committee Chair) 	<ul style="list-style-type: none"> - Reconstruction in the village - Grievance from the village - Experience of the GI wire technology house (TDH)

Consultation Date/Place	People interviewed/consulted	Discussion Agenda & Remarks
		- Use of skills for ANS and masons
26.12.2018 Ward 8 Office, Irkhu, Chautara Municipality	Joint meeting with Ward Chair and NRA engineer - Tirtha Bahadur Shrestha (Ward Chair) - Ajay Karn, NRA Engineer	-
26.12.2018 Office of Sindhu Development Centre (SiDEC)	Meeting with partner NGO team - Prahlad Thapa, Engineer - Dashrath Ram - Deepak Aryal - Dinesh Karki - Sunil Timilsina - Pravakar Thapa - Mr Acharya	- Partnership with UNDP - Introduction of SiDEC - CLG and sustainability of safer construction clinic - Suggestions for further action & support
27.12.2017 Indrawati Rural Municipality, , Sipapokhare (NGO office: SUK Nepal)	Participant observation of RAP (Wards – 7 and 8) Progress Review and Update meeting, attended by some 30 individuals (men and women), including Tilak Roka (chair of Sipapokhare RAP, newly elected Dalit Ward Member)	- TDH building - Status of reconstruction - Trained masons
27.12.2017 Indrawati Rural Municipality, Sipapokhare (NGO office: SUK Nepal)	Meeting RAP committee members - Tilak Roka (chair of Sipapokhare RAP, newly elected Dalit Ward Member) - Kshetra Bahadur Dhungana	- RAP committee's work - Work on reconstruction - Use of RAP - Gaps and suggestions
27.12.2017 Indrawati Rural Municipality, Sipapokhare (NGO office: SUK Nepal)	Brief consultation with SUK team) - SUK Nepal's secretary - Subas Shrestha - Bhavanath Acharya - Santosh Bhattarai	- DTH construction
27.12.2017 Dumindanda village, Indrawati Rural Municipality, Grantee consultation (@Construction Site)	Consultation with ECHO project grantee - Mr Murali Sarki (Dalit)	- Household experience of earthquake and reconstruction - Loan/lending - Compliance issues - Status of support from NRA
Travel to Dolakha		
28.12.2017 @Baghkor, Shailung Rural Municipality	Consultation with MTC Engineer - Naresh Nidal	- Process and operation of MTC - Achievements of MTC
Katakuti Village, Khadka Gaun, Shailung Rural Municipality	Meeting with RAP committee member - Lalit Kumari Karki - Indra Bahadur Karki - Kiran Basnet (Ward Chair, Ward 5 of Shailung) - Bhagawati Khadka	- Status and experience of reconstruction in Katakuti - Processes and activities of RAP committee - Achievements of RAP committee - Aha activities - Suggestions

Consultation Date/Place	People interviewed/consulted	Discussion Agenda & Remarks
		<ul style="list-style-type: none"> - Achievements for trained masons - Adoption of wire technology
28.12.2018 @ Katakuti Village, Shailung Municipality	Meeting with Grantee <ul style="list-style-type: none"> - Dhruva Kumar Khadka, Grantee 	<ul style="list-style-type: none"> - Loan/lending for reconstruction - Support from UNDP/ECHO project - Support from NRA - Experience of reconstruction
28.12.2018 Community Livelihood Group, Safer Construction Clinic (Hardware Shop), Boch Lankuri, Bhimeshwar Municipality	Observation of Inauguration of the safer construction clinic at Boch Lankuri by district-based officials, participated by: <ul style="list-style-type: none"> - Local CLG members - Ward chair - Community members And government officials <ul style="list-style-type: none"> - Deputy chief district officer - NRA district chief - District coordination committee officer etc And members of UNDP & partner NGO (REDC Dolakha) <ul style="list-style-type: none"> - Suman - Pravakar Thapa - UNDP/ECHO team 	<ul style="list-style-type: none"> - Observation of inauguration event
28.12.2018 Hand-over of TDH, Boch Lankuri, Bhimeshwar Municipality	Observation of TDH house to Ms. Yangdolma Tamang, by Government officials <ul style="list-style-type: none"> - Deputy chief district officer - NRA district chief - District coordination committee officer etc And members of UNDP & partner NGO (REDC Dolakha) <ul style="list-style-type: none"> - Suman - Pravakar Thapa - UNDP/ECHO team 	Observation of TDH hand-over event.
28.12.2018	<i>Stay-over at Shailung, Dolakha</i>	-
29.12.2018	Return: Shailung to Kathmandu travel	-
Debriefing in Kathmandu		
19th Jan 2018 Kathmandu	Debriefing meeting @ CDRMP/UNDP office <ul style="list-style-type: none"> - Pragya Pradhan - Pravakar Thapa - Kedar Dhungana 	<ul style="list-style-type: none"> - Debriefing of results