

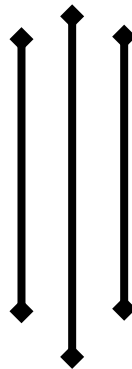


**Government of Nepal**

**Ministry of Federal Affairs and Local Development**

**OFFICE OF THE DISTRICT COORDINATION COMMITTEE**

**Nuwakot**



**Earthquake Housing Reconstruction Project**

**(EHRP)**



**Environmental and Social Screening Report (ESSR)**

Sub project Kukhure Chautara /Settlement: Thansing VDC, Nuwakot District

Date: 2September, 2017

## Seal of Acceptance of Environment and Social Screening Report



Uendra Pyakurel

Energy and Environment Officer

Energy and Environment Section/Committee


District Coordination Committee





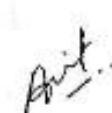
Bidur, Nuwakot



Official Stamp

**Screening Survey, Review and Reporting Team**


  
 In completion of Environmental and Social Screening (ESSR), here are the list of personals who had overall responsibility in surveying, data verification,

Position	Name	Signature & Date	Remarks
District Project Manager/DL-PIU, Nuwakot	Sunil Raj Giri		Review of overall screening process
Deputy Team Leader/DL-PIU, Nuwakot	Ram Bikram Dahal		Guidance and reviewer of the overall screening reporting process
Environmental Specialist/DL-PIU, Nuwakot	Sudeep Ghimire		Support and facilitation during survey to SM and Engineer, data verification, compilation, presentation and finalization of screening report.
Social Development Specialist/DL-PIU, Nuwakot	Rishi Ram Bimali		Support and facilitation during survey to SM and Engineer, data verification, compilation, presentation and finalization of screening report
Monitoring and Evaluation Officer/DL-PIU, Nuwakot	Arjun Banadur Basnet		Support and Facilitate in coordinating the community people and survey work
Engineer	Dipesh Sedai		Technical estimation of the materials generated and used for reconstructing a private home
Social Mobilizer/s	Ambika Bhattaral		Support in conducting screening survey

**Acronyms and Abbreviation**

CBS	Central Bureau of Statistics
CL-PIU	Central Level Project- Implementation Unit
DCC	District Coordination Committee
DDC	District Development Committee
DL-PIU	District Level – Project Implementation Unit
DTO	District Technical Office
EHRP	Earthquake Housing Reconstruction Project
ENRC	Environment and Natural Resource Committee
ESMF	Environmental and Social Management Framework
ESMP	Environmental and Social Management Plan
ESSR	Environment and Social Screening Report
ESSS	Environment and Social Screening Survey
HHs	Households
ICS	Improved Cooking Stove
IP	Indigenous People
LGCDP	Local Governance and Community Development Programme
LPG	Liquid Petroleum Gas
MoFSC	Ministry of Forest and Soil Conservation
MoUD	Ministry of Urban Development
MoUD	Ministry of Urban Development
NRA	National Reconstruction Authority
NRA	National Reconstruction Authority
NTFP	Non Timber Forest Product
OP/BP	Operational Policy/ Bank Policy

---

PIU	Project Implementation Unit
POs	Partner Organizations
RAP	Resettlement Action Plan
RM	Rural Municipality
TCN	Timber Corporation of Nepal
VCDP	Vulnerable Community Development Plan
VDC	Village Development Committee

**Units**

#	Numbers/ Count
%	Percentage
cft	Cubic Foot
cum/m <sup>3</sup>	Cubic Meter
Km	Kilometer
masl	Meter Above Sea Level

## Table of Contents

<b>ACRONYMS AND ABBREVIATION</b> .....	<b>III</b>
<b>TABLE OF CONTENTS</b> .....	<b>V</b>
<b>1. BACKGROUND</b> .....	<b>1</b>
<b>2. SCOPE OF EHRP</b> .....	<b>1</b>
<b>3. SUB PROJECT (SETTLEMENT)</b> .....	<b>2</b>
<b>4. SOCIAL AND ENVIRONMENTAL SCREENING AND ITS OBJECTIVES</b> .....	<b>3</b>
<b>5. METHODOLOGY</b> .....	<b>3</b>
<b>6. FINDINGS AND ISSUES</b> .....	<b>3</b>
A. EARTHQUAKE DAMAGED HOUSES AND LOCAL CONSTRUCTION MATERIALS .....	3
B. FOREST AND WILDLIFE .....	4
C. DEBRIS/SOLID WASTE MANAGEMENT AND HAZARDOUS MATERIALS .....	4
D. SOCIO-ECONOMIC AND CULTURAL FEATURES .....	4
E. WATER AND SANITATION.....	4
F. BUILD BACK BETTER OPPORTUNITY .....	5
G. ANY SENSITIVE SITE .....	5
<b>7. FEEDBACK OF ENVIRONMENT AND NATURAL RESOURCE COMMITTEE (ENRC) REVIEW MEETING</b> .....	<b>5</b>
<b>8. ENVIRONMENTAL AND SOCIAL MITIGATION MEASURES AND MONITORING ACTIVITIES</b> .....	<b>5</b>
<b>9. CONCLUSIONS AND RECOMMENDATIONS</b> .....	<b>10</b>
ANNEX I: ENVIRONMENTAL AND SOCIAL SAFEGUARD SCREENING CHECKLIST .....	I
ANNEX II: BENEFICIARIES OF KUKHURE CHAUTARA SETTLEMENT .....	VIII
ANNEX III: REVIEW MEETING MINUTES FOR APPROVAL OF SCREENING REPORT FOR THANSING VDC.....	XII
ANNEX IV: LIST OF CONSULTATION .....	XIII
ANNEX V: ARIAL VIEW OF KHUKHURE CHAUTARA SETTLEMENT IN GOOGLE MAP.....	XIV
ANNEX VI: QUANTITY CALCULATION SHEET FOR KUKHURE CHAUTARA SETTLEMENT .....	XV

## 1. Background

Nepal Earthquake of April 2015 and subsequent aftershocks including of May 2015, caused wide spread destruction of residential houses, heritage sites, water supply system, government building, rural road, health posts etc. Nuwakot is one the earthquake affected district. According to National Reconstruction Authority (NRA) source, the total number of houses damaged in Nuwakot district is 74,533 of which 65,759 are fully damaged and 8,774 partially damaged.

Government of Nepal has selected Nuwakot district as one of the three districts to be supported under the World Bank funded Earthquake Housing Reconstruction Project (EHRP). The main objective of the EHRP is to restore earthquake-affected houses with multi-hazard resistant core housing units in targeted districts (Nuwakot, Dolkha and Dhading district) and to enhance the government's ability to improve long-term disaster resilience. The project has four components: (1) Improved Housing Reconstruction, (2) Disaster Risk Management Systems, (3) Project Implementation Support and (4) is for Contingency Emergency Response.

## 2. Scope of EHRP

EHRP supports only reconstruction of owners built houses. Government, through EHRP, provides grants to households for construction of residential houses following 'owner-driven' housing construction model.

EHRP approach includes:

- Beneficiary households will build their house on their own land. Thus, land acquisition and resettlement is not envisaged under the project.
- Residential houses will be small and constructed by the beneficiary household themselves.
- Not all the houses will be constructed at the same time. Beneficiary households are expected to build their houses at their own pace.
- Contractors will not be used. Households have option to hire skilled and unskilled laborers as needed.
- In Nepal, community members also come together to help each other to build their houses and community help is also provided to the vulnerable households.
- General awareness/orientation on building earthquake resilient houses, environment and Social safeguards and "Build Back Better Opportunity" provisions in the project to beneficiary households.
- EHRP (housing component) does not support reconstruction of heritage/cultural sites, schools and other physical and social infrastructure and services.

Government's overall approach for earthquake disaster recovery in Nepal includes:

- Skilled-training (mason, carpentry, plumbing, electrical) as a part of overall strategies are being provided by Department of Urban Development and Building Construction (DUDBC) in coordination with other line agencies and NGOs/INGOs. All interested community members and beneficiaries including those from vulnerable groups can take the training. NRA has already finalized the earthquake resilient house construction design parameters. Based on the design parameter DUDBC engineer verifies earthquake resilient house reconstruction and beneficiaries are entitled to receive the tranche payment.
- Government recognizes the need for supplementary top-up financial assistance worth NPR 50,000 for vulnerable households which could be in the form of materials and labor support among others. This supplementary financial support will be provided by

partner organizations. Currently, the government is preparing the guideline for vulnerable support package for partner organizations and is expected to be finalized by end of August 2017.

- Housing construction support of NRs 25,000 may be used as an opportunity to promote sanitations, renewable energy (including solar power, Improved Cooking Stoves (ICS) or bio-gas etc. As such, the sanitation part of the settlement is likely to improve. Unless toilet or installation of alternative energy provision is adopted by beneficiaries the amount allocated will not be paid to the beneficiaries

### 3. Sub Project (Settlement)

Environmental and Social Screening is done at settlement level. Under EHRP-Settlement /sub project is defined using combination of criteria including the following: administrative boundary (such as a ward, or a VDC), name of the village/place (such as Tole)/ community, natural or topographical boundary, and contiguity. Former Village Development Committees (VDCs) are restructured as Rural Municipality/Municipality according to new restructure federal system of Nepal.

The sub-project *Kukhure Chautara* settlement is located in Likhu Rural Municipality (former Thansing VDC, ward no.-3). The settlement lies in southeastern part of district headquarter, Bidur (Fig. 1). Detailed settlement level boundary and features is presented in google earth image (Annex V). The settlement is accessible by 1 km earthen road form Tokha- Chhahare Feeder Road.

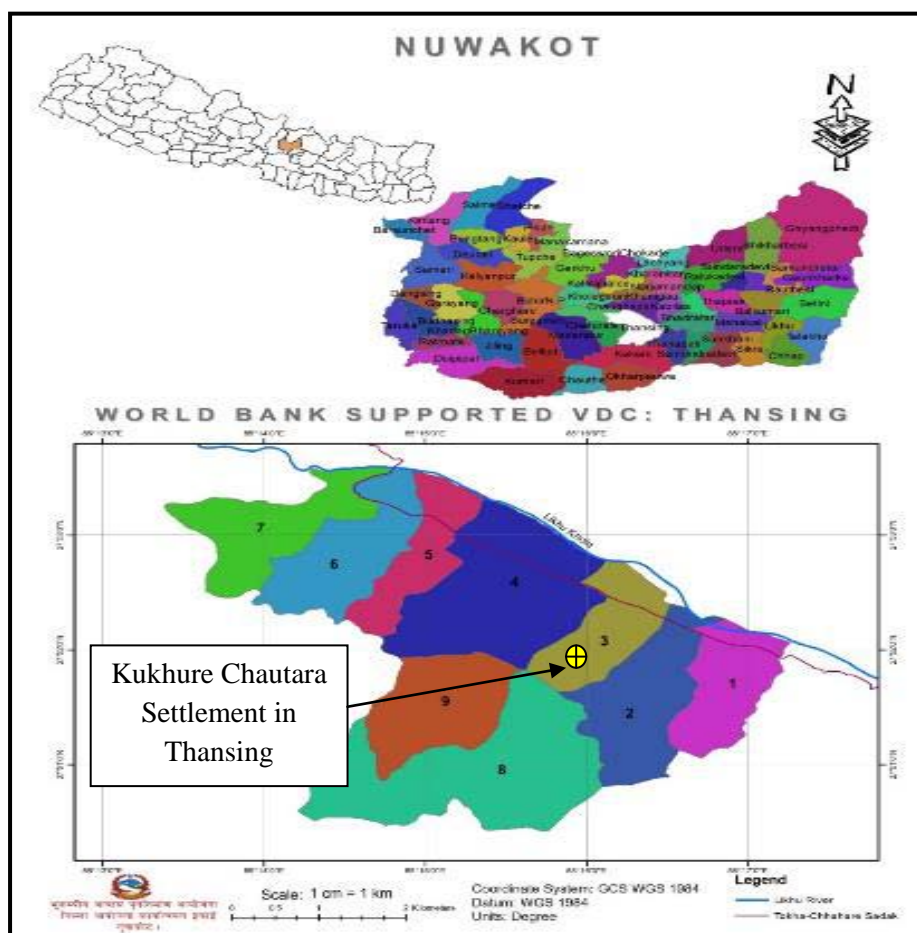


Fig. 1: Map Showing the Thansing VDC



Physiographical condition of the sub project area is characterized by mountain, subtropical climate, surrounded by uphill area with no such happening of any natural disaster.

The total number of eligible HHs considered as beneficiaries identified from National Reconstruction Authority (NRA) for “Nepal Earthquake 2015” within this settlement is 135.

#### **4. Social and Environmental Screening and its Objectives**

ESMF requires Environmental and Social screening of each subproject/ settlement. The objectives of Screenings are:

- To identify potential environmental and social issues/risks related to the subprojects and its activities (physical, biological, social –cultural issues/risks specific to the area, in and around the settlement),
- To identify the need to obtain any regulatory clearances such as from Ministry of Forest and Soil Conservation (MoFSC) for specific site/s like clearing/felling of trees, from District Coordination Committee (DCC and Rural Municipality for approved quarry sites etc,
- To check if the proposed location and activity meets the exclusion criteria,
- To establish the need to carry out any further investigation/survey/ assessment for preparation of safeguard document like ESMPs, Resettlement Action Plan (RAP), Vulnerable Community Development Plan (VCDP), or any specific study and to provide guidance regarding environmental and social requirements and steps that needs to be taken for addressing identified issues, and
- To explore opportunities for creating linkage for enhancing benefits, building better and synergy.

#### **5. Methodology**

- Desk study: Documents such as district profile, VDC profile, CBS publication and publication of line agencies at district level and other project related reports were reviewed. Aid of topographic maps of scale 1:25000 and regional geological map including google earth map was taken to get the overview of the project area.
- Field visit and consultation: Environmental and Social screening checklist was used (Annex I) for recording information. Walkover survey for recording information was also carried out at settlement level. Free, prior and informed consultation with beneficiaries and local informants was undertaken on March, 2017. During the consultation, they were informed about the project provisions and information on socioeconomic setting including physical and biological features were recorded. Discussions were also held with district and local sectoral agencies including District Technical Office (DTO), ward secretary of rural municipality, communities’ groups-CFUGs and CBO active in sub project.
- Further consultation and discussion were held with and among EHRP Consultants; consultant engineers from Ministry of Urban Development (MoUD), Local Governance and Community Development Programme (LGCDP) Social Mobilizers.

#### **6. Findings and Issues**

Following are the potential environmental and social issues and impacts identified by the Environment & Social screening of the affected settlement:

##### ***A. Earthquake Damaged Houses and Local Construction Materials***

- With scattered distribution, a typical house before the earthquake comprised of 24’\*32’ plinth with five rooms in 2-3 stories made from timber, stone, clay, bamboo and

corrugated Sheets. The proposed newly reconstruction houses will be made with stone and brick masonry using availability of local raw materials under government standard;

- The beneficiaries are currently residing in temporary shelters within the settlement;
- 135 beneficiaries are rebuilding their houses in the same location following recommendation by engineers from Department of Urban Development and Building Construction (DUDBC). However, the reconstruction policy of NRA also permits to rebuild their houses within the district;
- About 40 percent of the houses will be built using stone and remaining sixty percent will use bricks for reconstructing their houses. Total additional demand of stone approximately 1,620 cum and bricks is 21, 46,095 numbers besides sand, aggregate, timber, cement, iron (refer details in Annex VI);
- The total additional demand of timber for the settlement is about 239.95 cum after reusing 270 cum from salvage timber;
- All required raw materials for building will be purchased from DCC (former DDC) approved quarry site nearby wards 3 & 4 of Thansing VDC. Identified quarry sites are located nearby (2 Km from the settlement) Likhu River and local markets are located at Kukhure-Chautara, Dhikure, Battar, and Bidur; and
- Stone and timber salvaged are being packed and stored properly and being used for reconstructions of houses.

#### ***B. Forest and Wildlife***

Most of the sub project area lies within the agricultural land and has no forest area. Wild lives and NTFPs were not reported in the settlement area.

#### ***C. Debris/Solid Waste Management and Hazardous Materials***

The debris generated were managed within the subproject by beneficiary HH. No hazardous waste has been reported or observed. Solid waste like empty cement bags, metal scarps generated during construction will have minimal impact.

#### ***D. Socio-economic and Cultural Features***

- The project area is a heterogeneous community where indigenous households and other households live together in scattered distribution. Out of 135 HHs in the community, 60 HHs belongs to Brahmin and Chettri, 40 are Indigenous HHs, 35 HHs are from Dalits and 29 HHs are women headed HHs (Annex-II);
- The existing earthen rural road provides access to the market and approved quarry sites to collect construction materials;
- The major source of livelihood is agriculture, service, remittance and occasional labor works. Public health post and school that were not damaged by the earthquake are located in the settlement; and
- All the eligible HHs gradually shifting the traditional firewood with Liquefied Petroleum Gas (LPG) as cooking fuel.

#### ***E. Water and Sanitation***

- The source of water for drinking facility is from spring and is reported to be adequate. Sanitation condition was also found satisfactory within the settlement even though some of the HHs are using temporary toilet which will be completed with the final installment of grant money; and
- Project activities and implementation is not likely to affect aquatic life of nearby Likhu river

#### ***F. Build Back Better Opportunity***

- More improved water, sanitation and hygiene situation in the settlement by toilet construction using housing grant allocated for sanitation purpose and adoption and installation of alternative energy measures;
- As some of the individual residential houses in the settlement/ subproject area are still using firewood as the traditional cooking fuel, this project provides an opportunity to build Improved Cooking Stoves (ICS) or bio-gas etc;and
- These could be promoted through agencies including government and NGOs/INGOs which are already engaged in these sectors in the district. Such opportunity needs to be further explored and promoted by DL-PIU/CL-PIU as far as possible.

#### ***G. Any Sensitive Site***

There is no known significant physical, cultural site, protected site in the immediate surrounding of the subproject/ settlement. There is no known habitat for endangered, rare, protected or special species. There is no hazardous place or restricted place within the settlement.

### **7. Feedback of Environment and Natural Resource Committee (ENRC) Review Meeting**

Following are the major concern/recommendations from the DCC-ENRC meeting held on 25<sup>th</sup> April, 2017 (Annex III)

- It is likely that the most of the earthquake affected HH may choose to rebuild their houses in-situ instead few of them are using even for agriculture land where no options exists;
- Local government is concerned that as a result of shifting and rebuilding process in the area; there could be loss of productive agricultural land, which could potentially affect the local economy; and
- Awareness activities in relation to the above-mentioned issue should be carried out in Kukhure Chautaro settlement land area.

### **8. Environmental and Social Mitigation Measures and Monitoring Activities**

The following are Environmental and Social issues and mitigation measures identified from screening report.

Table-1: Environmental and social issues, impacts and mitigation measures.

SN	Environmental and Social Issues	Mitigation measures	Mitigation measure cost	Responsibility		Remarks
				Implementation	Monitoring/Supervision	
1.	Impacts from the supply and purchase of construction materials (aggregates, stone and sand) from local market on the local community	<p>Aggregates will be purchased from suppliers or at market (Kukhure Chautara, Dhikure, Battar, and Bidur). Quarry operators supply the materials from approved quarry sites which are about 2 km away from settlement. District Coordination Committee (DCC) former District Development committee (DDC) is the licensing authority for the quarries, and is responsible to monitor the licensed quarry sites and enforce compliance to environmental mitigations.</p> <p>Timber will be sourced from demolished house salvage, from own farm land, and from licensed local market. The timber Corporation of Nepal, a government entity, also supplies timber at subsidized rate through its depot for the earthquake affected district.</p>	Contractor will be responsible to borne mitigation cost as a part of quarry site license approval clause.	Beneficiary Household/DL-PIU	<p>Monitoring by CL-PIU/mobile team and Third party.</p> <p>Monitoring findings will be shared with DCC.</p>	Aggregated suppliers and vendors are registered on concerned government authority to have permits to supply and sale the products.
2.	The construction of small residential	Various training and awareness activities will be organized by DL-	The cost of health and safety awareness and training is	DL-PIU	CL-PIU/NRA	

SN	Environmental and Social Issues	Mitigation measures	Mitigation measure cost	Responsibility		Remarks
				Implementation	Monitoring/Supervision	
	buildings will involve small scale civil works. Hence, there is health and safety risks of minor accidents and injuries.	PIU, health and safety training and awareness is part of those training and awareness by DL-PIU. Masons and carpenters will be trained on relevant safety measures, and owners will be made aware of the safety risks and management.	internalized within the overall cost of training and awareness. Project Implementation Unit (PIU) as a part of annual work plan will develop environmental and social training, awareness and dissemination plan and cost/ budget.			
3.	Debris/Solid Waste Management	Demolition waste generated is already managed in-situ. The solid waste generated during construction will be minimal and will be managed by beneficiaries themselves	Not applicable	Beneficiaries	DL-PIU	
4	Build Back Better Opportunity – Enhancement Measures					
4.1	Health and sanitation	In terms of prioritizing built back better opportunity need priority are : <ol style="list-style-type: none"> <li>1. Integration of toilet (sanitations) construction in housing reconstruction</li> <li>2. Addressing Indoor air pollution through well ventilated housing design including promotion of Improved Cooking Stoves</li> </ol>	Housing construction support of NRs 25,000	Beneficiary Household/DL-PIU	Monitoring CL-PIU/mobile team/CL-PIU/and third party	Monitoring cost is covered under overall project site visit, supervision and monitoring. External monitoring (third party) for overall EHRP is estimated to be about NRs. 7 million.

SN	Environmental and Social Issues	Mitigation measures	Mitigation measure cost	Responsibility		Remarks
				Implementation	Monitoring/Supervision	
		(ICS) 3. Renewable energy (including solar power, or bio-gas etc.				
4.2	Indigenous Peoples and other vulnerable groups including marginalized, poor, woman headed households, disabled people	<p>Mitigation measures include:</p> <ul style="list-style-type: none"> <li>• Targeted communication and awareness to vulnerable group (e.g. organizing consultation in areas accessible for women and people with disabilities.) on: <ul style="list-style-type: none"> <li>○ Awareness on efficient usage of water and WASH</li> <li>○ Information about the project, grant, training opportunities</li> <li>○ Awareness campaign on indoor pollution and its health effects</li> <li>○ Awareness to avoid use of productive land in reconstruction.</li> </ul> </li> <li>• Target vulnerable groups while providing trainings to construction workers, supervisors, social mobilisers;</li> <li>• Target female-headed households and other vulnerable groups during social mobilization process and provide them with additional technical assistance during construction period (masonry,</li> </ul>	This will not require additional mitigation cost.	DL-PIU/Mobile team/ Partner organisations  (The team will ensure that vulnerable groups are targeted and their participation is ensured through district project team mobilization)	Monitoring by CL-PIU/NRA	<p>The Government/Project is drafting a guideline for Vulnerable Community Support Package equivalent to NRs 50,000 for vulnerable households to be provided through partner organisations. The project (NRA) including the district team will coordinate with NGOs/INGOs and donor partners to provide the package to the vulnerable groups in the concerned settlement</p> <p>Monitoring cost is covered under overall project site visit,</p>

SN	Environmental and Social Issues	Mitigation measures	Mitigation measure cost	Responsibility		Remarks
				Implementation	Monitoring/Supervision	
		carpenters, etc.); and <ul style="list-style-type: none"> <li>• Ensuring their participation during consultation process throughout project implementation cycle;</li> <li>• Provide additional assistance in accessing housing grants (e.g.- facilitate opening bank account, paperwork for installments/tranche, etc. )</li> </ul>				supervision and monitoring. External monitoring (third party) for overall EHRP is estimated to be about NRs. 7 million.
4.3	Loss of productive agricultural land in the settlement area	Organize awareness program and distribute awareness materials in relation to prevention of loss of productive agricultural land in and around the settlement area	The cost of awareness activities is internalized within the overall cost of training and awareness.	DL-PIU	CL-PIU/NRA	CL-PIU to submit copy of awareness event to Bank. Ongoing activities as a part of settlement level safeguard awareness activities.
4.4	Other build back better opportunities	Coordination and linkages with other line agencies including government and NGOs/ INGOs which are already engaged in these sectors in the district.	Besides cost incurred for nominal co-ordination, this will not require additional mitigation cost.	DL-PIU	CL-PIU/NRA	Agencies working in different sections will be identified and added later on in the Annex

## 9. Conclusions and Recommendations

The major conclusions on the environmental and social issues are;

- Sub-project activities will not have significant impact on protected area/protected species/habitat, social, cultural, archeologically sensitive areas in and around the settlement/ subproject area;
- Housing construction will be owner driven. Health and safety aspects of house reconstruction will be addressed by the training and awareness to be carried out by the DL-PIU, and by the mobile team (consisting of engineers, environmental and social persons);
- Timber, stone and other construction materials will be purchased from nearby local market at Kukhure Chautara, Dhikure, Battar, and Bidur. Besides use of timber from own farm, purchase at subsidized rate from timber distributed by Timber Corporation of Nepal (TCN) will fulfill the additional demand 238.95 cum whereas, 1,620 cum stone will be fulfilled from nearby DDC approved quarry sites;
- Out of the total 135HHs not any HHs are in the influence zone of natural hazards as flood or landslide;
- As people of sub-project settlement have their own land for reconstruction of houses, land acquisition and involuntary settlement is not required; and
- There will be no significant adverse impacts on vulnerable groups, marginalized groups (female-headed households and indigenous peoples groups).

The environmental and social impact envisaged from the reconstruction activity in this settlement is envisaged as minimal or low and no significant adverse impact is foreseen. Owners will purchase the raw material requirement such as timber and aggregates from quarry and local market. The potential impacts and mitigations are summarized in Table -1. There is no need for further Environmental Assessment.

Furthermore, the sub-project does not entail land acquisition or involuntary resettlement thus RAP is not required. In relation to presence of IPs, the screening and community consultation suggests that the project area is a mixed community where indigenous households and other households live together. The indigenous HHs are scattered within the settlement and they do not have collective attachment to the area. They have same socio-economic and educational status with other caste groups. The vulnerable households are benefited from the EHRP project and they do not have any adverse impact from it. Besides housing grant they are entitled to get 50,000 top up subsidy (See table-1). Thus, a separate VCDP is not required. Measures to ensure that the vulnerable groups including indigenous peoples are not excluded during project implementation and they are able to maximize benefits from the project are discussed in Table -1.

### Report Prepared by:

DL-PIU/ESpecialist

Name: Sudeep Ghimire

Designation: Environmental Specialist

DL-PIU/ SDS Specialist

Name: Rishi Ram Bimali

Designation: Social Development Specialist



## Annexes

**Annex I: Environmental and Social Safeguard Screening Checklist**

1.	Project Title	Earthquake Housing and Reconstruction Project (EHRP)
2.	Project District	<i>Nuwakot</i>
3.	Name of the VDC/Municipality	<i>Thansing VDC</i>
4.	Name of the Settlement, Ward No.	<i>Kukhure Chautara-3</i>
5.	Number of eligible households:	135 HHs
6.	Altitude of the Settlement (in meters)	NA
7.	Nearest road head/highway/headquarter	1 Km from Tokha-Chhahare Road/19 km form district headquarter
8.	Settlement ID/no	28-59-3-05
9.	Proposed Date of Commencement of Work: _____	December 28, 2016
	Number of houses damaged	135 HHs
	Number of houses to be reconstructed	135 HHs
	Quantity of debris generated (by type)	Stone, bonding soil, wood, rags,
	Quantity of reusable materials (by type)	Stone, and timber
	Quantity of debris that needs to be disposed	Not applicable, most of the generated debris are already managed in-situ by the beneficiaries household. Stone and timber salvaged are being packed properly and being used wisely. The remaining debris in minor quantity will be properly addressed during constructions by the individual households
	Quantity of construction materials needed (Timber, sand, gravel, stone, etc)	Additional about 238.95 cum Timber and about 1,620 cum stone is needed and brick of 21,46,095 numbers
	Any hazardous materials mixed with debris (e.g. from damaged health-posts, medicines, from agro-vet shops/ service etc)	None.
10.	<b>Exclusion criteria:</b>	
	Shelter/house should not be located in the risky spots (having ground slope of more than 30 degree, known flood risk spot, on top of or adjacent to known fault-line, etc).	NA
	House/ shelter should not be located	NA

	in protected area, and forest.	
	Any activity, including material quarrying, resulting significant conversation or degradation of critical natural habitat is not permitted	NA
	Use of any public PCR in private home reconstruction is not permitted.	NA

S.No	ISSUES	YES	NO	DONOT KNOW/remarks
1	Is the proposed sub-project likely to have minimal or no adverse environmental impacts?	√		OP 4.01
2	Is the proposed subproject likely to have adverse environmental impacts that are site specific; few if any of them are irreversible, and mitigation measures are readily known or can be designed?		√	OP 4.01
3.	Is the proposed subproject likely to have adverse impacts on the health and quality of forests or rights and welfare of people and their level of dependence upon or interaction with forests?  Is the proposed subproject likely to bring about changes in the management, protection or utilization of natural forests or plantations?		√	OP 4.36
4	Will the sub-project be supporting reconstruction, management, or preservation of physical cultural resources?  Is the subproject located in, or in the vicinity of, cultural sites?  Will the sub-project likely adversely impact physical cultural resources?		√	OP 4.11
5.	Will the sub-project involve significant conversion or degradation of critical or non-critical natural habitats?		√	OP 4.04
6	Does the sub-project involve involuntary land acquisition or prior acquisition of land or demolition of existing structures?		√	OP 4.12
7	Are there any ethnic minority communities present in the project area?  Are they adversely impacted by the proposed sub-project?	√	√	OP 4.10
<b>Physical features</b>				
1	Is the settlement/subproject located in an area susceptible to landslides, rock fall or erosion, flood prone areas and extreme climatic conditions, fogs, avalanche, snow-fall, etc?		√	
2	Is the settlement located close to groundwater sources,	√		Perennial Likhu River at about 2

	springs, surface water bodies, riverbank, and watercourses?			Km from the settlement
3	How is the terrain? –flat, ridge, undulating, terraced, valley, tar etc.	√		Hill with most terraced farm land
4	Any history of erosion, flashflood, landslides, earthquake in the area/ vicinity?		√	
5	Current land use practice (agriculture, grazing, barren, forest, shrubs-----)	√		Mostly agricultural land
6	Is the subproject located on prime agricultural land?		√	As most of the reconstruction work is in-situ the agricultural land will not be impacted.
7	Does the sub project involve significant extraction, diversion or containment of surface or ground water for the local people or agriculture?		√	
8	Any existing/approved/ potential quarry sites (sand, aggregate, stone, slates, boulders) in the vicinity of the sub-project?	√		Approved site at Likhu River bank close to Thansing VDC ward no. 3 & 4
9	Are there any potential sites/land for debris management/ solid waste management/ reclamation for future use?		√	Not applicable since people on their own have manage their waste at HHs level
10	Are there any areas or features of high landscape or scenic value on or spots with unique feature in and around the location which could be affected by the project? (examples, viewing point/ ridge/ peak, water-fall, cave, cliff etc)		√	
11	Any risks (health and safety, location- cliff, ridge etc.) associated with the setting of the sub-project which needs to be taken care?		√	
<b>Biological features</b>				
1	Any critical habitat or ecosystem of importance?  Is the subproject located in or adjacent to a protected areas/ national forests, wilderness areas, wetlands (Ramsar), biodiversity, critical habitats?		√	
2	If the subproject is located near the forest, what is the category		√	

	of the forest- national, community, leasehold, religious etc.?			
3	Any area/ spot in and around the subproject/ settlement that is known as/for wildlife/ bird habitat (examples – bear, langur monkey, red panda, deer, trees where vulture or bats nests, cliff where wild beehives, etc)		√	
	Is the settlement/ subproject area a known wildlife movement/ migration route or bird migration route?		√	

	Is there any water body, river, wetland etc known as important habitat (or renowned) for fishes or aquatic life?  Any Ramsar site in the vicinity of the settlement/ subproject?	<ul style="list-style-type: none"> <li>• Likhu river is an important landmark for the settlement. It is not known as important habitat for aquatic life</li> <li>• The subproject activities will not have any adverse impacts on Likhu River, and its watershed; and</li> <li>• No Ramsar site in the vicinity of the settlement</li> </ul>
--	--	--

4	Would the sub-project potentially cause adverse impacts to habitats (e.g. modified, natural, and critical habitats) and/or ecosystems and ecosystem services?		√	
5	Does the Project involve changes to the use of lands and resources that may have adverse impacts on habitats, ecosystems, and/or livelihoods?		√	
6	Are there any areas/ spots used by the protected, important sensitive species of flora and fauna for breeding, nesting, foraging, resting and for migration?		√	
7	Would Project activities pose risks to endangered species or their habitat?		√	
8	Does the sub-project implementation leads to harvesting of natural forests, timber, plantation development, or deforestation?		√	
9	Any NTFP or medicinal plants in and around the sub-project?		√	

#### Socio-economic and Cultural Features

1	Is the subproject located in a densely populated area?		√	135 HHs at settlement are scatteredly distributed
2	How many people comprise a typical household?	√		Average HHs size is 6
3	How many households are without any land/shelter, any squatters?		√	Every HHs have their own private land
4	Is the subproject located near to the sites of archaeological/historical or cultural importance?		√	

5	Presence of minority/vulnerable/indigenous population in the area?	√		40 IP HHs, 35 Dalit HHs and 29 women headed HHs
6	Is the sub-project located near cultural or religious place of importance including sacred hill/ peak, sacred cliff, cave and/ or sacred tree?		√	
7	What household and livelihood support activities typically take place within the affected community?	Labor works, agriculture, service and remittance		
8	What are the typical building practices of the affected people and what are the different materials have they used in the past?	Sizes vary each cases with most 24'*32' plinth with 5 rooms in 2-3 story, Timber, Stone, Clay, Bamboo and Corrugated Sheets		
9	Will the project require displacement or relocation of persons in the affected area?		√	
10	Who are the vulnerable people in the population, also considering those affected by HIV/AIDS etc.?	√		IPs, women headed HHs and Dalit are different vulnerable groups
11	What is the current availability of water for drinking and personal hygiene,	√		Adequate Supply from spring source
12	What is the current provision of social/infrastructure facilities (health posts, sub-health posts, schools, communications, road etc?)	√		Public health post and school are located in the settlement and they are intact following the quake
13	Are there any roads on around the location which causes congestion, environmental problems during project implementation?		√	
14	Are there any open space, industries, recreation areas which could be affected by the project?		√	
15	Are there any women headed HH (No. of HHs to be identified) in the settlement.	√		29 HHs are women headed
16	Are there any conflicts about the use of local resources		√	
	What are the programs/ activities ongoing or planned in the settlement/ VDC or subproject area that may be coordinated, linked, and/or worked together for synergy and for 'building better'? Examples: Biogas, improved smokeless stoves, sanitation, micro-hydropower, catchment area/ soil erosion protection, community forest, buffer zone management, trail development,	√		Agencies working in different sections will be added later on

	agriculture, composting, flood protection, river training, etc?)			in the Annex
	Identification of 'no go' or 'do not disturb' area/ spots/ features based on hazards potential, protected or protection worthy area, common resources, and cultural values.		√	

Customized minimum requirements for the subproject/ settlements	<ul style="list-style-type: none"> <li>Discourage use of agricultural land for housing;</li> <li>During reconstruction; encourage re-use of available resource, properly manage waste generated, follow proper safety measure, due priority to vulnerable HHs; and</li> <li>Properly manage remaining demolition waste/debris during housing reconstruction</li> </ul>
Identify programs/ activities for coordination and linking for 'building better' and / or synergy.	<ul style="list-style-type: none"> <li>Need for co-ordination with district level line agency;</li> <li>Housing construction support of NRs. 25,000 needs to be used as an opportunity to further promote sanitations, ICS etc;</li> <li>Renewable energy including solar power, or bio-gas etc.; and</li> <li>Identify and co-ordinate with infrastructure development works (eg road upgrading) that are underway as a part of overall reconstruction.</li> </ul>

### Screening Conclusions:

**(i) Main environmental issues are:**

- Significant environment issues were not identified. Since construction materials such as timber, stone have to be either purchased from local market or brought from DCC approved quarry sites. The requirement of timber will be fulfilled from salvage and additional from local market and through Timber Corporation of Nepal.

**(ii) Permits/ clearance needed are:**

- Ensure that sand, gravel & stone are sourced from approved quarry sites.

**(iii) Main social issues: NA**

- 40 HHs are IPs, 35 HHs are from Dalits, 29 HHs are women headed; and
- Any social issues of significant concern were not identified at the sub-project settlement.

**(iv) Land acquisition and involuntary resettlement (permanent or temporary) if any;**

- Land acquisition and involuntary resettlement is not needed.

**(v) Further assessment/ investigation needed and next step.**

- Need for any special study:** Not applicable
- Preparation ESMP :** Due to the project implementation, environmental and social impacts are nominal or no adverse impacts. Therefore no need of ESMP

**(vi) Need for IPDP/VCDP:**

- The Project area is a mixed community where IPs households and other households live together. Other vulnerable groups (Dalits and female headed HHs) are also present in the area. 40 HHs out of 135 HHs in the community are indigenous HHs who are scattered within the settlement and do not have collective attachment to the area. They have same socio-economic and educational status with other caste groups. The vulnerable households are benefited from the EHRP project and they do not have any adverse impact from it. Besides housing grant they are entitled to get 50,000 top up subsidy. Thus, a separate VCDP is not required

**(vii) Need for IEE or EIA:** Not applicable

**(viii) Any other requirements/ need/ issue etc:** Not applicable

**Screening Tool Completed and Reviewed by:**

<p><b>Environmental Specialist in the District Level -PIU:</b></p> <p>Title and Date: Sudeep Ghimire/20<sup>th</sup> April, 2017</p>	<p><b>Social Specialist in District Level -PIU:</b></p> <p>Title and Date: Rishi Ram Bimali/20<sup>th</sup> April, 2017</p>	<p><b>Project Manager in District Level - PIU:</b></p> <p>Title and Date: Sunil Raj Giri/DTO Chief/Project Manager</p>	<p><b>Presentation/ Briefing to DCC – ENRC done on:</b> 25<sup>th</sup> April, 2017</p> <p>Advice, comments, and suggestions from the DCC-ENRC are attached in Annex 3</p> <p>Screening cleared by DCC – ENRC on: 22<sup>nd</sup> May, 2017</p>
--	---	--	---

**Annex II: Beneficiaries of Kukhure Chautara Settlement**

S.N.	Beneficiary	Gender	Vulnerable HHs(Dalit/IPs Women HHs)	Ward	Village/Tole
1	Jeet Bahadur Tamang	M	Ips	3	Phagate
2	Bhola Bhandari	M		3	Katheri/ phagat
3	Tika Bahadur Bhandari	M		3	Phagate
4	Bhoj Bahadur Bhandari	M		3	Phagate
5	Durga Thapa	F	Women headed	3	Khalte
6	Nakul Prashad Pathak	M		3	Khalte
7	Shree Krishna Pathak	M		3	Khalte
8	Suresh Bhandari	M		3	Khalte
9	Dil Bahadur Shrestha	M	IPs	3	Khalte
10	Parashu Ram Bhandari	M		3	Khalte
11	Chita Nath Dhungana	M		3	Katheri
12	Keshar Bahadur Shrestha	M	IPs	3	Katheri
13	Nawa Raj Shrestha	M	IPs	3	Katheri
14	Muthi Nath Dhungana	M		3	Katheri
15	Gopal Prashal Risal	M		3	Katheri
16	Purushotta Risal	M		3	Katheri
17	Sushila Paudyel	F	Women headed	3	Khalte
18	Maan Bahadur Kama	M	Dalit	3	Thali
19	Chandra Narayan Shrestha	M	IPs	3	Thali
20	Narayan Shrestha	M	IPs	3	Thali
21	Pitta Narayan Shrestha	M	IPs	3	Thali
22	Ram Bhakta Shrestha	M	IPs	3	Kalamgaira
23	Khadga Narayan Manandhar	M	IPs	3	Kathagaira
24	Krishna Lal Shrestha	M	IPs	3	Gairiadda
25	Prakash Shrestha	M	IPs	3	Gairiadda
26	Bishnu Maya Sarki	F	Dalit/ Women headed	3	Jureli
27	Ram Kumar Sarki	M	Dalit	3	Jureli
28	Krishna Kumar Sarki	M	Dalit	3	Jureli
29	Thakur Das	M	IPs	3	Jureli
30	Suntali Devi Mijar	F	Dalit/ Women headed	3	Jureli
31	Govinda Bahadur Mijar	M	Dalit	3	Jureli
32	Ram Bahadur Mijar	M	Dalit	3	Jureli
33	Chandra Bahadur Mijar	M	Dalit	3	Jureli
34	Tek Bahadur Mijar	M	Dalit	3	Jureli
35	Kalpana Mijar	F	Dalit/ Women headed	3	Jureli
36	Mashini Mijar	F	Dalit/ Women headed	3	Jureli
37	Shyam Bahadur Shrestha	M	IPs	3	Swuara
38	Sanu Maya Shrestha	F	Ips/ Women headed	3	Swuara
39	Ram Hari Shrestha	M	IPs	3	Swuara



S.N.	Beneficiary	Gender	Vulnerable HHs(Dalit/IPs Women HHs)	Ward	Village/Tole
40	Krishna Lal Shrestha	M	IPs	3	Swuara
41	Maan Kumari Shrestha	F	Ips/ Women headed	3	Swuara
42	Yewa Narayan Shrestha	M	IPs	3	Swuara
43	Ram Krishna Shrestha	M	IPs	3	Kukhurechautara
44	Muna Shrestha	M	IPs	3	Kukhurechautara
45	Bhim Bahadur Mijar	M	Dalit	3	Kukhurechautara
46	Suntali Mijar	F	Dalit/ Women headed	3	Kukhurechautara
47	Nayaran Prashad Bhandari	M		3	Kukhurechautara
48	Ram Gopal Shrestha	M	IPs	3	Kukhurechautara
49	Gopal Prashad Bhandari	M		3	Barle
50	Bhola Prashad Bhandari	M		3	Barle
51	Kul Kumari Bhandari	M		3	Barle
52	Dhurba Prashad Bhandari	M		3	Barle
53	Matthu Ram Shrestha	M	IPs	3	Simle
54	Bal Ram Shrestha	M	IPs	3	Simle
55	Indira Shrestha	F	Ips/ Women headed	3	Simle
56	Ratna Narayan Shrestha	M	IPs	3	Simle
57	Jhamkeshwo Bhandari	F	Women headed	3	Barle
58	Rejena Tamang	F	Ips/ Women headed	3	Timalsina
59	Dil Kumar Tamang	M	IPs	3	Timalsina
60	Surya Bahadur Tamang	M	IPs	3	Timalsina
61	Bhoj Narayan Shrestha	M	IPs	3	Timalsina
62	Ganesh Bahadur Adhikari	M		3	Timalsina
63	Mohan Maya Shrestha	F	Ips/ Women headed	3	Timalsina
64	Madhav Prashad Dhungana	M		3	Gairithok
65	Sujita Bhandari	F	Women headed	3	Gairithok
66	Bhimsen Bahadur Adhikari	M		3	Timalsina
67	Minn Prashad Adhikari	M		3	Keshari
68	Rajan Kumar Risal	M		3	Keshari
69	Sabitri Paudyal	F	Women headed	3	Keshari
70	Akal Bahadur Tamang	M	IPs	3	Madhadevsthan
71	Suresh Kumar Lama	M	IPs	3	Madhavsthan
72	Nawa Raj Bhandari	M		3	Thumka
73	Shankar Prashad Bhandari	M		3	Thumka
74	Ram Bhakta Shrestha	M	IPs	3	Thumka
75	Pramod Bhakta Shrestha	M	IPs	3	Thumka
76	Prakash Bhakta Shrestha	M	IPs	3	Thumka
77	Janak Prashad Bhandari	M		3	Thumka
78	Basudev Bhandari	M		3	Thumka
79	Mina Bhandari	M		3	Thumka
80	Bachhi Bhandari	F	Women headed	3	Thumka
81	Subash Bhandari	M		3	Thumka

S.N.	Beneficiary	Gender	Vulnerable HHs(Dalit/IPs Women HHs)	Ward	Village/Tole
82	Keshab Prashad Bhandari	M		3	Thumka
83	Kedar Nath Dhamala	M		3	Thumka
84	Tanka Bandur Tamang	M	IPs	3	Madhadevsthan
85	Babu Ram Shrestha	M	IPs	3	Mahadevsthan
86	Lal Bahadur Tamang	M	IPs	3	Mahadevsthan
87	Ramesh Kumar Adhikari	M		3	Mahadevsthan
88	Buddi Mann Rokka	M	IPs	3	Chainpur
89	Shyam Bahadur Mijar	M	Dalit	3	Chainpur
90	Ram Bahadur Lopchan ta	M	IPs	3	Bagaicha
91	Sita Ojha	F	Women headed	3	Chainpur
92	Binod Mijar	M	Dalit	3	Chainpur
93	Mann Bahadur Mijar	M	Dalit	3	Chainpur
94	Rejina Mijar	F	Dalit/ Women headed	3	Chainpur
95	Makuri Mijar	F	Dalit/ Women headed	3	Chainpur
96	Suntali Sarkini	F	Dalit/ Women headed	3	Chainpur
97	Arjun Prashad Bhandari	M		3	Chainpur
98	Januki Bhandari	F	Women headed	3	Chianpur
99	Durga Neupane	F	Women headed	3	Dharaghar
100	Bhairab Bahadur Bhandari	M		3	Dharaghar
101	Harsha Bilash Bhandari	M		3	Dharaghar
102	Madhu Sudan Bhandari	M		3	Dharaghar
103	Ananta Ram Bhandari	M		3	Dharaghar
104	Deepak Bhandari	M		3	Dharaghar
105	Dhurba Prashad Bhandari	M		3	Dharaghar
106	Govinda Prashad Bhandari	M		3	Chainpur
107	Daksha Mijar	M	Dalit	3	Chainpur
108	Saili Mijarni	F	Dalit/ Women headed	3	Chainpur
109	Gyanu Thapa	F	Women headed	3	Dharaghar
110	Krishna Prashad Khatiwada	M		3	Dharaghar
111	Chandra Bahadur Bhandari	M		3	Dharaghar
112	Ishwori Dhungana	F	Women headed	3	Gairaghar
113	Mureli Mijar	M	Dalit	3	Kharkhare
114	Tanka Bahadur Mijar	M	Dalit	3	Kharkhare
115	Dhoj Bahadur Kami	M	Dalit	3	Kharkhare
116	Laate Kami	M	Dalit	3	Kharkhare
117	Krishna Maya Bishwokarm	F	Dalit/ Women headed	3	Kharkhare
118	Ram Bahadur Khatri	M		3	Tallaghar
119	Achyut Prashad Bhandari	M		3	Tallaghar
120	Lumadi Prashad Bhandari	M		3	Taraghar
121	Basudev Bhandari	M		3	Taraghar
122	Shree Ram Bhandari	M		3	Taraghar
123	Deuti Bhandari	F	Women headed	3	Taraghar

S.N.	Beneficiary	Gender	Vulnerable HHs(Dalit/IPs Women HHs)	Ward	Village/Tole
124	Gauri Bhandari	F	Women headed	3	Taraghar
125	Bimala Sarki	F	Dalit/ Women headed	3	Jhingate
126	Krishna Mijar	M	Dalit	3	Jhingate
127	Ram Krishna Mijar	M	Dalit	3	Jhingate
128	Maila Sarki	M	Dalit	3	Jhingate
129	Sante Mijar	M	Dalit	3	Jhingate
130	Ram Krishna Mijar	M	Dalit	3	Jhingate
131	Gore Sarki	M	Dalit	3	Tar
132	Ghanashyam Mijar	M	Dalit	3	Tar
133	Damai Sarki	M	Dalit	3	Tar
134	Daya Nidhi Neupane	M		3	Manepatto
135	Shankar Risal	M		3	Mahadevsthan

Annex III: Review Meeting Minutes for Approval of Screening Report for Thansing VDC

आज तिथी २०६४/०९/१२ गते यस नुवाकोट जिल्ला खिल्ला अल्प  
 स्थानीय हुनामा स्थानिय विद्यालय अधिकारी श्री केसर बहादुर परियत  
 नुवाकोट अध्यक्षतामा भूकम्पिय आवाप पुननिर्माण आयोजना अन्तर्गत  
 वित्त स्वयंसा गरिने वातावरणीय तथा खानामिड हुनाट तथा स्व-  
 स्थापन प्रोजेता/प्रतिवेदन उपर हुनाफल गरि यस सुझाव पेरा गर्नु  
 पर्ने प्रहराने नेपाल सरकार भूकम्पिय आवाप पुननिर्माण आयोजना डिप्लोमा  
 आयोजना अन्तर्गत इडई (DL-PIU) ले तयार पारेको खातोड विवर-८,  
 डेडरेमि ग्लिडको वातावरणीय तथा खानामिड हुनाट तथा स्व-स्थापन  
 प्रतिवेदन खासै खासिडु थानविडु, गा.वि.स. हाल लेखु-६, ६५५ इडई-८  
 का १२ वटा वित्त इडई वातावरणीय तथा खानामिड हुनाट प्रतिवेदन  
 उपर हुनाफल गरि निम्नानुषारको यस सुझावहरु प्रदान गरियो।

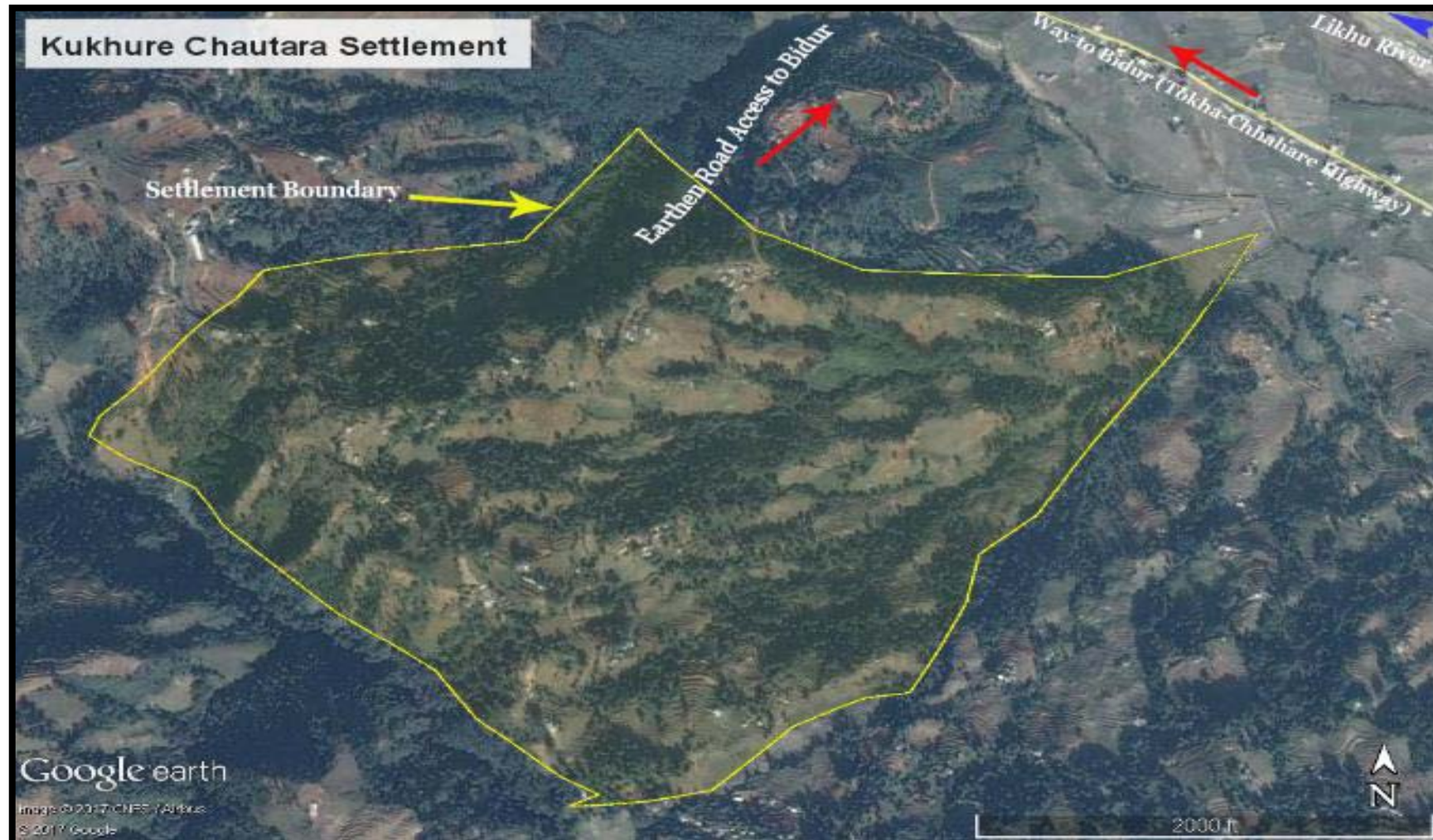
उपस्थिति

१.	केसर न. पण्डित	स्था- वि.अ, नुवाकोट	
२.	केसर ज्ञानि प.थी	स्था- वि. लामा ग. वि. वि. डि. ८ नुवाकोट	
३.	वेद प्रकाश गौडेल	(NEA) नुवाकोट	
४.	गोपबन्धु युना	क्रि. दे. उ.प. रमिारी	
५.	अम्बिका बहादुर	सा.प (नियु.मा.पा)	
६.	राम बहादुर खड्का	इ.स. वि. प्रा-७/१०	
७.	पुलकेश शर्मा रिमाल	व.हा.फ. जि.सि.सि.	
८.	शंकराज कुमाल	- ES, CLPIU, EHRP	
९.	चन्द्रकान्त लोडा	- SDS, CLPIU, EHRP	
१०.	पद्म रजि नेपाल	- जि.सि.अ. जि.सि.सि.	
११.	सन्दीप लामाल	- DL-PIU, Nuwakot	
१२.	शंकर विजय लामाल	- DL-PIU Nuwakot	
१३.	राधिका लिम्बू	DLPIU Nuwakot	
१४.	सुदिता अधिकारी	- D70	
१५.	जतिष राम रिमाली	SDS DLPIU/EHRP	
१६.	सुदिप घिमिरे	ES, DLPIU/EHRP	
१७.	उपेन्द्र शम्शेर	इ.स. वि. लामा ग. वि. वि. डि. ८	
१८.	सन्देश प्र. शर्मा	जि.सि.सि.सि., प्रमथ	
१९.	डि.पू. हरि प्रसाद सुवाल	जल प्रदान प्रकल्प लामा ग. वि. वि. डि. ८	
२०.	शैल पुन	- नि.सि.सि.	

**Annex IV: List of Consultation****Name of VDC:Thansing,3****Name of Settlement:Kukhure Chautara**

<b>S.N</b>	<b>Name of Participants</b>	<b>Tole</b>
1	Ramgopal Shrestha	Khukhure Chautara
2	Santosh Shrestha	Khukhure Chautara
3	Bhuban Shrestha	Khukhure Chautara
4	Binod Shrestha	Khukhure Chautara
5	Rama Bhandari	Khukhure Chautara
6	Kamala Adhikari	Khukhure Chautara
7	Sabitri Bhandari	Khukhure Chautara
8	Sita Adhikari	Khukhure Chautara
9	Narayan Prasad Bhandari	Khukhure Chautara
10	Kul Kumari Bhandari	Khukhure Chautara
11	Kanchhi Maya Tamang	Khukhure Chautara
12	Kanchhi Mijar	Khukhure Chautara
13	Suntali Mijar	Khukhure Chautara
14	Chandra Narayan Mijar	Khukhure Chautara
15	Krishna Lal Shrestha	Khukhure Chautara
16	Rabin Shrestha	Khukhure Chautara
17	Krishna Bahadur Adhikari	Khukhure Chautara

Annex V: Arial View of Khukhure Chautara Settlement in Google Map



## Annex VI: Quantity Calculation Sheet for Kukhure Chautara Settlement

## District Level- Project Implementation Unit (DL-PIU)

Nuwakot

Type of house: Model no. Stone Masonry in Cement Mortar (SMC-2.1) and Brick Masonry in Cement Mortar(BMC-2.1)

Reference:  
MoUD/DUDBC

Total HHs: - 135

S. No.	Structure Wise	Materials					
		Stone (m <sup>3</sup> )	Brick (#)	Cement (Bags)	Sand (m3)	Aggregate (m3)	Timber (m3)
1	Upto D.P.C. level	19.00	5,000.00	82.50	12.00	7.00	
2	Super structure	31.00	21,495.00	138.00	18.00	7.00	2.29
3	Roof						1.48
<b>Total (Per HHs)</b>		50.00	26,495.00	220.50	30.00	14.00	3.77
Reuse from demolished house		20.00					2.00
<b>Total Reusable Materials</b>		<b>2,700.00</b>					<b>270.00</b>
Additional Needed/House		30.00					1.77
Estimated Total Additional Quantity		4,050.00	3,576,825.00	29,767.50	4,050.00	1,890.00	238.95
<b>Additional Needed for Total HHs Based upon Brick:Stone= 60:40%</b>							
		<b>1,620.00</b>	<b>2,146,095.00</b>	<b>29,767.50</b>	<b>4,050.00</b>	<b>1,890.00</b>	<b>238.95</b>

Note: \*: - 1 m<sup>3</sup> = 35.28 cft

\*\*: - Ratio of ongoing construction of houses for bricks and stone (60:40percentage)

**Note:** Project has been providing training to local masons and carpenters on EQ resilient house construction. Each owner will build their own house using locally available skilled and unskilled human resource. Project will not hire contractor for constructing houses. Hence, there will be no influx of labour and no need for labour camp.