Summary - Protecting Lives from Earthquake and Tsunami Disasters

(1) Opening Ceremony

1) Opening and Welcome Remarks

Mr. Yuzo Sakamoto, Chief Executive of the Building Research Institute (BRI) welcomed the symposium participants. He noted that in 1962 BRI set up the Department of International Earthquake Engineering Studies, and took over the International Training Program for Earthquake Engineering, jointly organized by UNESCO and Japan. To date, 1,539 trainees from 97 countries have completed the course, and most now have pivotal roles in government, research and educational institutions. Additionally, since 2006 the master degree has been conferred to those trainees who have successfully completed the course, in collaboration with the National Graduate Institute for Policy Studies (GRIPS).

From 2007, with support from the Ministry of Land, Infrastructure, Transport and Tourism (MLIT), BRI restarted a collaborative partnership with UNESCO, and launched the International Platform for Reducing Earthquake Disasters (IPRED). Going forward, BRI in collaboration with the Japan International Cooperation Agency (JICA) have established a network of nine countries and their organizations engaged in earthquake disaster management. Representatives from all of these organizations as well as famous lecturers have gathered for this symposium, offering a rare and precious opportunity to exchange views and expertise.

Mr. Keiichi Tsunekawa, Vice President of GRIPS thanked the participants for attending the symposium. He remarked that while the immediate motive for the symposium was the Great East Japan Earthquake and Tsunami of 2011, there have been a series of such disasters in recent years, in which tens or hundreds of thousands of lives were lost in an instant. The theme of the symposium is investigating how to deepen international cooperation to protect lives from earthquake and tsunami disasters in the future.

GRIPS has been engaged in research and education on disaster management, offering a one-year masters program on disaster management policy in 2005, in cooperation with BRI, the Public Works Research Institute (PWRI) and JICA. Each year the program is offered to around 40

students from developing countries. GRIPS also published two policy proposals for reconstruction after the 2011 disaster, and is engaged in research projects and organizing lectures, seminars and symposiums. This April, GRIPS has started a one-year masters program for Japanese students.

2) Guest Speech

Mr. Toshiyuki Inoue, Deputy Director-General of the Housing Bureau of MLIT expressed his gratitude to the participants and organizers of the symposium. He noted that Japan has experienced a number of devastating earthquakes, with differing primary causes of loss of life, through fire, collapsing buildings, and tsunami. The extent of damage also differs depending on factors such as the time of day that the earthquake takes place. There should therefore be diverse countermeasures for dealing with earthquakes. Additionally, a disproportionate number of elderly people lost their lives in these earthquakes, showing that better measures must be taken to protect the most vulnerable.

In the Japan earthquake of 2011 there were a relatively low number of casualties from building collapse, due to improvements in structural standards introduced in 1981. However there are lessons to be learned including damage to buildings due to the long period of ground shaking, and how resistant buildings are to tsunami. Countermeasures must also be put in place against the liquefaction of reclaimed land and the destruction of elevators and escalators and non-structural building materials.

(2) Keynote Lecture

1) Keynote Lecture 1 "Future of Seismology"

Mr. Kazuo Oike, Director of the International Institute for Advanced Studies (IIAS) and Former President of Kyoto University began his keynote by noting that East Asia has a long history of earthquakes, with the oldest recorded earthquake dating back to 1831 BC in the Shandong province of China. Mr. Oike went on to detail the history of earthquakes and seismology in East Asia, based on which he suggested that every 300 to 600 years a very large earthquake occurs somewhere in the world. East Asia is now in an era of high seismological activity. Given that, international cooperation is very important in and around the Pacific region. In Japan, good records and analysis of earthquakes have been kept for many years. It has been predicted that western Japan enters an active period every 100 years, alternating with quiet periods. Modern seismology in Japan dates back to 1880, when the Seismological Society was founded and the Japanese government hired foreign scholars to investigate an earthquake in Yokohama.

Looking at the future of seismology, Mr. Oike highlighted a number of issues to be tackled following the Great East Japan Earthquake and Tsunami of 2011, including: controversial extreme predictions being made for future earthquakes; ineffective use of the early warning system; limited supercomputing capacity for simulation; the unexpected chain-reaction of multiple earthquakes; the destructive impact of the tsunami on the Fukushima nuclear power plants; effective education of evacuation procedures; monitoring changes to land structure; and the need for greater understanding of the physical mechanism of precursor earthquakes.

2) Keynote Lecture 2 "UNESCO's Roles and Strategies for Reducing Earthquake and Tsunami Disasters"

Mr. Badaoui Rouhban, Director of the Unit for Natural Disasters, Natural Sciences Sector at UNESCO began by explaining that UNESCO has the role of promoting knowledge, education, science and culture, as well as assisting governments in finding solutions to the problems they face including lack of education systems, poor cultural development and lack of water resources.
Globally there is a trend of increase in natural disasters, not because the hazards are increasing but because the vulnerability to those disasters is increasing. And while there is a decrease in related deaths in developed countries, poor countries are paying the highest toll, and so the United Nations should help these poorer countries to be better prepared. Such disasters can also have knock-on effects beyond the local region. While the international community actively responds to disasters in providing relief, rehabilitation and reconstruction, there is little investment in mitigation and preparedness, leading to a vicious "disaster cycle." Measures to reduce vulnerability include better risk assessment, prevention, preparedness and emergency response.
UNESCO assists with the establishment of international and regional centers as well as tsunami warning systems. UNESCO also assists at the national level, such as working with the Haitian government following the 2010 Haiti Earthquake in various aspects of disaster recovery, including education, rehabilitation of the coastal warning system, and training of masons for earthquake-resistant construction. UNESCO also works through a number of programs including: IPRED with nine member countries; RELEMR in the extended Mediterranean region; RELSAR in the South Asia Region; ICL and IMEWS internationally; and DIPECHO in Central America.
UNESCO's education sector is involved in the promotion of school safety, the development of educational materials and the use of indigenous knowledge for disaster reduction. UNESCO's culture sector uses some UNESCO World Heritage Sites and Geoparks as pilot areas for implementing activities for disaster reduction. Finally, ethics and human rights aspects of disasters are handled by UNESCO's social science sector.