
Name of Event: [Roundtable] World Reconstruction Conference: Rebuilding and Protecting Critical Infrastructure - Experience From Japan and Other Countries

Date of Event: May 11, 2011

Reporter: Sophie Herrmann

Contact Details: sherrmann@worldbank.org

Panellists:

- Mr. Richard Andrews, Former Director of the Governor's Office of Emergency Services (OES), State of California, USA (Chair/Moderator)
- Mr. Kenichi Suganuma, Ambassador, Deputy Permanent Representative, Chief of Consulate of Japan in Geneva
- Mr. Hirokazu Tatano, Professor for Integrated Management for Disaster Risk, Kyoto University, Japan
- Mr. Charles Scawthorn, Professor (Ret.), Kyoto University, as well as President, SPA Risk
- Mr. Murat Bursa, CEO, Zorlu Energy Group, Istanbul, Turkey
- Mr. Pablo Allard, National Reconstruction Program Coordinator, Ministry of Housing and Urbanization, Chile
- Mr. Otto Kocsis, Head, Business Resilience Practice, Zurich Risk Engineering, Zurich Insurance Company Ltd.

1) Outline

The discussion focused on experiences related to the 2011 Tohoku earthquake and tsunami, highlighting the challenges arising from the effects on critical infrastructure. The discussions also considered examples of how risk assessment for complex systems can be accomplished and opportunities for integrating risk reduction into the rebuilding of critical facilities, leveraging lessons from similar experiences, such as the rebuilding of the Kobe container port after the 1995 Great Hanshin earthquake, and upgrading the communications network after the 2010 Chile Earthquake. Specific issues discussed included the significance of critical infrastructure in disasters and how to make infrastructure more resilient, the question of who owns the risk for infrastructure which can concern international networks belonging to public or private sectors, and finally the trade-off between efficiency and mitigation in infrastructure investment.

2) Key messages, outcomes, recommendations

- Four basic approaches should be combined when it comes to critical infrastructure investment:
 - Structural – retrofitting
 - Locational – land use planning
 - Operational – emergency response
 - Risk Transfer – insurance (cat bonds, etc.)
- There are important technical innovations in terms of reinforcement of infrastructure that mitigates impacts of earthquakes and other hazards. The locational aspect also plays a crucial role in terms of issues such as coastal proximity and tsunami protection on higher grounds.
- Location matters in terms of decisions about centralized or decentralized grid infrastructure.
- Structural prevention can only go so far, while the operational use of infrastructure and emergency response plans play a major role in prevention and rescue operations.
- The ownership of infrastructure is a vital element, including rebuilding and protecting critical infrastructure in developing contexts where most infrastructure has been privatized. This is a context where we have to deal with physical difficulties and opportunities, but also regulatory and strategic long-term trade-offs.

3) Conclusions

- Rethink centralization for critical infrastructure, rather than introduce new decentralization paradigm for critical infrastructure
- Consider possibility of cascaded disasters in planning: earthquake and fires, tsunami, etc. Also, interconnectedness of infrastructure (e.g., gas pipelines) can lead to anthropogenic disasters
- Governments should employ technical experts to work on setting the high technical standards according to best practices for the private sector and ensure compliance of the guidelines

- Not all resilience measures are technical, there are limits to technical upgrading
– need to accept disaster risk and include operational, social, and system prevention and preparedness