Understanding the Role of Remittances in Reducing Risk to Earthquakes

Practical Action
Nepal Risk Reduction Consortium

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Remittances and Earthquake Risk in Nepal

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Abstract

With support from the Humanitarian Innovation Fund, a programme managed by ELRHA, 'Understanding the role of remittances in reducing risk to earthquakes' research project from Practical Action and the Nepal Risk Reduction Consortium (NRRC) began in February 2014. This research project looked at the relationship between migrant workers, remittances and disaster risk reduction. Most research that has been done in the area of migrants and disasters has focused on post-disaster response. This research aims to determine links between remittances and safer building practices and how organizations can best communicate with migrant workers on risk reduction issues.

A questionnaire survey was conducted with four different target groups in order to obtain a clear and well-rounded understanding of remittances and earthquake risk. These groups were: low to medium level income earners (Category A: migrant worker in Qatar, 3rd to 2nd cohort group), medium to high level income earners (Category B: migrant worker in South Korea, 2nd to 1st cohort group), households receiving remittances (Category C) and households not receiving remittances (Category D) from Kathmandu Valley and Jhapa district.

The research identified that there is high contribution of remittances in building construction practices, remittance receiving households in Jhapa and Kathmandu allocated 22% and 18% of remittance income received in last 12 months for construction practices. Based on the response from migrant worker in South Korea a total of 18.1% of remittances sent home in the last 12 month was allocated for construction related practices whereas migrant workers in Qatar allocated 7% of remittances towards construction related practices in the same period.

Just as important as how remittances have been used for construction practices is the intention to build homes. Of the migrant workers surveyed in South Korea and Qatar, 66% and 38% respectively stated that they intend to build a new home in the next 2 to 5 years. There observe significant difference between remittance receiving households and remittance non receiving households intent to build a new home, where 59% and 52% of households receiving remittances in Kathmandu and Jhapa expressed intent to build a home in the next 2-5 years versus 35% and 41% of non-remittance dependent households in Kathmandu and Jhapa stating intention to build in the next 2-5 years. Over 50% of households surveyed responded that either Nepal did not have building codes or they did not know about it. In Kathmandu, 31% of remittance non-receiving households and 35% of remittance receiving households and in Jhapa, 53% of remittance non-receiving households and 58% of remittance receiving households did not use an engineer in the construction of their home.

Migrant workers maintain close contact with households and influence the use of remittances using mobile and social media as means of communication.

The combination of remittance utilization for construction practices with an overall low awareness of building codes and no use of engineer for construction, it can be conclude that remittances are fueling unsafe construction practice in Nepal and increasing earthquake risk. This result highlights the need to reach both migrant workers and households receiving remittances and raise awareness of the earthquake risk and promote building code implementation for safer building practices. In line with the broader need to ensure remittances contribute to Nepal's development, this study recommends it is critical for the Government of Nepal to develop strategies and corresponding policies that promote the use of remittances for safe purposes. In addition, this study recommends a comprehensive

communications campaign be designed and implemented, which will target departing, current and returning migrants as well as households receiving remittances. The study team recommends that such a communications campaign should utilize a variety of communications approaches but remain consistent with the agreed common messages of the NRRC Communications Group.

Acknowledgements

This research project could not have been completed without the input of many key stakeholders working both in migrant and disaster risk reduction issues. First and the foremost we express our sincere gratitude to the respondents (anonymous) in Nepal, Qatar and South Korea who responded to the questionnaire.

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However, any errors or omissions are of the study team and the views expressed in this report do not necessarily reflect the views of organizations and individuals who supported and advised the study team.

Abbreviations

ADB	Asian Development Bank
BBC	British Broadcasting Corporation
CESLAM	Centre for Study of Labour and Mobility
DFID	Department for International Development of the United Kingdom
DoFE	Department of Foreign Employment of the Government of Nepal
ELRHA	Enhancing Learning and Research for Humanitarian Assistance
HIF	Humanitarian Innovation Fund
ICIMOD	International Center for Integrated Mountain Development
IOM	International Organization for Migration
JICA	Japan International Cooperation Agency
MoF	Ministry of Finance
NCCR	Nepal Centre for Contemporary Research
NIDS	Nepal Institute of Development Studies
NRRC	Nepal Risk Reduction Consortium
NSET	National Society for Earthquake Technology-Nepal
PNCC	Pravasi Nepali Coordination Committee
SPSS	Statistical Package for Social Sciences
SWATEE	South Asia Watch on Trade, Economics and Environment
TU	Tribhuvan University
UNDP	United Nations Development Programme
USAID	United States Agency for International Development
WB	World Bank

Introduction

Nepal's natural and diverse beauty, ranging from the flatlands of the Terai to the Himalayan mountain range, comes at a cost. This small nation is one of the most vulnerable to natural disasters, which includes earthquakes, floods, landslides, fires, glacial lake outburst floods, thunderstorms and avalanches. The World Bank has classified Nepal as a global 'hotspot' for natural disasters.[1] In the first half of 2014 alone, Nepal experienced 545 recorded disaster events, which killed more than 300 people, affected more than 100,000 people and cost more than US $10 million.[2]

While communities in Nepal are affected by small-scale disasters on a yearly basis; a major concern is the threat of a looming large scale earthquake. Located on a highly active seismic zone, where the Indian and Eurasian plates converge, all of Nepal is vulnerable to earthquake. However, it is the Kathmandu Valley, Nepal's capital, where the most severe potential impact is located. According to a 2001 study by GeoHazards International, the Kathmandu Valley is the most at-risk city in the world to an earthquake.[3]

Since Geohazards report, Nepal has urbanized at an alarmingly rapid and haphazard pace, becoming the fastest urbanizing country in South Asia.[4] This haphazard urbanization, which has created unplanned cities with high population density, has increased vulnerability to earthquake drastically. Current assessments[5] suggest that a large scale (8.0 magnitudes) earthquake in the Kathmandu Valley would kill 100,000 immediately, injure 300,000 and displace over 1 million people. The majority of deaths, injuries and displacements will be the result of collapsed structures that are not earthquake resilient.

As past earthquake events have revealed, where a majority of deaths are caused by collapsing structures, a critical component of earthquake safety is infrastructure (buildings in particular); this is achieved through disaster resilient construction technologies and practices. Nepal has established National Building Codes[6], but effective enforcement and compliance with these standards is lacking. With rapid urbanization, a key issue to minimize the creation of new risk is ensuring new buildings are constructed with earthquake safety standards incorporated.

In order to reduce earthquake vulnerability, particularly in urban areas, the current approach has focused on the policy and legislative aspects of earthquake resistant structures and the institutional capacity to enforce these regulations. In particular, there are efforts, supported by the Government of Nepal and international and national organizations, aimed at strengthening capacity on the supply side of earthquake building safety. These initiatives include training engineers and masons in safety standards and developing systems within municipalities to enforce building codes, such as incorporating building codes into the building permit system.

There has been less focus on the demand side of construction safe practices, whereby potential homeowners demand that the building of their homes follow earthquake resilient techniques. This

[1] World Bank, 2005. Natural disaster hotspots. A global risk analysis. World Bank, Washington D.C.
[2] NEOC August 2014 Bulletin - http://neoc.gov.np/en/
[3] GeoHazards, 2001 Final Report: Global Earthquake Safety Initiative (GESI) Pilot Projecect, Geohazards International (GHI) and United Center for Regional Development (UNCRD
[4] "Nepal Fastest Urbanizing Country in South Asia." *Housing Nepal*. 09 May 2012. Web. 22 May 2012. <http://www.housingnepal.com/news/national/nepal-fastest-urbanising-country-in-south-asia>.
[5] This assessment uses the methodology provided in the Kathmandu Valley Earthquake Risk Management Action Plan (1998) by NSET and GeoHazards International and applies current population figures.
[6] http://www.moud.gov.np/acts-regulations/building-act-2055-1998-english.pdf

entails influencing individuals and potential homeowners to ensure homes are earthquake resilient, thus reducing their vulnerability. From the household perspective, ensuring earthquake resilient homes requires awareness of the risk and the income to effect change. However, a current gap in this area is understanding the driving force behind building construction, i.e. what group(s) are building homes in Nepal and how do they communicate and receive information?

This research is specifically focused on this issue; understanding the driving force behind urbanization and poor building construction that is increasing earthquake risk in Nepal. In line with rapid urbanization in Nepal is the rapid influx of remittance income. Remittances in Nepal now account for over 20% of GDP with 55.8% of households receiving remittances that account for 30.9% of total household income.[7] Households receiving these remittances are generally in a better position to reduce poverty, increase human capital, obtain higher education levels, and help prepare for adverse shocks such as a natural disaster.[8] Remittance flows can also significantly contribute to building assets (such as housing) in both urban and rural households.[9]

Problem Statement & Rationale

As the fastest urbanizing country in South Asia[10], Nepal has seen a haphazard construction boom, which has increased earthquake risk. This haphazard construction boom has been facilitated with official remittance income that has increased by 400% from 2003 to 2011.[11] The remittance inflow in the country amounts to more than Rs. 700 billion per year. These remittances have been invested in non-productive sectors and are usually used for the purchase of houses and property[12]. There is an increasing trend of building concrete houses in rural areas amid this surge in remittance income.[13]

As a result, there is a concerted need to raise awareness of earthquake risk and safe building practices among migrant workers and remittance receiving households in order to generate demand for building code compliance and reduce earthquake vulnerability. This study aimed to address the gap in understanding the role of remittances in construction practice and identify ways to communicate with remittance earners and remittance receiving households to facilitate communication and raise awareness.

For this research, the definition of remittances is taken from the International Monetary Fund as 'household income from foreign economies arising mainly from temporary or permanent movement of people and those economies.'[14]

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[7] Nepal Living Standard Survey, 2010/2011

[8] Migration and Remittances." *Web.worldbank.org*. World Bank, Mar. 2012. Web. 22 May 2012.

[9] Orozco, Manuel. *Migration, Remittances and Assets in Bangladesh: Considerations about Their Intersection and Development Policy Recommendations*. Rep. International Organisation of Migration, 2010.

[10] Urban Growth and Spatial Transition in Nepal. World Bank. Mar. 2013. Web. http://elibrary.worldbank.org/doi/book/10.1596/978-0-8213-9659-9

[11] 2003 Remittances: 771 million, 2011 remittances 3.9 billion- Figures obtained from World Bank

[12] Remittance hydropower plan in offing. http://www.sambadmedia.com/?p=115165

[13] Makers of construction materials hopeful of revival. http://www.ekantipur.com/2014/05/08/business/makers-of-construction-materials-hopeful-of-revival/389302.html

[14] IOM report, 2009: pg. 272

Existing Practice

House structures are moving from traditional mud, stone and brick walls with wooden piers and beams and sloped roofs with wooden trusses and light materials to cement mortar and reinforced concrete pillars and beams with cemented ceilings. The later style of construction has greater dead load and, if not constructed properly, increases susceptibility to hazards. Appropriate engineers are rarely consulted for supervision and designs are not properly followed. In Nepal, the current approach focuses on the policy and legislative aspects of earthquake resilient structures, such as proper building codes and risk sensitive land use planning, and the institutional capacity to enforce these regulations. Earthquake safe construction practice has yet to become a major issue of concern in public discourse in Nepal.

Although there have been studies and assessments on remittance flows and their utilization in different livelihood sectors, no research has been carried out, in Nepal or globally, in identifying the issues examined in this paper. While remittance income is significant for developing countries, particularly Nepal where official remittances account for over 29.1% of total GDP[15], utilizing the process of remittances to influence households has not been explored by development or humanitarian partners. This research seeks to develop the necessary formative data for successful project formulation and implementation.

Research Hypothesis/Questions/Objectives

The hypothesis of this study is that remittances in Nepal are a contributing factor to house/building construction and the lack of awareness of remittance earners and households receiving remittances have led to unsafe building practices and consequent earthquake risk in Nepal.

Research Questions

This research examined the following questions in relation to the hypothesis of the study:

1. What is the relationship / link between remittances and building construction?
2. When constructing a building, are remittance receiving household following building codes?
3. What is the decision making relationship on the use of remittances between migrant workers sending remittances and households receiving remittances?
4. How do migrant workers receive and communicate information with households receiving remittances and what is the level of awareness of earthquake preparedness?

Research Objective

In examining the above questions, the research study has the following objectives:

1. To determine the link between remittances and likelihood of constructing a building that does not follow building codes and, therefore, increases vulnerability to an earthquake
2. To determine the influence of migrant workers in decision making on how remittances are utilized in the remittance receiving household
3. To determine how migrant workers receive and communicate information with remittance receiving households which will provide insight on how best to reach migrant workers on these issues

[15] MoF, 2014. Economic survey Fiscal year 2013/14. Ministry of finance, Government of Nepal, Kathmandu (*Based on Data for the first 8 months of the current fiscal year)*

This study expected to provide clarity on how remittances are contributing to earthquake risk in Nepal and how the Government and international and national partners can better target programs to reach migrant workers and remittance receiving households to influence the use of remittance income for earthquake safety.

Significance of Research

Remittances are a major source of capital in Nepal and can play a key role in disaster risk reduction and disaster recovery. There has not been a concerted effort by government, humanitarian or development partners to utilise the process of remittances for resiliency and preparedness. This scoping study appraises the Nepalese migrant community, their use of remittances (particularly in house construction), recognises the importance and potential of remittances in Nepal and seeks to identify guiding information to develop innovative strategies and projects for necessary interventions to promote safe construction practices. These communication channels can be utilised in a variety of ways by government, humanitarian and development partners, from communicating with migrants in a crisis response situation to communicating for development and productive investment purposes.

Literature Review

Migration & Remittances

It is still a matter of debate, in the current literature, how remittances, particularly in developing countries, are spent (Adams, 2011)[16]. However there is a general consensus across the literature that international remittances do lead to a reduction of poverty (*ibid*) while inequality, measured as Gini coefficient, is not positively affected (Sapkota, 2013)[17]. What is also well documented is the trend of increasing remittance flows to the developing world which are expected to aggregate $427 billion in 2013, a rise of 6.7 percent over the previous year (World Bank, 2013)[18]. By all accounts, these flows are expected to continue increasing with an estimated growth of 9.5 percent in 2014. Global remittances, including those to high-income countries, are estimated to have totaled $534 billion in 2012, and are projected to go up to $608 billion in 2015.

Remittances have become a major contributor to reducing vulnerability at the household level (ADB, 2012)[19]. Suleri and Savage (2006)[20] reported that 96% of surveyed households in northern Pakistan claimed that remittances were the primary source of income, with half stating that remittances were the only source of income. In numerous studies, it has been found that remittances have been used to purchase food, repay loans, pay for health and education, purchase consumer goods and construct or repair houses across the Hindu-Kush Himalaya: Afghanistan (Opel 2005)[21]; Bhutan (Ministry of

[16] Adams, R. 2011 evaluating the economic impact of international remittances on developing countries using household surveys: A literature review. Journal of Development Studies, 47(6):809–828.
[17] Sapkota, Chandan. 2013. Remittances in Nepal: Boon or Bane? The Journal of Development Studies, 49:10, 1316-1331.
[18] World Bank, 2013. Migration and Development Brief, World Bank, Washington, DC.
[19] ADB, 2012. Global crisis, remittances and poverty in Asia, Asian Development Bank, Manila
[20] Suleri, AQ; Savage, K (2006) *Remittances in crisis: Case study from Pakistan.* Humanitarian Policy Group (HPG) Background Paper. London: Overseas Development Institute
[21] Opel, A (2005) BOUND FOR THE CITY: A Study of Rural to Urban Labour Migration in Afghanistan. Working Paper Series. Kabul: Afghanistan Research and Evaluation Unit (AREU).

Agriculture 2006)[22]; India (Jain 2010)[23]; Nepal (Adhikari and Hobley 2011)[24]; and Pakistan (Arif 2010)[25]. To a lesser extent, remittances in these areas are used in farming or business ventures and savings (Banerjee et al 2011)[26]. Additionally, Mohapatra, Joseph, & Ratha (2009)[27] found that households in Ghana and Burkina Faso that receive international remittances are more likely to have houses made of concrete as opposed to less resilient mud and brick houses.

In Nepal, over 20% of the population between 15-29 years old have migrated abroad in search of employment opportunities. [28]. Within this group lies great diversity in terms of destination of employment, education and skill level. An increasing share of remittances now comes from countries other than India, which has been traditionally a major destination for Nepali migrant workers. This change demonstrates changing migration patterns of the Nepali migrant worker. The majority of officially recorded migrant workers are finding employment in Gulf countries such as Qatar, Saudi Arabia and the United Arab Emirates (UAE). Generally, migrant workers in these destinations are employed as security personnel, chauffeurs and construction workers. In contrast, migrant workers in South East Asian countries are generally employed in industrial enterprises. According to the Department of Foreign Employment (DoFE), migrant workers in South Korea can earn up to 6 or 7 times more than those working in Gulf countries.

The increasing trend of migration for employment is making remittances a major source of income for Nepali households. According to the Department of Labor and Employment, the number of Nepalese going abroad for employment increased by 17.9% in 2012/2013 from 384,665 in 2011/2012. As a result of this rapidly increasing migrant population, remittances to Nepal have soared. Remittance incomes through formal banking alone make up over 25% of Nepal's GDP (World Bank, 2014)[29]. According to the World Bank and the IMF, if remittances sent through informal channels in developing countries are included, total remittances could be as much as 50 percent higher than the official record (World Bank 2010[30], IMF 2009[31]). From a household budget survey conducted in 2008 by Nepal Rastra Bank found that remittances in urban centres were used largely to buy land and a house (52 per cent), followed by repayment of the debt (21 per cent), savings in a bank (15 per cent), education, health and other (7 per cent), social work (2 per cent) and other investment (3 per

[22] Ministry of Agriculture in Bhutan (2006) *Rural-urban migration in Bhutan*. Thimphu: Royal Government of Bhutan.
[23] Jain, A (2010) *Labour migration and remittances in Uttarakhand.* Kathmandu: ICIMOD
[24] Adhikari, J; Hobley, M (2011) *everyone is leaving – who will sow our fields? The Effects of Migration from Khotang District to the Gulf and Malaysia*. Kathmandu: Swiss Agency for Development and Corporation.
[25] Arif, GM (2010) *Economic and Social Impacts of Remittances on Households: The Case of Pakistani Migrants Working in Saudi Arabia*. Geneva: International Organisation for migration.
[26] Banerjee, S; Gerlitz, JY; Hoermann, B (2011) *Labour migration as a response strategy to water hazards in the Hindu Kush-Himalayas*. Kathmandu: ICIMOD.
[27] Mohapatra, S., Joseph, G., & Ratha, D. (2009). Remittances and natural disasters: Ex-post response and contribution to ex-ante preparedness. (Policy Research Working Paper 4972). Washington, DC: World Bank.
[28] Youth Action Nepal.
http://www.youthaction.org.np/content.php?id=55&display=menu&container=content_detail
[29] World Bank 2014. Migration and Remittances: Recent Developments and Outlook. World Bank, Washington D.C.
[30] World Bank 2010, Outlook for remittances flows 2010-2011, Migration and Development Brief, World Bank, Washington D.C
[31] IMF, 2009, Do workers remittances promote economic growth? International Monetary Fund working paper, WP/09/153, Washington, DC

cent)[32]. According to the Nepal Living Standard Survey, approximately 79% of remittances in Nepal are used for daily consumption needs with another 7% utilized for loan repayments.[33] Additional uses include acquisition of land, education, construction and establishing businesses. According to an economic survey from 2013/14 remittance inflow has attained a higher growth rate of 34.1 percent to Rs. 356.72 billion in the first eight months of the current fiscal year as compared to a 22.2 percent rise in the same period of the previous fiscal year.

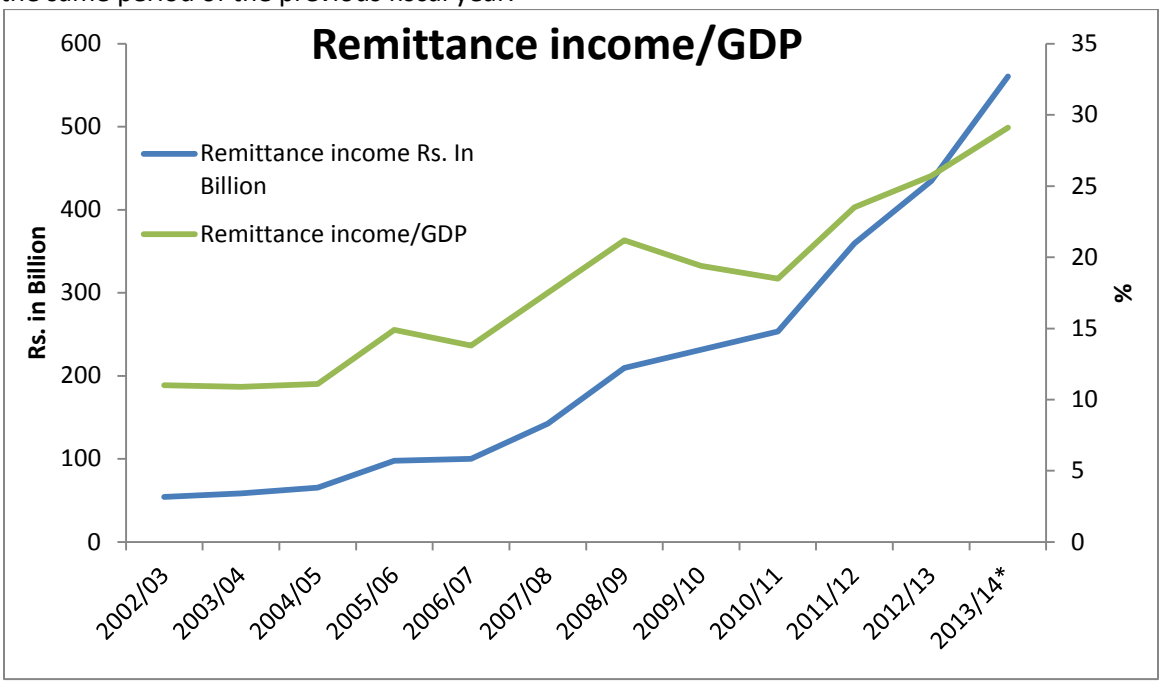

Figure 1: Remittance income and its contribution in GDP

*Note: *Based on the data for first eight months of current fiscal year (2013/14)*[34]

Remittance Use, Household Construction and Earthquake Risk

Globally, remittances are an important contributor to the acquisition of land and housing construction. With increased disposable income, households receiving remittances have demonstrated higher likelihood of investing in housing construction or expanding current accommodations. For example, a study in low land of Nepal found that a considerable amount of remittances were used by the migrants households to buy land and to either construct or renovate house than non migrant households[35]. A study in Amman revealed that 44% of remittance receiving households were involved in either building a new home or extending current living arrangements.[36] Brendan (2007)[37] revealed that remittances in El Salvador were a vital source of income to fund housing improvements. Compared to non-receiving

[32] NRB, 2008. Household Budget Survey, Nepal, Nepal Rastriya Bank, Kathmandu.
[33] CBS, 2011. Nepal Living Standard Survey, Central Bureau of Statistics, Kathmandu, Nepal
[34] MoF, 2014. Economic survey Fiscal year 2013/14. Ministry of finance, Government of Nepal, Kathmandu (*Based on Data for the first 8 months of the current fiscal year)*
[35] Nepal R, 2012. Remittance snd livelihood strategies: A case study in Eastern Nepal. Kassel University Press.
[36] Findlay Allan, Samha Musa, 1985. The impact of international migration on the urban structure of Amman. In: Espace, populations, sociétés, 1985-1. Migrations et urbanisation - Migrations and cities. pp. 93-99.
[37] Brendan C. McBride, 2007. Building capital: the role of migrant remittances in housing improvement and construction in El Salvador, Master's Thesis in Urban Management and Development, Rotterdam.

remittance counterparts, remittance receiving households have been significantly more likely to spend on housing construction, housing improvements or land acquisition for housing.

The last decade has not only seen a significant increase in remittance flows to Nepal; there has also been a tremendous growth of urban areas. Nepal is the fastest urbanizing country in South Asia, with many cities, including the Kathmandu Valley, achieving annual growth rates of 4% (World Bank, 2013)[38]. However, this growth has happened in an unplanned and haphazard manner, resulting in increased levels of earthquake vulnerability. The impact of an earthquake in Nepal, particularly the Kathmandu Valley, would have devastating effects; and continued haphazard urbanization will only add to these impacts. Current assessments suggest that a large earthquake (8.0 magnitude) would kill 100,000, injure 300,000 and displace over 1 million people. While the impact of an earthquake is well understood, the amount that remittances are contributing to this earthquake risk has not been extensively studied.

As a result of this information gap on the link between remittances and earthquake risk, there has not been a concerted effort, policy or implementation-wise, from government or international and national organizations to utilize the process of remittances in reducing earthquake risk before the disaster occurs. It has been well documented that the role of monetary and social remittances is significant for post-disaster situations. In Haiti, 23.4% of camp households received gifts (including remittances) in order to rebuild their lives and livelihoods.[39] With the value of disaster preparedness clearly identified across the literature, more emphasis needs to be placed on how remittance spending can positively impact disaster mitigation efforts.

In addition, the role of communications was highlighted in Haiti, with 50% of camp households receiving news from radio and another 20% receiving news from strangers, friends and family via text messages, phone calls, direct conversation and social media.[40] Remittances provide a consumption-smoothing effect after a major disaster and can help households absorb shocks. Surveys conducted in Pakistan revealed that remittance income played a key role for households in disaster recovery and reconstruction.[41]

While remittance income is significant for developing countries, particularly Nepal, utilizing the process of remittances to influence households has not been fully explored by development or humanitarian partners. In regards to housing, there have not been initiatives that tackle the issue of resiliency and preparedness. Rather, most approaches are led by financial institutions that seek to utilize remittances for general home financing and productive investments.[42]

[38] World Bank, 2013. Urban growth and spatial transition in Nepal. Washington D.C. World Bank.
[39] Kolbe, Athena; Muggah, Robert, "Surveying Haiti's post-quake needs: a qualitative approach." Humanitarian Exchange Magazine. Issue 48, October 2010.
[40] Kolbe, Athena; Muggah, Robert, "Surveying Haiti's post-quake needs: a qualitative approach." Humanitarian Exchange Magazine. Issue 48, October 2010.
[41] Mohapatra, Sanket, George Joseph, and Dilip Ratha. *Remittances and Natural Disasters: Ex-post Response and Contribution to Ex-ante Preparedness*. Working paper no. 4972. World Bank, 2009.
[42] Senez, Maria R. *Framing the Debate: Use of Family Remittances for Housing Finance*. 09 Feb. 2007. Habitat for Humanity International - Latin America and the Caribbean.

Methodological Framework of Study

The methodological framework adopted in the course of the study is shown in Figure 2. The first step of the method involved a review of secondary information that led to the identification of research questions, objectives and tools. A national stakeholder consultation was organized to share the research objective and methodology with wider stakeholder groups and to finalize the research tool and study sites. Based on consultations with stakeholders and information from DoFE, the EPS-Korea Section survey population was stratified into different categories and respondents were identified for the questionnaire survey. Both primary and secondary data was collected for the study. Pretesting of the questionnaire was carried out with remittance dependent and remittance nondependent households in Kathmandu Valley. Data was collected with an experienced research team in the target study sites, coded and entered into SPSS for analysis. Based on the analysis, a draft report was prepared and shared with stakeholders for comments and critique before finalization.

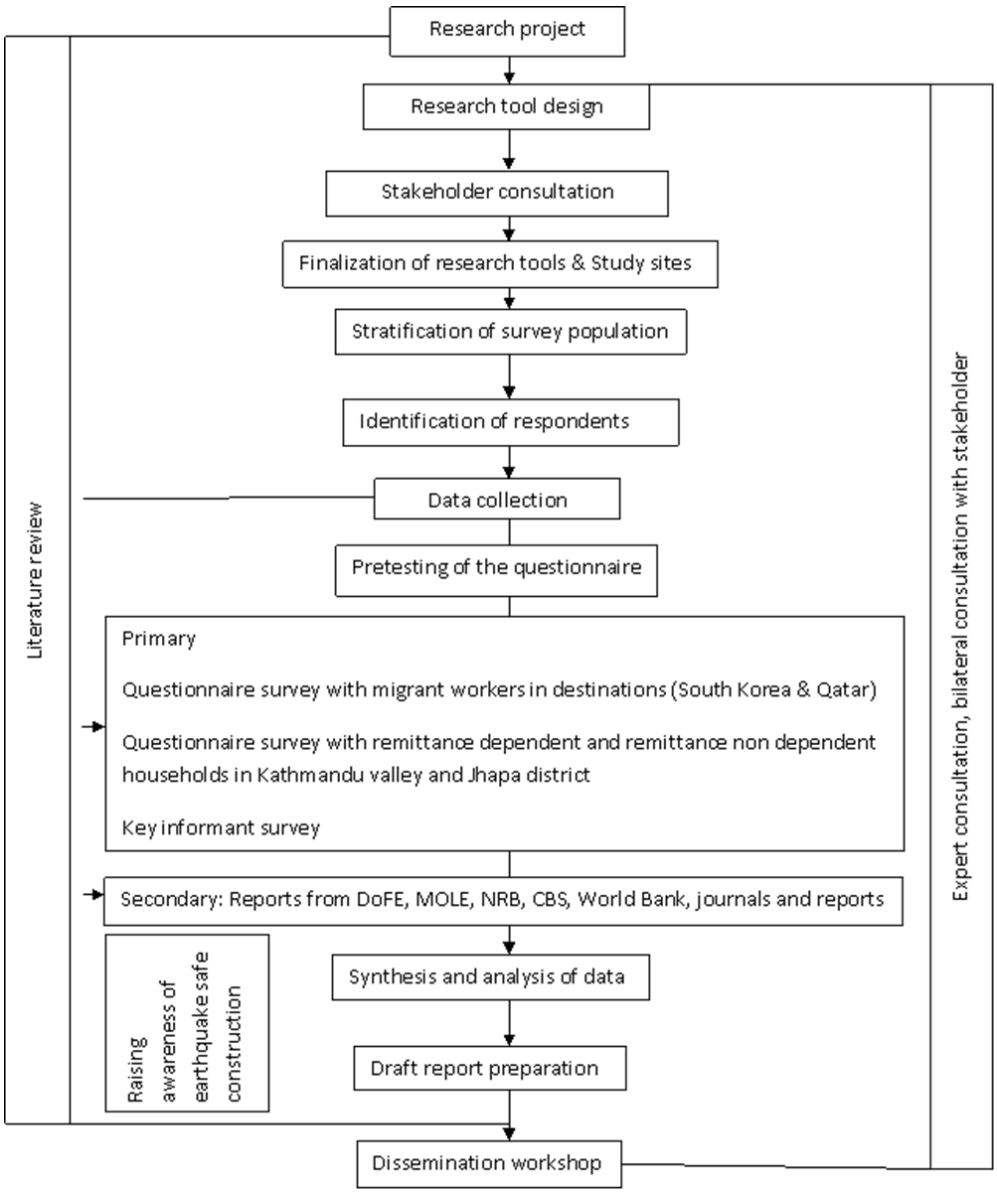

Figure 2: Methodological framework of the research study

Methods of Data Collection

Both primary and secondary data was collected for the study. The primary source of information for this research comes from household and individual surveys and Key informant surveys in the identified study sites (Nepal, Qatar and South Korea).

Questionnaire Survey

Based on stakeholder consultations[43] the research team designed two versions of a questionnaire adapted for: 1) migrant workers in Qatar and South Korea and 2) households in Nepal receiving remittances and households not receiving remittances. The questionnaires were translated into Nepali, tested, revised and then carried out through face-to-face interviews by a trained survey team. Both surveys focused on four key areas: 1) responder demographics, use of remittances/income and migrant involvement in household decision making; 2) building construction and building code awareness; 3) awareness of earthquake risk and preparedness measures; and 4) sources of information and means of communication. The full English versions of the questionnaires are included herewith in ANNEX I.

Study Site

The research team identified four different target groups (See ANNEX II for cohort overview) for the questionnaire survey in order to obtain a clear and well-rounded understanding of remittances and earthquake risk. These groups are:

Category A: low to medium level income earners (3rd to 2nd cohort group)

Category B: medium to high level income earners (2nd to 1st cohort group)

Category C: Households receiving remittances

Category D: Households not receiving remittances

The project has identified three cohort groups of migrants to target; high income earners, medium income earners and low income earners. This project targeted migrant workers in Qatar (category A), the state that has become the largest labor destination for Nepali migrants, for medium and low income earners.[44] For high income earners, this project identified South Korea (category B), which is considered to be one of the best labor destinations for Nepali migrant workers.[45]

Conducting surveys in the destination sites (Qatar and South Korea) required the research team to establish focal point contacts in the respective countries. In Qatar, the questionnaire survey with migrant workers was conducted by a local research team consisting of five personnel, assembled and led by Mr. Shiva Gautam. In South Korea, a research team consisting of three personnel, assembled by the Migrant Center under the leadership of Mr. Yagya Raj Subedi, was established to conduct the questionnaire surveys.

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[43] Consultation with: IOM, ICIMOD, DFID, JICA, ADB, NIDS, BBC Media Action

[44] "Qatar becomes biggest employer of Nepali migrant workers'. November 2011. http://www.ekantipur.com/2011/11/08/top-story/qatar-becomes-biggest-employer-of-nepali-migrant-workers/343446.html

[45] "South Korea names Nepal best work supplying country under EPS." May 2012. http://www.ekantipur.com/the-kathmandu-post/2012/05/29/money/south-korea-names-nepal-best-worker-supplying-country-under-eps/235458.html

Random sampling techniques along with the snow ball[46] approach were used for identifying respondents in the study sites. In all destinations, questionnaire surveys (please refer to Annex I) were conducted at labor camps, working sites, company sites and social areas such as parks. Given the time pressure many migrant workers face in these areas (working long hours), some cases required leaving the questionnaire with the migrant worker to be collected and completed a few days later. In Qatar, the questionnaire survey was conducted in only one location - Doha, the capital city of Qatar - whereas in South Korea, it was conducted with respondents from Seoul, Ghimae, and Bussan. With focal point research teams in Qatar and South Korea, completion of the questionnaire survey with migrant workers was completed in 60 and 45 days respectively. A total of 203 surveys were completed in Qatar and 204 surveys completed in South Korea.

In order to draw a comparative analysis and determine the significance of remittances on earthquake risk through building construction, the research team also conducted surveys on households receiving remittances and households not receiving remittances in Nepal (category C and D respectively).

Household questionnaire surveys (please refer to Annex I) were conducted with the head of household and/or spouse of the migrant worker in remittance dependent households in Nepal. In the case of remittance non-dependent households, surveys were conducted with the head of household and/or senior member of the household. For these household surveys, the research team focused on two destinations; the well-established urban center of Kathmandu Valley where respondents represented from each district within the valley included Kathmandu (54%), Lalitpur (19%) and Bhaktapur (26%) respectively and outside of Kathmandu Valley in Jhapa District, which ranks as a top remittance receiving district in Nepal[47]. The questionnaire survey in Jhapa District was conducted in growing urban areas such as Damak Municipality (24%), Mechinagar Municipality (16%), Bhadrapur Municipality (17%), Birtamod Municipality (23%), Kankai Municipality (11%) and 8% of respondents were from other urbanizing VDCs including Chandragadhi and Lakhanpur.

In order to conduct the questionnaire survey in the identified study sites, a trained volunteer research team was established in Nepal. This team consisted of fourteen volunteers with surveying experience who visited the Kathmandu and Jhapa sites to conduct the survey on Category C and D respondents. Stratified random sampling techniques along with the snow ball approach were used for identifying respondents in the study sites. In all destinations, questionnaire surveys (please refer to Annex I) were conducted at respondent residence. With experienced research volunteers, questionnaire survey with remittance receiving and non-remittance receiving households in Kathmandu Valley and Jhapa was completed in 8 and 9 days respectively. A total of 402 and 396 surveys were completed in Kathmandu Valley and Jhapa respectively.

By capturing results in Kathmandu valley and Jhapa district, the research provides insight into two different contexts in Nepal; a large municipality and a small/medium sized but growing urban area.

[46] A snowball sample is one in which the researcher collects data on the few members of the target population he or she can locate, then asks those individuals to provide information needed to locate other members of that population whom they know

[47] http://www.thehimalayantimes.com/fullNews.php?headline=Jhapa+tops+in+worker+migration+chart&NewsID=376223

Primary data was also collected from key informant surveys with experts in the field of migration and remittances in Nepal and destination sites. Key informant surveys were required in order to expand and fill in information gaps that had been identified following the completion of the questionnaire survey. Gaps were particularly associated with issues related to the use of income on household expenditure. This was due in part to reluctance of respondents to provide detailed information.

The research team completed seven Key Informant Surveys in Nepal to fill in information gaps and contextualize the data collected from the surveys. Key informant interviews consisted of face-to-face interviews and emails following the questionnaire as seen in ANNEX III. A complete list of key informants and the date and place that interviews took place can be seen in ANNEX IV.

Secondary data was collected from DoFE, MoLE, Nepal Rastra Bank, Central Bureau of Statistics, MoF, published reports and information materials related to migration, remittances and disasters (many of them outlined in the literature review section of this report).

Data Processing and Analysis

Questionnaire surveys obtained from respondents in Nepal and destinations were coded and entered into SPSS software version 16 with the help of two research interns.

Based on the research questions prepared by the research team, information received from the surveys were analyzed with the help of a statistician and the research team, specifically using chi square test to determine any evidence of significance relation among the variables and frequency based analysis. Information was categorized into 4 categories: personal information; building information/building codes; earthquake awareness; sources of information.

Findings and Analysis

Respondent Profile

The research targeted 2 sets of cohort groups (See Annex III for details) of migrant workers in order to capture differences between low to medium level income earners and medium to high level income earners. Qatar was selected as a representative of the third cohort group, lower income earners, while South Korea was selected for the second cohort group. As each country was selected to target a specific cohort group, there are some particular differences in respondent profiles.

Education

Based on the response from migrant workers in South Korea, the majority of respondents (46%) have higher secondary education followed by a Bachelor's degree (27%), secondary level (16%), and Master's degree (6%). In contrast, a majority of respondents in Qatar received only secondary level (38%), followed by higher secondary (24%), and lower secondary (9.5%). It was observed that there is evidence of significant difference in education levels between migrants in South Korea and migrants in Qatar where chi square test statistic (chi square=96.516) was p = .000, less than the alpha level of significance of 0.005. The differences in education level is consistent with the cohort group assumptions in that it was expected that South Korea, with higher income earners and more skilled positions, would have higher education levels.

Age Group

The following graph outlines the age groups of migrant workers in South Korea and Qatar:

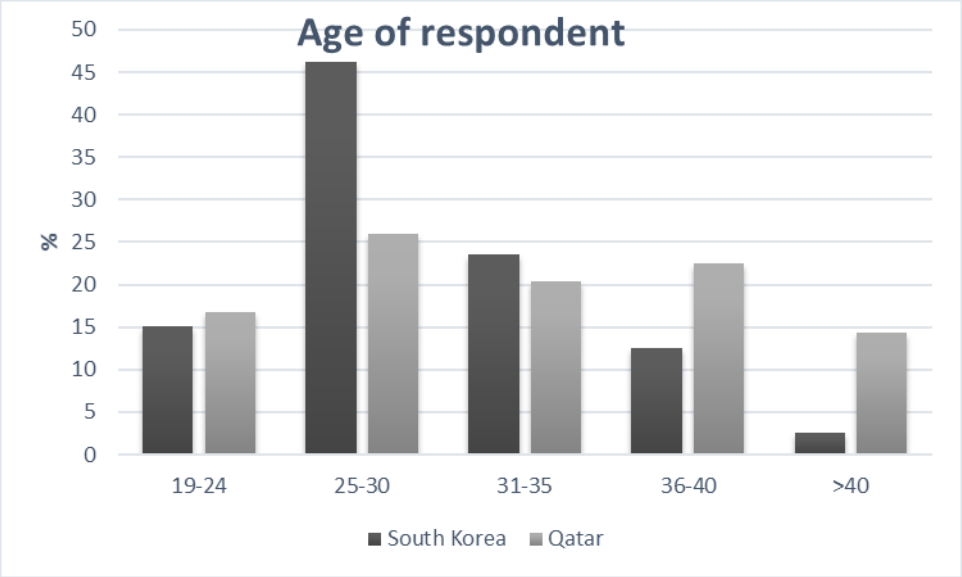

Figure 3: Age group of the respondent

From fig.3 it can be observed that the majority of migrant workers are from the younger age groups. There was an observed age difference among migrant workers from Qatar and South Korea, mainly in the age group of 25-30. This difference may be a result of language test requirements for gaining employment in South Korea where recently graduated college students would have a higher likelihood of passing language tests.

Gender

In terms of migrant workers, a particular issue faced by the research project was to identify and conduct surveys with females. Of the migrants surveyed in South Korea, 95% identified as male with only 5% identifying as female. In Qatar, 98% of those surveyed identified as male with only 2% identifying as female. While this research project recognizes the skewed nature of the research with a heavy focus on male migrant workers, it should also be noted that the majority of formal migrant workers are male. According to the Department of Foreign Employment, of all migrant workers who left for Qatar from 2006 to 2014, less than 1% were females that had acquired labour permits. In the same time period, around 3% of the labour permits acquired for South Korea were for females. From the onset of this research project, it was recognized that reaching female migrant workers to conduct a questionnaire, particularly in Qatar, would be difficult. Further research that utilizes several approaches beyond questionnaires is required to better capture responses from female migrant workers; however, this is beyond the scope of this particular research.

There was more balance between male and female respondents in Nepal, which was expected for this research. The following table outlines the gender of respondents in Nepal:

Table 1: Gender of respondents in Nepal

Study Site	Remittance non-receiving household		Remittance receiving household	
	Male	Female	Male	Female
Kathmandu Valley	67%	33%	50.5%	49.5%
Jhapa	66%	34%	49.5%	50.5%

As the above table highlights, remittance receiving households had a higher percentage of female respondents than remittance non-receiving households. Again, this is consistent with skewed gender balance of migrant workers as the majority of migrant workers surveyed were male, meaning remittance receiving households would be more likely to be headed by a female.

Relationship / link between remittances and building construction

The research identified that there are clear linkages between remittances and building construction practices, particularly from migrants in South Korea. Among the 204 respondents in South Korea, 139 provided detailed accounts of remittance investments over the previous 12 months. For migrant workers in South Korea, 37% of remittances were used for savings. The term 'savings' is generic and could include allocations towards construction related practices. This is followed by 14% for food, 13.3% for the construction of a new home, 3.3% for the addition of a floor to the existing home and 1.5% for repairs of an existing home; or a total of 18.1% of remittances explicitly allocated for construction related practices.

In contrast, of the 203 respondents in Qatar, 106 provided detailed information on remittance investment in the previous 12 months. Unlike in South Korea where a large portion of remittances were used for construction related practices, only 6.96% of remittances were allocated towards construction related practices (building a new home, addition of a floor, and repair of existing home). The difference in construction practice between migrant workers in South Korea and Qatar is consistent with the research assumption that medium to high income earners (second cohort group) would be more likely to invest in construction and housing than lower income earners (third cohort group).

The overall high allocation of remittances towards construction related practices was reinforced by respondents from remittance receiving households in Kathmandu and Jhapa. In Kathmandu, remittance receiving households stated that, in the previous 12 months, 18% of remittances were allocated towards construction related practices (building a new home, addition of a floor, and repair of existing home). In Jhapa, remittance receiving households stated that, in the previous 12 months, 22% of remittances were allocated towards construction related practices.

Based on the response from migrant workers, specifically within the 2nd cohort group and remittance dependent households, it was apparent that there is a significant link between remittances and construction practices, with remittances playing an important role in promoting construction habits. Migrant workers earning medium to high income indicated a greater likelihood of investing in construction related activities. This investment in construction practices combined with greater intention to build (highlighted below) demonstrate the significant role remittances play in fueling construction practices.

In addition, when looking at sources of income, households receiving remittances rely heavily on remittance income to fund construction practices. Any strategy aimed at promoting safe building

construction practices will have to consider how to influence the significant role of remittances in fueling construction practice.

Table 2: Financial source of building construction in Kathmandu valley

Financial source	First choice	Second choice	Third choice	Total
Remittance dependent				
Remittance	68	8	2	78
Bank loan	2	25	7	34
Loan from relative/friends	9	26	7	42
Loan from local lender				0
Other	22	13	8	43
Remittance non dependent				
Bank loan	24	21	7	52
Loan from relative/friends	19	25	4	48
Loan from local lender		1	4	5
Other	93	9	4	106

Table 3: Financial source of building construction in Jhapa District

Financial Source	First choice	Second choice	Third choice	Total
Remittance dependent				
Remittance	89	13		102
Bank loan	11	11	5	27
Loan from relatives/friends	11	20	9	40
Loan from local money lender	4	13	3	20
Other	55	19	3	77
Remittance non dependent				
Remittance	5		1	6
Bank loan	22	10		32
Loan from relatives/friends	14	16	5	35

Loan from local money lender	3	2	4	9
Other	102	13	7	122

Just as important as how remittances have been used for construction practices is the intention to build homes. This research set out to determine if remittance receiving households were more likely to build a new home in the short to medium term.

Of the migrant workers surveyed in South Korea, 66% stated that they intend to build a new home in the next two to five years with 34% stating they do not have intentions to build a new home during that period. Similarly, 38% of migrant workers in Qatar stated intent to build a new home in the next two to five years with 62% responding that they had no intention to build within that period. This highlights the significant difference between the two cohort groups intend to build a new home where chi square test statistic (chi square=40.456) was p = .000, less than the alpha level of significance of 0.005, with medium income earners in South Korea displaying a higher likelihood of utilizing remittances for construction related practices. Although it should still be noted that a high percentage of migrants from Qatar also intend to build a home in the next two to five years.

The intent to build a new home is significantly higher for remittance receiving households than remittance non-receiving households, where the probability of the chi square test statistic (chi square=24.670) was p = .000, less than the alpha level of significance of 0.005 which shows evidence of significant difference between remittance receiving and remittance non-receiving households from Kathmandu and Jhapa district intend to build house in next 2 to 5 years particularly in Kathmandu where 59% of households receiving remittances expressed the intention to build a home in the next two to five years. This is compared with 35% of households not receiving remittances who intend to build a home in the next two to five years. The figures are more balanced in Jhapa, where 52% of remittance receiving households expressed the intent to build a new home in the next two to five years versus 41% of non-remittance dependent households expressing the intent to build in the next two to five years. The reason for the large gap between Kathmandu and Jhapa would need further research, but the difference in costs associated with land and construction may play a role where higher costs in Kathmandu would require additional remittance income for construction to take place.

Regardless, the research on migrant workers, particularly the 2nd cohort (medium to high income earner / South Korea) and households receiving remittances clearly indicates the critical role remittances play in driving construction and the intention to build in the short to medium term.

Building code compliance and remittance use

With a clear link between remittances and construction practice established, it is also necessary to examine whether this is exacerbating earthquake risk in Nepal. Respondents were asked several questions related to the process of constructing their respective homes as well as their awareness of earthquake risk and earthquake safe construction, i.e. building codes.

An important aspect of building code implementation for safer construction is the use of professional engineers in the design and construction of homes. Of those surveyed in Kathmandu, 31% of remittance non-receiving households and 35% of remittance receiving households did not use an engineer while

constructing their home. These figures are higher in Jhapa where 53% of remittance non-receiving households and 58% of remittance receiving households did not use an engineer in the construction of their home. The difference between Kathmandu and Jhapa based respondents requires further research but several reasons could be attributed to the difference including implementation of building codes by local government, awareness levels or different stages of urbanization between Kathmandu and Jhapa.

However, awareness of the existence of building codes remains low with over 50% of households in Kathmandu and Jhapa expressing a lack of explicit awareness of building codes. The lack of awareness of building codes would lead to the reasonable assumption that construction of homes is not prioritizing earthquake safe issues. Despite this lack of awareness on building codes, 63% of households in Kathmandu and Jhapa expressed confidence that their homes are safe from earthquakes. This highlights the need to strengthen awareness of building codes through greater public awareness to address what may be a false sense of security in the structural integrity of homes in Nepal.

The combination of remittance utilization for construction practices with an overall low awareness of building codes and no use of engineer for construction, it can be conclude that remittances are driving unsafe construction practice and increasing earthquake risk in Nepal. This result highlights the need for Government and non-governmental organizations to develop a more concerted effort in ensuring greater public awareness and demand for building code compliance with new construction. Greater public awareness should focus both on remittance receiving households and migrant workers (particularly in the 2nd and 1st cohort group), who maintain significant influence on how remittances are used.

Decision making relationship on the use of remittances and migrant communication with households

Migrant workers do not simply transfer remittance income to households; they also maintain strong influence on how the remittances are utilized by the receiving household. Of the migrant workers surveyed in South Korea, 52% described their involvement in household decisions related to remittance use as high, followed by 15% somewhat involved, 25% moderately involved, 7% less involved and 1% not involved. In Qatar, 36% of migrant workers indicated high involvement in decision making of remittance use, followed by 31% moderately involved, 22% less involved and 7% not involved.

When it comes to communication between migrant workers and households, the majority of migrant respondents in South Korea and Qatar indicated mobile phone as the preferred method of communicating with households, followed by Facebook/email/Skype.

Table 4: Means of communication

Means of communication with household	First choice	Second choice	Third choice	Total
South Korea				
Mobile call	131	12	8	151

Mobile SMS	14	28	6	48
Facebook/skype/email	59	52	19	130
Letter	1	1	1	3
Other		1	1	2
Qatar				
Mobile cell	202			202
Mobile SMS		81	7	88
Facebook/skype/email		80	68	148
Letter	1		57	57

When communicating with the household, the focus of the conversation for migrant workers in South Korea and Qatar is on family welfare (health and education) followed by gossip, and general news. In the case of South Korea, migrant workers are more likely to discuss the use of remittances. While communicating with family members, 33% and 1.5% of migrant workers from South Korea and Qatar respectively responded that they communicate about earthquake related topics with family members when they experience earthquake events in Nepal or abroad.

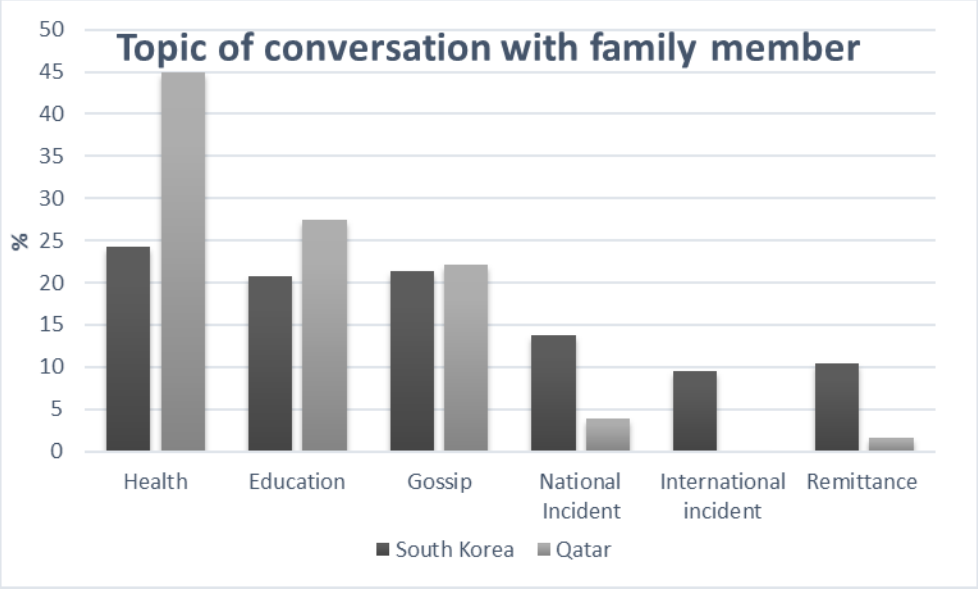

Figure 4: Topic of conversation with family member

This research highlights the high involvement for migrant workers in decision making related to remittance use and the high frequency of contact between migrant workers and receiving households through which information related to family welfare, news and remittance use is shared. The strong relationship and communication between migrant workers and receiving households presents an

opportunity to promote knowledge transfer and influence remittance use for earthquake safety when building a home.

Earthquake awareness, used and preferred sources of information

With a clear link between remittances and construction practice established, as well as the lack of awareness related to building codes and the high involvement of migrant workers in decision making related to remittance use, this research sought to determine how to best communicate with migrant workers and households in Nepal.

This information will provide critical input for government and organizations that seek to establish clear communication channels with migrant workers to raise awareness and promote knowledge transfer between migrant workers and households and vice versa.

Migrant Workers

Migrant workers in South Korea and Qatar were asked both their main sources of information and the preferred means of receiving information. The following table outlines the top responses in South Korea and Qatar:

Table 5: Sources of information

Sources of Information				
Means of information	**First choice**	**Second Choice**	**Third Choice**	**Total**
South Korea				
TV	110	12	5	127
Radio	26	66	12	104
Newspaper	15	22	55	92
Internet	15	16	10	41
Face book	13	11	10	34
Qatar				
TV	110	26	13	149
Radio	4	68	7	79
Internet	30	34	29	93
Facebook	36	44	43	123
Mobile phone	12	4	23	39

Table 6: Preferred means of information

Preferred Means of Information				
Source of information	**First choice**	**Second Choice**	**Third Choice**	**Total**
South Korea				
TV	109	8	11	128
Radio	16	78	11	105
Newspaper	18	19	62	99
Internet	31	10	5	46
Facebook	11	13	10	34
Qatar				
TV	109	31	8	148
Radio	5	60	12	77
Internet	35	25	40	100
Facebook	35	58	32	125
Mobile phone	11	7	25	43

Table 7: Favorite program

Favourite Programs				
Media program	**First choice**	**Second Choice**	**Third Choice**	**Total**
South Korea				
TV drama	53	6	6	65
TV News	47	40	8	95
TV Comedy	36	18	31	85
Internet news	17	11	12	40
Facebook	19	15	14	48
Qatar				
TV drama	45	4	6	55
TV News	48	21	16	85

TV Comedy	47	15	6	68
Radio news	9	35	17	61
Facebook	16	26	29	71

In both South Korea and Qatar, the majority of migrants both receive and prefer to receive information via television, radio and newspaper. In Qatar and to a lesser degree South Korea, migrant workers indicated Facebook as a popular source of information. In terms of trusted sources of information, migrant workers rely heavily on family and friends which is consistent with the high frequency with which migrant workers communicate with family and friends. In addition, trust in home government is relatively low for migrant workers, particularly in Qatar, which is consistent with key informant surveys that highlight the lack of communication and responsiveness migrant workers experience with their respective embassy.

Table 8: Trusted sources of information

Trusted Sources of Information				
Source of information	**First choice**	**Second Choice**	**Third Choice**	**Total**
South Korea				
Family	99	5	3	107
Government	26	32	8	66
Friends	26	34	27	87
Community leaders	8	4	5	17
Journalist	10	10	11	31
Qatar				
Family	132	9	2	143
Government	8	10	16	34
Friends	52	67	23	142
Community leaders	2	13	24	39
Journalist	6	48	31	85

Remittance dependent households in Nepal

Households in Nepal also highlighted the preference for television and radio in receiving information. The following tables outline the sources of information and preferred means of receiving information for households in Nepal:

Table 9: Sources of information for remittance dependent households

Sources of Information				
Source	**First choice**	**Second Choice**	**Third Choice**	**Total**
Kathmandu Valley				
TV	153	23	11	187
Radio	11	41	23	75
Newspaper	16	70	38	124
Internet	16	28	26	70
Mobile phone		14	21	35
Jhapa District				
TV	138	33	19	190
Radio	33	101	12	146
Newspaper	7	15	64	86
Mobile phone	6	14	18	38
Facebook	11	8	13	32

Table 10: Preferred means of information among remittance dependent households

Preferred Means of Information				
Source	**First choice**	**Second Choice**	**Third Choice**	**Total**
Kathmandu valley				
TV	148	24	13	185
Radio	10	35	19	64

Newspaper	11	64	39	114
Internet	11	28	20	59
Mobile phone	11	17	25	53
Jhapa District				
TV	116	49	14	179
Radio	32	70	19	121
Newspaper	6	19	51	76
Facebook	16	12	9	37
Mobile phone	18	11	13	42

Table 11: Favorite program among remittance dependent households

Favourite Programs				
Media program	**First choice**	**Second Choice**	**Third Choice**	**Total**
Kathmandu valley				
TV drama	81	24	17	122
TV News	55	48	19	122
TV Comedy	35	72	39	146
Newspaper	6	8	22	36
Facebook	5	8	22	35
Music	3	11	16	30
Jhapa District				
TV drama	82	25	12	119
TV News	57	65	26	148
TV Comedy	39	57	42	138
Radio news	4	14	25	43
Music	5	6	18	29

Similar to migrant worker responses, households receiving remittances in Nepal receive and prefer to receive information through the television, with TV news, drama and comedy programs ranking high as favorite programs. In terms of trusted sources of information, remittance dependent households rank family, friends and government as trusted sources. The higher ranking of government as a trusted source for households in Nepal is markedly different from migrant workers who placed government lower on the ranking. Again, this may be indicative of the difficult relationship between migrant workers and their respective embassy.

Table 12: Trusted sources of information among remittance dependent households

Trusted Sources of Information				
Source of information	**First choice**	**Second choice**	**Third choice**	**Total**
Kathmandu valley				
Family	123	34	16	173
Government	43	67	22	132
Friends	7	56	64	127
Work colleagues	3	13	17	33
Journalist	18	10	20	48
Jhapa District				
Family	135	32	2	169
Government	28	28	7	63
Friends	3	51	42	96
Work colleagues		10	31	41
Journalist	20	21	23	64

Overall, it is clear that both migrant workers and households receiving remittances in Nepal prefer to receive information via television, newspaper and radio. While it would be difficult for the Nepal government or organizations in Nepal to use these means to communicate with migrant workers (however, satellite television could be an option to reach Nepalese migrants), other low cost options, such as Facebook, present an opportunity to reach migrant workers, particularly in Qatar. Based on the response from remittance receiving households, utilizing a combination of television, radio and newspaper provides an opportunity to communicate on building code compliance and earthquake safety.

Conclusion

The research presented in this study provides several important findings that should be considered by Government, INGOs, NGOs, UN and partners. These are:

1) **There is a link between remittances and earthquake risk**

Particularly from the 2nd cohort (medium income earners), a significant portion of remittances is being invested in construction practices, from building a new home to adding a floor or repairing a home. In addition, migrant workers from the 2nd cohort and households receiving remittances are significantly more likely to build a new home in the next two to five years. With overall low awareness of building codes or earthquake safety practices (refer to Annex V for overview of responses to earthquake safety awareness), the use of remittances to fund construction is very likely to contribute to earthquake risk as newly constructed homes will not be safe from earthquake.

2) **It is critical to reach both migrant workers and households receiving remittances to promote building code implementation**

This highlights the need to focus communications efforts towards migrant workers in the 2nd and 3rd cohort as well as households receiving remittances. Raising awareness of building codes of these target groups could support efforts to generate and promote demand for safer building practices. The research study also includes detailed information on preferred sources of information and access to information (please refer to Annex VI). As migrant workers indicated a high influence in decision making on the use of remittances, it is important to target communication efforts at this group.

Recommendations

Based on the findings of this research, the following concrete recommendations are made:

Policy/Strategy

- In line with the broader need to ensure remittances contribute to Nepal's development, it is critical for the Government of Nepal to develop a strategy and corresponding policy that promotes the use of official remittances for safe purposes. This also relates to the issue of disaster risk reduction mainstreaming, which emphasizes the need for investments in development to incorporate risk reduction to ensure risk is mitigated. This must extend to remittance use whereby households are encouraged to adopt risk reduction measures.

- Mainstreaming disaster risk reduction into remittance use should not only be a Government priority. Implementing agencies that work in the migrant field should ensure risk reduction issues are incorporated within programme strategies. In particular, organizations that work with returning migrants on financial literacy training and remittance use should ensure risk reduction is embedded within these approaches.

Communications

It is recommended that a concerted communications campaign be devised that targets both migrant workers, particularly in the 2nd and 3rd cohort (medium and high income earners) and households receiving remittances. In particular, this communications campaign should consider the following:

- Given the preference for television, communicating with migrant workers via this medium may be costly. However, organizations should establish communication links for migrants prior to departing (through orientations, IEC materials/information packages) and also focus on communicating with returning migrants (financial literacy, IEC materials, etc.). Communicating to departing and returning migrants offers a lower cost opportunity to ensure migrant workers are made aware of earthquake safety, building codes and encouraged to use remittances for safe practices. There is also the potential for knowledge transfer to remittance receiving households.

- Lower cost communication tools such as Facebook, which ranked higher for migrant workers, could be used to maintain communications with migrant workers while abroad. Establishing Facebook groups with departing migrants could be utilized to maintain two-way communications with migrants while abroad and can also be used to link with other sources of information such as YouTube and websites. It should be noted that Facebook is the overwhelming social media preference of migrant workers surveyed for this research.

- Establishing links with Non-Resident Associations in order to reach migrant workers from the 2nd and 3rd cohorts should be considered as these associations maintain communications with migrant persons and can be a conduit to transfer knowledge (sharing information through cultural events, online communications, etc.).

- There must be increased attention in communicating with remittance receiving households on building and earthquake safety. Utilizing television, radio and newspapers as preferred sources of information can raise awareness and promote knowledge transfer with migrant workers.

- Maintain information on Government of Nepal website - http://www.dofe.gov.np/np/ on safer building, need for safer building, different technologies available for safer buildings, benefits of safer buildings, etc.

- In all of the above approaches, there is a need for clear, consistent messaging that targets the preferences of the target groups. Through the NRRC Communications Group, agreed messages[48] should be used and customized to reach the intended target audience and pre-tested to measure and ensure effectiveness.

[48] Common Messages Guideline for DRR in Nepal. http://www.un.org.np/attachments/nrrc-communication-guidelines