

RIMARGINARE L' HIMALAYA

Unitre partecipa con un finanziamento al progetto della LIUC di Castellanza "RIMARGINARE L' HIMALAYA" per la ricostruzione delle comunità nepalesi colpite dal terremoto.

Il progetto è stato ideato dal Prof. Dipak R. Pant, fondatore e direttore dell' UNITA' DI STUDI INTERDISCIPLINARI PER L'ECONOMIA SOSTENIBILE.

Il Prof. Pant è stato ospite della nostra sede in occasione dell'inaugurazione dell'Anno Accademico, presentando agli intervenuti le modalità e le fasi di sviluppo dell'iniziativa.

Nei documenti allegati potrete trovare informazioni dettagliate sul progetto e la relazione tenuta ai soci presenti all'inaugurazione.

Visto il grande interesse suscitato nella platea il Prof. Pant si è impegnato a tenere una lezione sull' economia sostenibile presso la nostra sede della quale vi daremo comunicazione.

HEALING THE HIMALAYAS is an university-based interdisciplinary project of scientific, technical and strategic support for post-disaster management and sustainable reconstruction in Nepal, organized by **INTERDISCIPLINARY UNIT FOR SUSTAINABLE ECONOMY, UNIVERSITÀ CATTANEO – LIUC – ITALY** (www.liuc.it)

Survey Area: Urban, peri-urban and rural areas of **Kathmandu, Lalitpur, Bhaktapur, Kavre** and **Sindhupalchok** districts (Bagmati Zone, central Nepal)



Survey Period Saturday 4th – Sunday 12th .July 2015

Survey Team

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Background

Saturday 25th April - Tuesday 12 May 2015, Nepal was hit by two very strong earthquakes, hundreds of aftershocks and tremors (continuing till these days). All that has caused death, injury and destruction of enormous scale affecting homes and livelihood of millions, damaging public buildings and infrastructures, and disseminating widespread distress.

In the coming months and years, Nepal needs long-term support from all possible quarters to reconstruct human habitats and structures, to strengthen social resilience (including preparedness) and to develop a sustainable economy.

INTERDISCIPLINARY UNIT FOR SUSTAINABLE ECONOMY at Università Carlo Cattaneo (LIUC), Italy (<http://www.liuc.it/cmgenerale/default.asp?ssito=13&codice=3>), has a long experience in surveying and planning in the remote areas around the planet through its **Extreme Lands Program**, a permanent research platform of field and desk studies, international collaboration, planning, and experiments in the marginal human habitats.

INTERDISCIPLINARY UNIT FOR SUSTAINABLE ECONOMY (LIUC, Italy) is committed to contribute – through scientific, technical and strategic services - for the reconstruction and rehabilitation of the Himalayan communities affected by the earthquake in Nepal. A team of experts from various disciplines, professions and organizations is being set up to serve Nepal.

Findings/Observations

Habitat

Earthquake's negative impact on watershed, slopes, infrastructures, public buildings (schools, offices, health facilities), cultural heritage, historical monuments and private properties has been enormous. The estimate of damages has been well expressed by Nepal government's **Post Disaster Needs Assessment**, released in early July 2015.

Shaken by two big quakes and several aftershocks and tremors (continuing till these days), the mountains of central Nepal have become more fragile. Mountain districts such as Kavre-Palanchok, Sindhupalchok as well as the outer/upper rim of Kathmandu valley contain risky slopes, dangerous spots and difficult areas that have been inhabited and cultivated since centuries.

An accurate identification of unsafe and landslide-prone areas all over the earthquake-hit central mountain districts has not been completed; this is urgent. It is the task of Geology, Geomorphology, Hydrography and Seismology. It seems that some work is in progress in this regard; but there seems to be a quantitative insufficiency of experts in these scientific disciplines in Nepal.

Several landslides are occurring on steep slopes in the mountain districts of Nepal, not only in the earthquake-hit zones. With more rainfall bigger slides and avalanches are likely to occur, particularly in the earthquake-hit areas. Land stabilization works must begin with the surface run-off water mapping (hydrography) and proper drainage and channeling – not only of the permanent natural streams (which swell during the summer monsoon rains) and rainfall-induced temporary flow routes, but also of the waters from the cultivated terraces (paddy fields) and from the household discharges.

Beside the correct conveyance of direct surface run-off waters and successive protective measures around human settlements and infrastructures, other long-terms measures are necessary:

- detailed mapping of geo-hydrological configuration, trends, contingencies and urgencies;
- restrictions of the activities on the mountain slopes to carve out motorable tracks;
- improvement of the forestry practices in the existing woodlands;
- well-targeted reforestation, more land-stabilizing plantations (e.g. bamboo, *pipal*);
- decentralization of simple and timely public information and early warning system, training to local administrators and police forces, and public awareness campaigns regarding hydro-geological risk reduction and landscape management.

Wherever the risky areas have been identified and the local population has been asked to relocate, there is some resistance by the residents who don't accept to abandon their properties and native areas. Right now, an optimal compromise would consist in relocating the population in safer zones such as the stable upper crests and wide hilltops or lowlands with considerable flat breadth at the bottom of the valleys. The temporary relocation should be as near as possible to their properties, until the end of the rainy season. Appropriate make-shift (temporary) shelters should be provided to the relocated households with more speed. Meanwhile expert teams should be sent to all rural municipalities and townships to survey, analyze, consult with the locals, and then, to make a collaborative planning for relocation and recovery.

The majority of private houses, shops and facilities have been damaged. The reinforced concrete buildings generally seem to have resisted the earthquake with minor damages; some are severely damaged though. On the contrary, masonry buildings (bricks, stones, mud and wood) were all badly affected, many to complete collapse, particularly the detached single-unit houses and barns in the villages. Rebuilding (in case of severe damage or collapse) or retrofitting (in case of the minor damages) will need the use of better techniques as per an eventually revised building code.

In the re-building process the traditional style, family size, local economy and household needs must be taken into consideration. Therefore it is better if the reconstruction strategy is basically owner-driven¹. But there are some important issues that should be taken into consideration before adopting the 'owner-driven' reconstruction strategy - the situation of the non-owners (tenants/renters/squatters); the different capabilities of the beneficiaries (owners, tenants, renters and squatters); proper information and training to local builders and strict enforcement not only of the scientific building code but also of the landscape management rules.

In any case, the re-building process should begin only after the hydro-geological stability and safety of the human settlements are ascertained.

Communities

The farming communities of the rural settlements - followed by local smiths, craft-workers and small retail traders - are the most hard-hit by recent earthquakes and aftershocks in the central highlands. The earthquake has affected people with lesser properties and lower income and with no (or very little) means to reconstruct their houses and workshops.

Women are most affected by the earthquake compared to men², as they are likely to be more at home for household chores. In the rural highlands women are the most active elements in farming, care of the elderly and the sick, education of children, family affairs, social life and local economy. The vulnerability of the already vulnerable categories has been accentuated by the disaster; the people with physical handicaps or disabilities, sick and under-treatment, pregnant women and new-born toddlers, very old and very young fellows are worse off now compared to pre-earthquake period.

All ethnic, caste and occupational groups of the central highlands known as *Pahade* (or *Parvatiya*) are affected; the most affected are *Tamang* farming communities as they are historical inhabitants of the rural highland districts around Kathmandu Valley (Rasuwa, Dhading, Nuwakot, Makwanpur, Kavre, Sindhupalchok...) which has been hard hit by the earthquakes and aftershocks.

¹ The 'owner-driven' reconstruction strategy is financially and technically aided (by government) self-help by the house and shop owners in rebuilding their properties. A similar strategy seems to have been adopted for private houses and shops in the aftermath of Nepal's previous earthquakes, notably of 1934 (Brahma Shamsheer, 2015, 4th reprint). The 'owner-driven' strategy was theorized in detail after the 1960 earthquakes in Peru (John F.C. Turner, 1976). The 'owner-driven' reconstruction strategy was adopted in the aftermath of recent big earthquakes in Bhuj (Gujarat, India, 2001) and Bam (Iran, 2003).

² Media report referring to Nepal Police sources (NEPALI TIMES, 10-16 July, 2015, p. 19).

Soon after the tragedy, Nepal witnessed a great spirit of social cohesion, civic harmony and inter-ethnic/inter-caste solidarity. In the immediate aftermath of the earthquake there was also a silence in the usually noisy ethno-political organizations (many supported by foreign NGOs) championing divisive issues related to “indigenous/ethnicity/federalism/secularism...” etc. Now, three months after the disaster, Nepal’s politicians are getting back to normalcy (‘normal’ for Nepal of the past decade and half); again the divisive and noisy politicking, demands, claims, declarations, counter-declarations etc. are re-surfacing with full vigour.

Business

The earthquake has damaged mostly the small and medium-sized enterprises. Severely damaged are the small structures of income-generating activities owned and run by small tenants and self-employed fellows engaged in subsistence farming, retail trading, crafts (smith-works) and local services in the villages and townships in the rural areas in the mountains as well as in the upper outskirts of Kathmandu valley³. Larger business structures, usually constructed in reinforced concrete (cement and iron) and according to the building code, have suffered less physical damage; while a great number of home-based micro-enterprises have suffered badly.

Even before the earthquake, the village-based farming, trades, services and craft-works have been suffering from the shortage of entrepreneurship and workforce in their native areas. Because there have been many outbound migratory waves in the past two decades. Some were certainly caused by the shortage of off-farm job opportunities in the rural areas. Since the mid-1990s, a decade-long Maoist insurgency and subsequent political instability (and uncertainty about the future) have pushed away many able-bodied and educated youngsters to urban areas and foreign lands. Nepal’s economic development has been hampered also by an ineffective governance notwithstanding the over-all growth-oriented dynamism⁴ with a consistent and constant inflow of external resources for a variety of projects⁵, ranging from rural development to big infrastructures.

The active workforce in Nepal’s rural economy consists mainly of women, elderly, and some very young. Some adults are to be found in the rural townships and major roadside trading posts and service stations, usually at the bottom of the v-shaped valleys. Many more have migrated to Kathmandu valley (the largest urban conglomerate in Nepal) and to the foreign lands (most to India, Persian-Arabian Gulf countries, Malaysia, Korea...) to serve as low-skilled workforce. Their remittance fulfills a consistent part of their family’s financial needs⁶. The money remitted is spent on daily household needs, basic services (health, education, transport) and consumer products (mostly imported from foreign countries); very little of the remittance resources make their way to productive investments.

³ “The earthquake dealt a blow to small and medium-sized enterprises...” (Mr. Pashupati Murarka, the newly elected chairperson of Federation of Nepalese Chambers of Commerce and Industry, FNCCI, interview in **NEPALI TIMES**, 10-16 July 2015, p. 5).

⁴ Average annual growth in real gross domestic product (GDP) in Nepal was considered to be around 4.2 % between 1974 and 2012. Moreover, GDP growth has been positive, except for some periods in the 1980s. In the 1990s, growth increased to 4.8 percent, and then subsequently declined to 4 percent over the 2000s (the period of Maoist insurgency in Nepal). Recently (2010-2012), GDP is supposed to have been growing at an average of 4.4 percent (sources: World Development Indicators/World Bank, Central Bureau of Statistics/Government of Nepal, DfID/UK).

⁵ Foreign aid has been coming to Nepal since mid-1950s. In recent times, foreign aid represents more than a quarter of Nepal’s national budget and more than half of all development expenditures. Foreign aid is spent on education, local development, health, road construction, energy, agriculture, drinking water and also for peace and rehabilitation after the Maoist insurgency (1996-2006).

⁶ Each year, more than 4 million Nepali citizens, mostly young and able-bodied males, travel abroad for work, the majority to India and to the Gulf countries. All the remittances, including the informal and unregistered cash transfer, could account for more than 30% of GDP according to a calculation based on various sources (DfID/UK, 2014).

Institutions

Nepal's urban and rural communities have displayed great calm and dignity in the middle of such a big disaster. Despite severe loss and physical hardships, Nepali families and communities are trying to move on with their lives and duties. They deserve all possible support in re-building their lives, homes and businesses.

Difficult terrains, insufficient human and material resources and poor logistics/infrastructures have proved to be the major obstacles in providing emergency relief as well as in the ongoing post-emergency help to the affected population in Nepal's rural highlands. Despite some delay and sporadic cases of mismanagement (and few cases of abuse), the emergency relief was carried out all over the affected areas, thanks to an active role of Nepal's army, police forces and, to some extent, the civil bureaucracy. Nepali state's non-elected executive machinery (particularly the security forces) seem to have performed quite well.

Nepal's politicians seem prone to make political capital gain by publicizing their presence in token actions of relief as well as by mobilizing their mid/low-level cadres in relief/support campaigns. So far the low/mid-level cadres from the major political parties have been helpful in debris cleaning and temporary shelter making. But there are no signs of a convergence among the political parties on a common national strategy and on the road-map to recovery. Nepal's politicians seem to be in a state of confusion about the post-disaster management, recovery plan and new development pathways. After a silence of almost two months in the aftermath of earthquake, Nepal's politicians slowly went back to "normal" (i.e. noisy and messy). Now, there is a gradual re-emergence of personality clashes, intra-party and inter-party tensions over the provisions of the constitution (work in progress), disagreements regarding the appointment of top bureaucrats and over the allocation of resources/subsidies to various quarters and constituencies.

Despite the laudable efforts by some national and international non-governmental organizations (NGO), the international NGOs (and their Nepali counterparts) are viewed by the government and by the public opinion as trying to by-pass the national institutions in order to reach the affected population. The international media has been well fed with common-place prejudices and negative image of Nepal's government (incompetency, corruption...etc.) by some NGOs and by a few international organizations who have, recently, become controversial for their actions and declarations. Honest and open dialogue between the Nepalese government and NGOs is needed. We recommend a fresh start, beginning from a Government-NGO conference (like the "donors conference" of 25th June 2015). It is important to get the NGOs on board for Nepal's reconstruction. At the same time, it is the prerogative (a duty as well as the right) of any sovereign national government to regulate and coordinate the activities carried out by the non-state actors (NGOs) in the territories under their jurisdiction.

The NGOs have been providing some help to local communities in many rural areas because of the absence of proper local governing bodies. Absence of elected local governing bodies at municipal and district levels has been a serious handicap for a quick reconnaissance of local situation and relief works in emergency and post-disaster periods. The non-elected state offices (municipal secretary, Chief District Office, Local Development Office and the locally stationed Armed Police Force, Nepal Police and Nepal Army) have made largely laudable efforts; but there are serious limits to their understanding of the local community and their outreach to the grassroots-level.

The void in local governance is a direct consequence of the decades-long Maoist insurgency (the insurgents used to kill, maim and chase away the local elected officials), from mid-1990s till 2006. The continuing absence of local elected governments, even after the end of Maoist insurgency, is a result of the failure of Nepal's extra-large elected national assembly to draft a new constitution. Already two rounds of assembly elections have been completed and eight years have passed since the beginning of the process; and the constitution is not yet ready. As per the provisions of interim constitution, hurriedly brokered among the rival political forces to end the Maoist insurgency (and to appease and placate the Maoist leaders), there are more than 600 members in the national legislative of a country with a

population of less than 30 million!⁷ If a new federal structure with new large regions (*Pradesh*) or mini-states would be established in the forthcoming constitution, as demanded by many politicians and ethnic organizations, then the number of elected office-holders and their expenses would be multiplied by several times. Not a really sustainable prospect for a country in dire need of resources to recover and reconstruct from the worst natural catastrophe of the last 82 years.

Critical Issues, uncertainties and doubts

During our field-survey in Nepal we met government officers, academics, business-people, peasants and labourers. We went through the available official documents and reports. We collected the ideas and opinions expressed by our interlocutors in many areas of Kathmandu valley and in the districts of Kavre and Sindhupalchok. We have been following constantly Nepal's mainstream media's news items, opinion pieces, editorials and reports about the earthquake and its aftermath. We also held two long debate sessions of a focus group (4 Nepali social scientists, 1 Nepali entrepreneur, 1 Belgian economist, 1 Austrian-Italian economist, 1 Italian civil engineer, 1 Nepal-born Europe-based professor of economics and management).

We have scanned the following major points as the most critical issues that have generated widespread uncertainties and doubts about Nepal's reconstruction:

- The big earthquake has created a national tragedy, but also opened new opportunities to re-build the nation better. As time passes by and as delay and confusion prevails, the national spirit and enthusiasm may be sapped. There is an urgent need of a shared national vision in order to make a proper systematic planning. Time is running out.
- The reconstruction visioning and strategy-making process seem already pushed aside in the chaotic political backdrop of constitution-making. Once the constitution is ready there is a high risk of a new race for political capital gain through pork-barrel spending decisions by political parties to help their supporters, constituencies and pet projects (with an eye to the forthcoming elections).
- The chain of command and the decision-making process in national reconstruction planning and resource allocation are not clear. There is a risk of parallel governance by the recently announced 'reconstruction authority', although not yet established and far from being operational. The parallel governance by an eventual 'reconstruction authority' may turn existing state machinery (line ministries) into irrelevance and discouragement. There are also dangers of haste and laxity in proper check-up of financial, environmental and social sustainability of the reconstruction projects.
- There is a danger of some self-interested pressure by vested interest groups, business lobbies or special interest advocacies (i.e. NGOs supported by international organizations and foreign governments) on policy-makers, decision-makers and planning executives.
- As for the "Third World"-type development drive that dominates Nepal's economic thinking, there is a huge risk of invasive physical planning with no regard for human vulnerability, social cohesion, environment, landscape, typical local resources and talents (*genius loci*) and cultural identity.
- One of the most serious risks is related to a chronic dependence on external resources (aid, grants and loans from foreign governments, multilateral organizations and international financial institutions) and, thus, continuous interference by external forces in Nepal's internal affairs and national debate. There is also a risk of debt accumulation (so called "soft" loans for reconstruction) and self-perpetuating debt trap.

⁷ Compared to other democratic countries, today's Nepal is massively over-represented. India, the largest democracy in the world with a population over 1 billion, has 795 seats in its national parliament, including both houses; United Kingdom, the oldest democracy in the world, has 60 million people (more than double the size of Nepal's population) and 646 members of parliament; Germany, with a population of 82 million, has 600 parliamentarians; Japan, with a population of 127 million has 470; Russia, with 144 million, has 450; and, in the United States of America, world's number one industrial and military power, the most powerful democracy in the world with 300 million citizens (10 times more than Nepal's population), there are altogether 535 voting members in Congress (435 Representatives and 100 Senators).

Strategic Imperatives

The experience of destruction, death and human suffering of such a large scale and intensity will demand a well-articulated and widely shared long-term vision, great convergence and sincere efforts from all sections of the Nepalese society. This tragedy has provided Nepal an opportunity to re-think seriously the national development model and public policies, to introduce necessary reforms, and to draw a recovery and reconstruction plan taking into consideration the past failures, present difficulties and future prospects.

In order to implement properly any national recovery and reconstruction plan, it is essential to assure a whole-hearted collaboration from all levels of the state machinery, the main implementing agency. Motivating and smartening Nepal's state machinery must be a top priority. Nepal's government workers are under-paid, under-trained and ill-equipped. There is an urgent need for better equipment, more training, stringent anti-corruption rules and checks and, above all, an adequate remuneration for all government personnel. Even the best of well-crafted policies will fail to achieve the intended goal if the implementing and enforcing workforce is under-paid, demotivated, unequipped and unprepared.

The GDP (gross domestic product) is inadequate to measure Nepal's (indeed any nation's) progress; GDP-centered policy decisions may not redress the real economic problems of unemployment, rich-poor gap, social backwardness, resource depletion, environmental degradation and outbound migration of the young workforce (human capital erosion). The outbound migration of able-bodied and educated workforce of Nepal seems inexorable. Therefore, Nepal's reconstruction policy must be guided by the following fundamentals:

- **Human vulnerability:** reduction of the chances of deprivation and distress; reduction of difficulties in normal life for the people with handicaps and disabilities; stoppage of involuntary and poverty-driven outbound migration; prevention and repression of human trafficking; prevention of road mishaps, workplace injury, disease and untimely death in an average Nepalese's life.
- **Collective resilience:** well-prepared and well-rehearsed local/grassroots-level system of response to natural disasters and any other form of disruption; reserve of essential supplies; capillary presence of helipads (and, of course, sufficient helicopters inside government's hangers) and resilient radio-telecommunication systems; over-all preparedness in case of severe shortages due to rapid discontinuous changes (wild weather, large-scale accidents, natural catastrophes, blockade of roads, sudden disruptions...).
- **Sustainable economy:**
 - ✓ safety, quality and affordability of the essential supplies and essential services;
 - ✓ safety, quality and aesthetic appeal of the natural landscapes and built environment;
 - ✓ walkability/bikability: safety and easiness to walk and bike within the cities and towns, from one place to the other, and also for long distances;
 - ✓ multiform inter-modal mobility: coherent and functional inter-connections among the pedestrian, non-motorized (horses, donkeys, yaks, bikes), motorized (vehicles), electrical (ropeways, railways) and all other forms of transport for persons and goods;
 - ✓ towards "zero emission": continuous reduction of polluting technologies and fossil fuels;
 - ✓ towards "zero-waste": prevention, re-use/recycling, reduction, and safe disposal of wastes;
 - ✓ towards "zero-km": maximization of local products, continuous progress in shortening the supply chains, particularly in the sectors of food and drinks;
 - ✓ more value for less volume: de-coupling of 'value' (premium price, brand prestige) from the 'volume' (quantitative growth, material flow and cumulative storage);
 - ✓ entrepreneurship-oriented education and training, norms and bureaucracy helpful for self-employment; credit and technical facilities for entrepreneurial development (e.g. capillary establishment of business incubators, particularly in the rural areas);
 - ✓ self-reliance, fiscal prudence, efficient resource-use and avoidance of the debt trap (i.e., spending public revenues in servicing the sovereign debts for years and decades).

Re-igniting People's Spirit, Re-building the Communities, Re-branding the Nation

Now, there is a new opportunity for Nepal to become self-reliant by exploring alternative and integrative sources to finance the reconstruction, by harnessing internal resources, and by mobilizing domestic forces instead of depending on external aid and loans.

Now, there is a great chance for a fresh start to build a new Nepal that may be characterized by self-reliance, sustainability, wellness and beauty.

In the aftermath of previous big earthquake, eight decades ago, the then rulers of Nepal politely declined foreign offer of monetary help for reconstruction⁸; but they were successful in mobilizing internal resources, in helping the needy and in rebuilding (and improving) Kathmandu valley's public and private structures and historical monuments. Isn't it possible for Nepal's authorities to do the same now?

This big tragedy is also a great opportunity to rekindle the indomitable spirit of the people of Nepal, one of the fewest countries in the world which has never been conquered and subjugated by any foreign power; Nepal was never a colony of any empire or state.

Isn't this the right time to get rid of Nepal's current status and image as a poor, incompetent and mendicant country by beginning the process of re-branding the Nepali nation - birthplace of Buddha, abode of world's highest altitude peaks and crest, and home of the bravest among the brave?

Next Steps

The **HEALING THE HIMALAYAS** project envisages the following work in the coming months and years:

1. Enlargement of the project's team and collaborators by contacting experienced geologists, seismologist, structural engineers, builders, economists, social scientists and entrepreneurs (Nepalese as well as foreign); building up an international partnership of scholars and experts around the **HEALING THE HIMALAYAS** project to provide scientific, technical and strategic support to Nepal's government for recovery, post-disaster management and reconstruction.
2. Further field-surveys, research and analysis in Nepal by the interdisciplinary team.
3. A working paper on **Strategy and Finance for Nepal's reconstruction**.
4. If resources available, and if permitted by Nepal government, a sustainable recovery planning in a chosen (sample) rural area to serve, eventually, as a territorial role-model of reconstruction, in collaboration with Nepal's central government and local administrative authorities (CDO, LDO, municipal offices).

References

Bal Chandra Sharma, *Nepal-ko Aitihāsik Rup-Rekha* ("Historical Sketch of Nepal", in Nepali) Babu Madhav Prasad Sharma Publisher, Varanasi (India), 1977, 3rd edition (first published in 1952).

Brahma Shamsheer, *Nepal-ko Maha-Bhukampa – Unnais-shaye-nabbe*, ("The Great Earthquake of Nepal - 1990 BS", in Nepali) Nepa-Laya Publications, Kathmandu, 2015, 4th reprint (first edition published in 1936).

Central Bureau of Statistics, **Statistical Yearbook of Nepal 2013**, Government of Nepal, Kathmandu, 2014.

⁸ Only free donations from individuals, companies, civic and industrial organizations, and charities from outside (India, Britain and Japan) were accepted for the relief fund, not for reconstruction. Ten years earlier, Nepal had even contributed 5000 Nepalese Rupees. to Japan's earthquake relief fund (Brahma Shamsheer, 1936, pp. 157-167).

Eduardo Cavallo & Ilan Noy, **The Economics of Natural Disasters**, IDB Working Paper Series no. 124, Inter-American Development Bank, Washington DC, 2010.

John F.C. Turner, **Housing by People: Towards Autonomy in Building Environments**, Marion Boyars, London, 1976.

Michal Lyons, Theo Schilderman & Camillo Boano (eds.), **Building Back Better: Delivering People-centered Housing Reconstruction at Scale**, published by Practical Action, London South Bank University and International Federation of Red Cross and Red Crescent Societies, London, 2010

National Planning Commission, **Nepal Earthquake 2015 Post Disaster Needs Assessment, Vol. I: Key Findings**, Government of Nepal, Kathmandu, 2015.

Y. Basnett, G. Henley, J. Howell, H. Jones, A. Lemma & P. R. Pandey, **Structural Economic Transformation in Nepal: A Diagnostic Study Submitted to DFID Nepal**, Overseas Development Institute, London, 2014.

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