



## INTERVIEW FEATURE:

### DISASTER RISK REDUCTION IN NEPAL

#### 8 QUESTIONS FOR **NARESH GIRI,** *PROJECT OFFICER-NBC & RSLUP,* UNITED NATIONS DEVELOPMENT PROGRAMME

#### 1. What is meant by building codes?

Building codes are a very technical structural guideline that regulates the construction of homes and buildings in accordance to the risks associated with construction and the context in which that construction is taking place. These guidelines protect lives and property.

I would also like to mention that strong building codes require risk sensitive land use planning (RSLUP), which is conventional land use/urban planning that takes into account issues of risk, such as an earthquake in the Kathmandu Valley. Both building codes and RSLUP complement each other and are essential for DRR in Nepal.

#### 2. Why are building codes important?

They are important because they are a critical part of mitigation planning for DRR. A home that is not resilient to natural disasters puts people and livelihoods at risk. You cannot reduce vulnerability if the structures you live in are at-risk to natural disasters.

#### 3. What is the current situation in Nepal regarding building codes?

Throughout Nepal, there is a risk from a major disaster, such as a large earthquake. From a vulnerability standpoint, Kathmandu is the most at risk city in the world to a major earthquake. A major disaster will happen; it is inevitable. The damages that will occur when a major earthquake does strike will be devastating and most deaths will result from collapsed structures, so we need to focus on mitigating the risk and reducing vulnerability. It is far cheaper to invest in mitigation activities than to wait for a disaster to strike. Building codes and risk sensitive land use planning are essential elements of mitigation. Currently, there has been a lack of enforcement and compliance of building codes in Nepal. This has resulted in haphazard construction that puts more people at risk every day.

#### 4. What are the biggest challenges facing building codes?

There are four major challenges facing building codes in Nepal. These challenges are policy, implementation, capacity, and awareness levels.

At the policy level, while there are building codes in place, they were developed in 1994, with minor adjustments made in 2003. When these building codes were established, the premise was that it was better to have building codes than not at all, so there is room for improvement. Now we see buildings being constructed above 4 stories, which is not covered under the building codes in Nepal. We need to update and strengthen these codes at the policy level to guide how all buildings in Nepal should be constructed.

There is also a gap between implementation and policy. During the development of building codes, municipalities who are responsible for enforcing them, were not involved in the process. As a result, the current building codes are very technical and municipalities lack the capacity to properly enforce them. There is a need to strengthen the capacity of municipalities to regulate and enforce building code implementation. This also requires strengthened capacities of financial and human resources.

Finally, there is a lack of awareness from the public on earthquake risk and the role of building codes in reducing risk. People think it is too expensive to build a home that is resilient to natural disasters, but it is not. People have failed to recognize that earthquake resilient homes are a safe investment that will reduce the impact of an earthquake on households.

Another challenge that is not often discussed is what to do about existing buildings that are

not earthquake resilient? This requires retrofitting, whereby existing buildings are structurally improved to withstand a major disaster. Further, we do not have a proper retrofitting guidelines to support this. However, retrofitting can only be the solution to increase the strength of recently constructed buildings which are structurally vulnerable. What about the buildings that are 2,000 years old? Kathmandu has a special and unique history with many old structures. These cannot be rebuilt. Rather, we need to focus on regeneration, which involves maintaining the

cultural significance of these structures while improving their physical resilience to disasters. Regeneration also goes beyond just physical needs. We also need socio-economic, cultural and environmental regeneration to ensure these areas remain vibrant and part of Kathmandu's beauty.

##### **5. What are some of the opportunities? What are some approaches you are taking to address this issue?**

While the challenges are great, there are many opportunities to strengthen building code implementation. Research shows that 90 percent of buildings are non – engineered and built by homeowners themselves with support from masons. We need to focus on the 90 percent, which we (UNDP) are doing in two ways. First, we are building the capacity of masons and, second, we are raising awareness of prospective homeowners.

Regarding capacity building of masons, we have begun masons training in the Kathmandu Valley and plan to develop a pool of two or three thousand qualified and licensed masons who are trained on

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***-Naresh Giri***

earthquake resilient construction practices. This is an ambitious effort and requires coordination with many villages around the Kathmandu Valley. In addition to this, we are also training engineers to ensure building designs take into account earthquake risk.

We are also in the process of creating an automated building permit system. Currently, obtaining and issuing building permits is done manually, which means permits can be issued even if the building plan does not take into account earthquake risk or building codes. In order to harmonise the process and improve efficiency, an automated permit system will ensure that before a permit is issued, it must go through a rigorous and standardised process that includes assurances that buildings will be constructed in accordance to building codes. A building that does not include provisions for building code compliance will not be issued a permit. This system will also provide details for mapping and monitoring, which can be utilised in risk sensitive land use planning. This is e-governance for DRR and we (UNDP) are supporting municipalities to develop this system.

#### 6. Who is working on this issue?

There are many government and development partners working on this issue, such as the MoLD, MoUD, DUDBC, municipalities, Kathmandu Valley Development Authority, UNDP, JICA, ADB and World Bank.

#### 7. What would be an ideal situation for you regarding building codes and DRR?

First, the 90 percent of home construction that is entirely homeowner built without consideration to building codes is stopped.

This is increasing vulnerability and putting people at risk. I want all structures in Nepal to be built in accordance to building codes and the risks faced by households.

Second, I would like to see financial institutions only invest in building code compliant structures. The private sector is such an important actor in ensuring buildings in Nepal are compliant with building codes.

Third, implementing bodies, specifically the municipalities, would be effective in ensuring compliance with building codes. This requires integrated governance systems that promote

strong, open and transparent governance.

Lastly, an ideal situation for me would be to see less regulation of building codes combined with more compliance. This requires having a public that is aware of the risk and demands building codes be implemented at all times. I would like people to realize the building codes are crucial for DRR in Nepal and it should be considered a right.

#### 8. What can people do to help?

Building codes are interdisciplinary and requires participation and coordination from a range of actors, such as government agencies, financial institutions, real estate associations, contractors, engineering councils, material suppliers, urban planning professionals, electricians, plumbing and fire safety experts. Each of these actors and many more, need to understand the risk of earthquakes and their role in contributing to the solution, which is proper enforcement and compliance with building codes in Nepal.

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