



## **KOBE REPORT draft Report of Session 4.6, Thematic Cluster 4**

### **Policies for Safer Building/Housing**

#### **1. Summary of the session's presentations and discussions**

Session 4.6 focused on policies for improving the safety of housing and buildings in case of a disaster. Organized by the Housing Bureau of Japan's Ministry of Land, Infrastructure and Transport and the United Nations Centre for Regional Development (UNCRD), the session was attended by representatives of seven countries from around the world.

The session began with a welcome address by the Director-General of the Housing Bureau of Japan's Ministry of Land, Infrastructure and Transport. The keynote speech was given by Dr. Tsuneo Okada, Professor Emeritus of the University of Tokyo. This was followed by presentations on housing/building safety policies and measures by each nation's representatives.

After the each nation's presentations, there was an exchange of views on priorities for measures to ensure the safety of housing and buildings. The recent earthquake off the west coast of Sumatra and tsunami in Indian Ocean was also discussed, including measures to reduce tsunami-related losses through evacuation into buildings.

The main purpose of buildings, especially housing, is to protect human beings from natural threats, such as wind, rain, cold temperature and the sun's rays. When buildings are themselves damaged by disasters, the impact on the lives of the occupants is enormous. Buildings are also a key infrastructure for increasingly sophisticated and complex social and economic activities, and so damage to buildings can severely impact social and economic activities in affected regions.

Damage to buildings caused by disasters can also seriously hinder relief and repairing efforts. For example, major hospitals and other facilities may become unable to function, roads may be blocked by wreckage, and there may be massive refugee flows. All of the countries that participated in Session 4.6 have experienced such problems due to earthquakes, storms and other disasters, and many other countries also face serious risks.

At the United Nations World Conference on Disaster Reduction, participants in Session 4.6 emphasize the importance of improving the disaster safety of housing and buildings as a basic and vital priority for the world's disaster reduction efforts. Participants also present ideas concerning the recent Sumatra offshore earthquake and tsunami, including the establishment of a tsunami warning system, and studies concerning the possibility of evacuation into medium to high-rise coastal buildings that have sufficient strength and height.

#### **2. Primary issues**

Participants in Session 4.6 recognize the following as priorities for improving housing and building safety:

- 1) Analysis of hazards (earthquakes, storms, fires, tsunamis, etc.) affecting housing and buildings in each region.
- 2) Development and improvement of building technology which reflect risks, building production practices and other factors in each region.
- 3) Establishment of building codes and standards and development of social systems to disseminate them and ensure their thorough implementation by an effective and efficient code administration and enforcement system.
- 4) Evaluation of seismic safety of existing buildings, and development and dissemination of technologies for strengthening and retrofit.

- 5) Prevention of secondary losses resulting from damage to buildings in disasters, and development of repairing technologies and systems.
- 6) Training of engineers, builders, administrators, etc.
- 7) Education for communities, building owners, developers, etc.
- 8) Formulation of building disaster prevention measures and development of implementation systems at the national and regional levels.
- 9) International cooperation at the research institute level, the national and regional government levels, and the community level.
- 10) Formulation of land use plans for future developments and urban expansion.

Initiatives concerning these priorities involve the following:

- 1) The number of safe buildings must be steadily increased by ensuring the safety of newly constructed housing and buildings, and by retrofitting existing housing and buildings that are currently at risk.
- 2) Affordable measures are needed that reflect regional differences in natural conditions, such as geography and climate, and in materials and construction methods used for housing and buildings.
- 3) Adequate structural strength and fire safety performance are essential as buildings become higher and larger because of urbanization. Maintenance and management capacity will also need to be developed.
- 4) There needs to be proper consideration for the safety of buildings that provide important functions in the event of disasters, such as hospitals and schools.
- 5) The use of medium to high-rise buildings for evacuation in case of tsunami should also be considered.
- 6) Initiatives are needed to raise community awareness of the need for disaster prevention measures for housing and buildings, and in particular for informing building owners of the need to improve existing housing and buildings that are at risk.

To prevent secondary disasters resulting from damage to buildings in the event of disasters, quick damage inspections and technology for repairing damaged buildings are needed.

### **3. Suggested targets and indicators to measure accomplishments**

#### **a) Proposal for Formulation of Action Plan**

Participants in Session 4.6 propose that each and every country should formulate and do follow-ups of a plan listing priority actions for the next 10 years in relation to disaster prevention for housing and buildings. These action plans may include the following:

- 1) By 2015, all new housing and buildings should be constructed in accordance with appropriate building codes, standards or guidelines.
- 2) By 2015, guidelines on the evaluation and retrofit of anti-seismic performance, etc. should be developed, improvement programs should be drawn up, and works should begin on improvements to enhance the disaster safety of existing housing and buildings.
- 3) By 2015, steps should be taken to ensure appropriate levels of disaster safety, including earthquake safety, in all key facilities such as schools and hospitals.

To achieve the above goal,

- 1) The appropriate policy of governments and actions on disaster risk management need to be framed.
- 2) Implementation strategy needs to include necessary legislation on hazard safety of habitation, land use zoning, and building bylaws with enforcement mechanisms.
- 3) All development projects need to have hazard assessment, safety measures and estimated costs.

#### **b) Proposal Concerning Formation of Building Disaster Reduction Network**

Participants in Session 4.6 consider that, in order to promote disaster reduction measures for housing and buildings, it would be useful to form a network comprised of researchers, engineers, private companies and organizations, central and regional governments, and regional communities, and that international collaboration is also essential for such a network.

### **4. Partnership**

Participants in Session 4.6 agreed to continue to share information to help create a building disaster reduction network.

## 5 a) Name, affiliation and contacts of presenters and titles of presentations

### 1) Keynote Speech:

Prof. Emeritus, Tsuneo Okada, University of Tokyo  
“Improvement of Seismic Safety of Building and Houses”

### 2) Presentations by panellists

- Mr. Richard M. Okawa

Vice president of International Services, International Code Council, USA  
“Policies for Safer Building/Housing”

-Prof. Javier R. Piqué

President of Peruvian Permanent Committee for Seismic Design, Peru  
“Past, Present And Future: What Works In Achieving Safer Buildings

-Mr. M.A. Karimi, Governor General, Kerman Province, Iran

“Policies for safer building in Bam”

-Prof. Dan Lungu, Director-General, National Building Research Institute  
Ministry of Transportation, Construction and Tourism, Romania

“Seismic risk mitigation in the Romania – Synergy from international projects”

-Ms. Saliha Ait-Mesbah

Director, Ministry of Housing and Urban Affairs, Algeria

“Development of the Algerian Seismic Design Code (RPA)”

-Prof. Anand S Arya, Prof. Emeritus, Indian Institute of Technology Roorkey

Seismic Advisor, Government of India, India

“Policies & Strategies for Safe Building/Housing Construction in India”

-Mr. Shigetaro Yamamoto, Director-General, Housing Bureau, MLIT

“Great Earthquakes Disaster Prevention Measures for Houses and Buildings”

### b) Name, affiliation and contact of person filling the form

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