

**Concept Note**

**INTERNATIONAL CONFERENCE**

**The Eastern Himalaya III:  
When the Mountains Move and Waters Rise:  
Coping with Earthquakes and Flooding – The Health and Housing  
Dimensions**

**Organized by  
Centre for North East Studies and Policy Research, Jamia Millia Islamia, New  
Delhi  
In collaboration with  
National Institute of Disaster Management (NIDM), National Disaster Management  
Authority (NDMA), Government of India  
And  
National Centre for People’s Action in Disaster Preparedness (NCPDP)**

**Date 22-23 February, 2016  
Venue: CNESPR, Jamia Millia Islamia**

*The Eastern Himalaya III is the third edition of a series of international conference on issues, concerns and challenges before a vast region that spans five countries and multiple, diverse landscapes and cultures – Nepal, Bhutan, India, China and Myanmar- and seeks to address these issues specifically through discussions, presentations and papers, publications and policy recommendations that bring together policy makers, academicians, practitioners at the ground level, media and NGOs. These then are transmitted to local, state and national governments, the public and stakeholders, through documents, recommendations as well as media. The Eastern Himalaya I focused on **Climate Change, Poverty and Livelihoods** (2013) and The Eastern Himalaya II looked at **Gender, Poverty and Livelihoods** (2014). In 2015, the Centre organized one of the largest international conferences on the North Eastern Region, *Reimagining India’s North East: Narratives, Networks and Negotiations*, with over 100 participants, including many young scholars, and parallel sessions including prominent international figures such as the social historian Willem Van Schendel of the Netherlands, Dr. Ramachandra Guha, the public intellectual and historian, and Prof. Tanka Subba, Vice Chancellor of Sikkim University.*

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## Introduction

The devastating Nepal earthquake of 2015 killed more than 4000 people and it is estimated that it is going to cost more than \$ 5 billion to rebuild the Himalayan country's infrastructure. A UN report says that often natural disasters affect the economic growth of countries and this is especially true of the Asia-Pacific region where earthquakes, tsunamis, floods and storms lead to 91.8% of the total economic losses.<sup>1</sup>

India is extremely vulnerable with its long coastline of 7516 kilometers which is exposed to nearly 10% of the world's tropical cyclones with 8% of the land in India being vulnerable to it. According to a report titled *Global Estimates 2012, People displaced by Disasters* prepared by the International Displacement Monitoring Centre, in 2012, more people were displaced in India by natural disasters than in any other country.<sup>2</sup>

The Indian Parliament passed the Disaster Management Act in 2005 and the National Policy on Disaster Management was approved in 2009. However, India still struggles when faced with natural or man-made disasters. The Himalayan Region with its ecologically fragile system demands respect but the development paradigm of unregulated tourism, fast paced deforestation, uncontrolled hotel and dam construction, deposition of debris from mining into rivers etc all create conducive environment for impending disasters. There has been utter neglect of concepts like 'carrying capacity' with important distinctions between flood plains and floodways being completely eased by human action/activity.

The states of North East of India and their capitals are all disaster-prone. The latest wakeup call came from the Manipur earthquake (6.7 on the Richter scale) which shook the entire region on January 3<sup>rd</sup>, 2016.

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The conference at Jamia thus comes at an appropriate time and will focus on the areas of **Health and Shelter** and conclude with a wrap-up session that looks at specific policy and research related initiatives.

People affected by disasters go through post disaster trauma which can range from emotional response (panic attacks, shock, fear, irritation, anger and sadness) to psychosomatic response (sleep disturbances, eating problems, nausea and diarrhea) to cognitive response (memory problems, difficulty in concentrating and making decisions, nightmares, flashbacks, confusion) to finally behavioral and attitudinal response (disruptions in social relationships, poor motivation and concentration, hopelessness and loss of interest etc). The trauma faced after any disaster and the response to it differs from individual to individual and from disaster to disaster, in terms of exposure, extent of loss, personal coping mechanism and support system available at that time. The culture of the society along with its socio-economic structure also has an important impact.

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<sup>1</sup>How natural disasters between 1970 and 2014 affected economies (2015), *Economic Times Bureau*, April 28, Retrieved from [http://articles.economictimes.indiatimes.com/2015-04-28/news/61615814\\_1\\_natural-disasters-economies-united-nations](http://articles.economictimes.indiatimes.com/2015-04-28/news/61615814_1_natural-disasters-economies-united-nations)

<sup>2</sup>Disaster Management in India: Lessons from the Uttarakhand Disaster, Retrieved from <https://socialissuesindia.files.wordpress.com/2013/10/disaster-management-in-india.pdf>

Within days of the recent Nepal quake, it was clear that many people had suffered not just physical injuries but also mental and psychological trauma induced by the fear of death and damage. It has been observed that in a hurry to bring back normalcy immediately after the relief phase, the focus of government turns in a big way to permanent housing with a rush of modern building technologies like reinforced concrete and pre-fab housing, instead of addressing many critical rehabilitation issues that form the bridge between the relief and the long-term rehabilitation as well as local context and geological structure. These issues demand a detailed dialogue and resolution.

It is important to further take into account indigenous knowledge and practices when it comes to handling disasters. India's traditional knowledge is very much linked to local cultures and practices on early warning systems and disaster preparedness. There is therefore a need to integrate such traditional knowledge into disaster management plans as well as introduce new technology to local people so that they can handle disasters better.

### **Shelter**

Shelter makes up the biggest chunk of the financial outlay of the rehabilitation and has direct relationship with the building technologies adopted in rehabilitation. It has been observed that the issue of appropriate housing/building technology and measures compatible with the local context, subsoil conditions and ecological setting remains unaddressed and often is excluded in the larger rehabilitation picture. The loss of shelter results in greatest hardships to the people. Hence, much needs to be done to prepare in advance so that the post disaster shelter rehabilitation program can be initiated in a timely manner without any undue delays, and it moves smoothly with maximum participation of the target community in order to ensure long-term disaster risk reduction in a sustainable manner. The principal facets of the shelter rehabilitation program of any government could be listed as follows. **A session is devoted to each one of these in the same sequence.**

- I. Key Policy Issues Emerging from Past Disasters**
- II. Technologies for Shelter and Disaster risk reduction**
- III. Community reach-out, community capacity building and community participation**
- IV. Innovations and building change**
- V. Urban planning for disaster risk reduction and better disaster management**

The first three items are intertwined in to each other and have to be all taken up simultaneously. Neglect of any of these facets could greatly weaken the initiative and adversely affect the effectiveness and sustainability of programs taken up. In case of the urban centers, small and large, the appropriate planning is facet that simply cannot be circumvented, and needs to be focused on in parallel to all other activities, and in-fact need to precede the other activities. Each one these sessions have critical subthemes, each of which constitutes a presentation as described below.

## Sub-themes and presentations

### I. Key Policy Issues Emerging from Past Disasters:

In the past two and a half decades Indian subcontinent has been hit by a number of small and big disasters. Almost all of these disasters were followed by shelter rehabilitation policy of one sort or another. A lot of lessons have been learnt about different aspects of the rehabilitation and these events have tested the state of preparedness for all different phases of the post disaster responses. It is important to look at the state of preparedness for effectively, efficiently and systematically taking up the shelter rehabilitation. Many of the past disasters have left much to be desired, and they clearly show the state of unpreparedness that result in to unduly prolonged hardship for the people. It is also evident that the lessons of some of the more successful rehabilitation programs have not been imbibed and put to use in other disasters. The presentation will raise various shortcomings seen in the preparedness for the shelter related issues in different stages of the rehabilitation face.

### II. Technologies for Shelter and Disaster risk reduction

The session will look at each of the four most important facets of the technology domain indicating what is needed to be prepared in advance long before disasters hit.

#### 1. Building technologies for shelter rehabilitation

It is important that the building technologies that are incorporated in the shelter rehabilitation initiative is most suitable for the given context that includes culture, geography, resource availability including the skill and materials, subsoil conditions and the ecological setting.

Generations have built, survived and thrived with vernacular building systems that have evolved over centuries. So these technologies are indigenous and related to the culture and society of the region as also inexpensive and even eco-friendly. For example the Assam type or *Ikora* style house in North East India with proven performance is one such technology that people have adopted over generation to bring wide-scale earthquake safety.

Unfortunately, the technologies sanctioned in past initiatives have often ignored these facts, leading to situations that may be difficult to sustain, especially for ensuring the long-term vulnerability reduction. On the other hand there is no dearth of relevant knowledge, in modern context this knowledge could be updated by incorporating modern day science and technology. This cannot be done in post disaster situation when there is much pressure on moving forward to quickly ameliorate the situation. In other words the preparation needs to be done ahead of time.

On the other hand with rising aspirations, greater urbanization, growing affluence and social mobility, metros have moved away from traditional housing systems to modern building and architecture to deal with a squeeze on space and land prices. As a result, traditional systems that are viable and effective in semi-urban or rural areas are under attack with urban scene prevailing on peoples' aspirations. Advance preparation is needed to tackle the situation before hand to prevent inappropriate, dangerous, and unsustainable practices from taking roots.

For the road ahead in advance preparation, an important question is **What building technology guidelines exist that can guide people in rebuilding their homes with an emphasis on safety against future disasters as also on the replicability and sustainability?**

## **2. Addressing Vulnerability of Existing Buildings**

The buildings that survive the disaster or are in an area that has not been hit by a disaster in recent times could very likely be vulnerable like those that succumbed in the past disaster. Reducing their vulnerability should be part of a vulnerability reduction initiative. In post disaster situation this is all the more important for public buildings like schools. The past disasters point at numerous examples of the demolition of such buildings and rebuilding them at a very large cost. Disaster retrofitting is a cost and time efficient option for ensuring safety against disasters of the most number of people. Much has been done on this front, much experience has been accumulated, and these things clearly spell out the advance preparation that is required before disasters strike.

## **3. Post disaster damage assessment**

**Issue here is how to assess the degree of damage in the buildings that are still standing – whether damaged or otherwise – so that it is possible to monetize losses, as also to arrive at the cost of repair, restoration and retrofitting for vulnerability reduction.**

It has been observed that the states do not have the required expertise and personnel in numbers adequate to respond quickly in the aftermath of a disaster to carry out this exercise. The damage assessment helps in arriving at the basis of the assistance needs of people, and in turn arriving at the formulas of compensation package, thus eliminating the adhoc approach that can always be countered. Much has been done on this front in the aftermath of various disasters, but without having linkage with the rehabilitation policy. The presentation would clearly spell out the advance preparation that is required before disasters strike on this front.

## **4. Ensuring DRR in Government Shelter Schemes and using in post disaster rehabilitations**

The government shelter assistance schemes such as Indira Awaas Yojana and others are often used to strengthen the house building activities. These schemes are also used as a vehicle for procuring the funds for rebuilding in the post disaster situations. It is important that the specifications of such schemes include the disaster risk reduction mechanisms. With rising cost this imposes a challenge.

### **III. Community reach-out, community capacity building and community participation**

**1. Capacity building for shelter vulnerability reduction:** This forms a very important dimension of shelter rehabilitation. In order to ensure effectiveness of the shelter rehabilitation program, as also to ensure long term sustainability, it is important that the post disaster situation is used to building peoples' capacity to ensure their own safety. This includes the training of not only the building artisans, but also the engineers, and most importantly the people and the government machinery so that everyone speaks the same language. The past experiences have amassed wealth of experience, and should help in arriving at all the details for planning and executing such programs well before a disaster strikes. Trainers for such programs too should be readied well in advance.

**2. Post Disaster Communication needs & IEC materials:** The capacity building requires tools and the IEC materials do the needful. The government aided rehabilitation program also calls for timely communication between the government and the affected people in a timely and effective manner from the beginning to end. Such materials too can be readied based on the work

done in the past disasters to address various conceivable situations, so that such things do not have to be designed when the pressure on the system is high and timely progress is desired.

The programs and the IEC materials could take in to account the fact that independent of government, people have learned to develop coping mechanisms to deal with local crisis. There are several strategies to deal with such disasters. These include (a) escaping the immediate disaster temporarily (b) staying on in or around damaged property (c) migrating permanently to a safer place where livelihood options, such as in large urban centers are extensive (d) rebuilding homes with new inappropriate materials (e) sticking to traditional methods of building.

#### **IV. Innovations and building change**

The building technologies related interventions need innovations to evolve the technologies that are scientifically sound and are sustainable in today's context. This requires going off the beaten path. It requires looking at the traditional technologies in a different way. The pre-disaster preparedness agenda should promote such initiatives that explore the unexplored.

#### **V. Urban planning for disaster risk reduction and better disaster management**

The recent urban disasters have shown how poorly prepared our cities are in regards to the state of the by-laws that dictate the growth of the cities and their implementation.

1. Systemic issues in urban planning and development to address vulnerability: The
2. Mainstreaming Disaster Risk Reduction (DRR) into Urban Sector Development Projects: There are major government programs such as those for shelters. It is important to see how well these programs have incorporated the DRR in their planning and execution.
3. Earthquake scenario for Aizwal and By-laws: The north-east has a number of hill towns that are extremely vulnerable for a variety of reasons. It is hence, important to see a scenario of a major earthquake in such towns in terms what destruction and hardship it would entail, and what type of by-laws are needed to tackle the vulnerability of people. This would provide lessons that could be implemented in case of other hill towns.
4. By-laws for disaster risk mitigation in urban centers in hilly areas: Uttarakhand's small towns in the hill region have problems that they face on a day to day basis, even when no disaster has struck. But they are good examples of what problems could occur in the event of a disaster.

#### **VI. Disaster Rehabilitation policies and mechanism at state level**

Since the disaster management and rehabilitation is the state's subject, it is important to look at some of the past disaster rehabilitation policies, or its absence in specific cases, and how they are implemented in order to understand the mechanisms that have direct bearing on the effectiveness of the implementation.

#### **VII. Conclusions and Recommendations**

Based on the issues emerging from the earlier presentation, it should be a simple exercise to evolve the recommendations that point at the advance preparation, and that will help make a robust plan for the post disaster shelter rehabilitation.

## Health

The trauma of mental stress is a burden that lasts far longer and goes far deeper than physical wounds, many of which can be healed with care and timely help. But mental health issues remain buried or untouched because they often do not appear to be the priority issues during a disaster or after it -- these require the patience and dedicated approach of a marathon runner. Yet, in many minds, the mental image most associated with a disaster is often that of a traumatized individual or group of individuals who are grieving over the loss of loved ones or the collapse of their homes and all that they held dear. These are images that flash over media repeatedly and both social media and the broadcast media in particular have played roles in expanding both the space of understanding of the tragedies that take place but also often unwittingly perhaps contributing to the problem of continued trauma in victims who see the images hurtling at them repeatedly over a long period of time.

It has been observed that communities deal with the emergency phase first followed by the development phase. The first phase is about rescue and recovery whereas the second phase is when communities come together. The long term health conditions addressed during the second phase includes mental and psychological issues, eliminating communicable diseases like malaria and cholera, reinstating the infrastructure of the health services system etc. Mental health problems rarely surface in the initial stages of the emergency. But acute stress results due to the death of a loved one, loss of jobs, livelihoods, material goods etc ultimately leading to mental health problems which have proved to be the most common side-effects of natural disasters.<sup>3</sup>

Disaster preparedness which takes care of health facility capability, reproductive health, mental health and water, sanitation and hygiene etc lessen the impact of disaster on affected populations. Prolonged periods of stress and overcrowding in relief camps/shelters in poor living conditions can lead to an increase in sexually transmitted diseases and gender based violence.<sup>4</sup> Thousands of people go hungry as crops are destroyed, food prices go up and the purchasing power of the affected families goes down. There is risk of severe malnutrition or worse. Children too are severely affected with post-traumatic stress disorder (PTSD) which if left untreated can result in long term damage and emotional distress.<sup>5</sup>

One conference session will be looking at health concerns and issues to be discussed include how individuals and groups cope with trauma, how local administrations address this issue and what priority does it have? Have governments at either the local, state, inter-regional and national levels got a handle on this and what policies, if any, exist? Is there a network of health practitioners and counselors in the field of psychiatry who can be mobilized at short notice to advise and assist? Media coverage of the issue (the trivialization of trauma and the lack of priority that it receives).

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<sup>3</sup> Long-term Health Problems After Natural Disasters Strike, Retrieved from [www.usnews.com/news/articles/2014/01/06/long-term-health-problems-after-natural-disasters-strike](http://www.usnews.com/news/articles/2014/01/06/long-term-health-problems-after-natural-disasters-strike)

<sup>4</sup> The Impact of Disasters on Public Health, Retrieved from [disasterphilanthropy.org/the-impact-of-disasters-on-public-health/](http://disasterphilanthropy.org/the-impact-of-disasters-on-public-health/)

<sup>5</sup> The Devastating Impact of Natural Disasters, Retrieved from [www.childfund.org/Content/NewsDetail/2147489272/](http://www.childfund.org/Content/NewsDetail/2147489272/)

The areas to be reviewed in terms of action include the following:

An accurate assessment of the current conditions existing at ground level in various disaster hit zones, a review of the current central and state policies and its impact – a look at the strengths and weaknesses, assessment of the emergency services in dealing with post- trauma victims, evaluation of the community-response in disaster management.

### **Innovations**

Among innovative approaches, a special session is proposed on the boat clinics on the Brahmaputra and PET Bottles Hospital in the Sunderbans. The PET Bottle Hospital is the first hospital in Asia to be built in a completely eco-friendly manner with the help of sand filled plastic bottles. It has been undertaken by the Goa based NGO Samarpan Foundation which has completely avoided the use of bricks and iron rods in the construction process as they corrode easily in the saline conditions of the area. Construction has been faster and costs have come down.

Meanwhile the Boat Clinics (15 boats across 13 districts of Assam, see [www.c-nes.org](http://www.c-nes.org)) have provided crucial health services in remote areas and provided much needed medical care in partnership with the National Health Mission and the Govt of Assam, reaching three lakh people annually especially women and children (Assam has India's worst MMR); its overall team of 250 includes 30 doctors and 90 nurses and there are labs and pharmacies on board the specially designed boats. One of the presentations will deal with how community radio carries the word of disaster preparedness to vulnerable populations.

Focused discussions connecting academic and policy streams are important to consider and develop options and opportunities. Towards these goals, the Centre for North East Studies and Policy Research (CNESPR) Jamia Millia Islamia in collaboration with National Institute of Disaster Management (NIDM), National Disaster Management Authority (NDMA) and the National Centre for Peoples' Action in Disaster Preparedness (NCPDP) proposes to hold the third of its Eastern Himalaya Conferences, '*When the Mountains Move and the Waters Rise*' on 22-23 February, 2016. Stakeholders, scholars, professionals and specialists as well as media and civil society are expected to participate from India and Nepal.