UNECE Committee on Housing and Land Management

International Forum on Natural Disasters and Building and Construction Safety

16-17 November 2010 - Baku, Azerbaijan

Concept Note

Introduction

Across the UNECE region, people and the places where they live, are at risk. Natural disasters like earthquakes, hurricanes or flooding cause material devastation and human casualties. Human casualties and damage to the housing stock can be avoided if an effective system of disaster prevention is created that includes provisions for building safety. National building codes in the region should conform to the highest standards, but more importantly, be enforced, in order to prevent these disasters.

The UNECE Committee on Housing and Land Management has decided to address this problem and organize a workshop on building safety/disaster preparedness in Baku, Azerbaijan. The workshop is planned to take place on 16-17 November 2010.

I. Natural disasters in the UNECE region

Risk for natural disasters is widespread throughout the ECE region. It affects countries in all sub-regions, from North America over Western, Southern and South-Eastern Europe to Central Asia.

Specific regional risks vary by geography and geology. Each country must evaluate their situation, studying the potential for disaster and implementing sound land-use planning and building codes accordingly.

II. Sub-regional case studies

Each settlement has its own geological, geographical and cultural specificities. However, there are similarities and solutions that can be evaluated and adjusted for each particular situation. It is important to learn as much as possible from each other, as very few cities or even national governments have experience with more than one 50 or 100-year disaster event.
Sub-regions share important characteristics in building types, income levels, geography and geology. It is important, that national Governments involve their municipal governments in the learning process, or in sharing their experience, as much of the responsibility for implementation and enforcement of policy changes will fall to them.

The workshop will look at a number of case studies that highlight the risks involved, and the importance of being proactive in assessing danger, bearing in mind the specificities of each country. In this context, the value of improved building codes, improved land use planning, and programmes to retrofit buildings becomes clear.

1.) Onna / L'Aquila, Italy (2009)

Onna near L'Aquila, Italy, was struck by a 6.3 magnitude earthquake in the very early morning of April 6, 2009 destroying structures in L'Aquila and the surrounding towns, resulting in 281 deaths and forcing as many as 65,000 from their homes. It is often noted that earthquakes do not kill people: buildings do. In Onna, building codes had not been enforced. Alessandro Martelli, an Italian seismic geologist makes clear that the problem is not a lack of technical expertise in building in earthquake zones, but that while some of the techniques now used in Japan and the United States were developed in Italy, they have not been widely adopted. Prevention for the next natural disaster starts with the reconstruction process. In the case of Onna, the homes and new school built to replace those lost have been designed to meet the requirements for seismic areas. Onna has set itself the goal of serving as an example of sound building practices in the reconstruction.

2.) Osh region, Kyrgyzstan (2008)

Kyrgyzstan suffered a 6.6 magnitude earthquake in October, 2008 that leveled the village of Nura, killing 72 people and destroying the entire village.
The earthquake happened at the end of an 18-month (June 2007 - November 2008) Kyrgyzstan Earthquake Safety Initiative project that was focused on dissemination of basic disaster awareness education materials in Kyrgyzstan. Despite this great investment, the hard work necessary to retrofit all of the homes in earthquake zones in Kyrgyzstan has not yet been completed. Such an undertaking will require both national and international funding and an ongoing campaign to provide information and expertise; and, finally, that homeowners carry out the work within the project framework.

3.) Hurricane Katrina, New Orleans, USA (2005)

On August 29th, 2005 hurricane Katrina made landfall at New Orleans. As the levees and floodwalls gave way and the pumping stations stopped operating, approximately 80 percent of New Orleans was filled with water up to twenty feet deep. More than 1.5 million people throughout the gulf-coast region were directly affected and more than 800,000 citizens were forced to live outside of their homes. From a 2005 population of 450,000, New Orleans has today shrunken to 250,000. Different land-use planning in New Orleans could have reduced the human and economic impact of the hurricane and levee-failure induced flooding in 2005.

4) North Sea flood risks, Netherlands (2009)

Storm surges in the southern North Sea pose a complex, persistent and perhaps growing threat to the surrounding coastline of northwest Europe.

Two-thirds of the Netherlands are at risk of flooding and 52% or some 8.5 million of the inhabitants actually live below sea level, making the battle against the North Sea a safety issue of continuing national importance.

The safety level against coastal flooding is defined in law as designing flood protection works for the probability of one storm-surge event in 10000 years for the provinces of Holland, and 1 in 4000 years for Zeeland, Friesland and Groningen.

Every 5 years, the so-called (offshore) hydraulic boundary conditions are nationally reviewed and adjusted, based on the latest insights into North Sea processes, climate change, sea-level rise, and the understanding of their changes and interactions towards the coast with consequences on land management and building safety.

III. Approaches to prevention and post-disaster reconstruction

The case studies illustrate that prevention for disasters is a complex process in which building safety and land management play a crucial role. The workshop will address the two dimensions of building safety in relation to natural disasters: prevention and post-disaster reconstruction.

Some of the key questions to be discussed at the workshop are:

- What are the different approaches to prevention?
- What are the different approaches to post-disaster reconstruction?
- What works where, why and how?
- How can measures of prevention and reconstruction be coordinated?
- What measures have been taken by Governments in the different sub-regions?
- What is the role of private insurance? What legal framework is necessary to define their role?
- How can building codes be improved?
- How can building codes be enforced more efficiently?
- What is being done in terms of land use planning, related to the different sectors such as forestry, water use and also vis-a-vis climate change?
- What disaster responses have proven efficient?
- How to monitor and evaluate building code implementation?

Contact:

United Nations Economic Commission for Europe
Committee on Housing and Land Management
Palais des Nations
8-14, Avenue de la Paix
1211 Geneva 10
Switzerland
Email: housing.landmanagement@unece.org