



**Wednesday , August 16**

**SESSION II- RISK, VULNERABILITY, AND RESPONSE**

**Chair: Garry De La Pomerai -SARAID -Search and Rescue Assistance in Disasters**

**Rapporteur: Mine B. Demircioğlu - PhD Student and Res. Assis. at KOERI**

1. **Nihan Erdogan**  
*Coordination of the International Response at the Earthquakes in Turkey, Lessons Learned from 1999 and the Steps for the Future*
2. **Adrian Gheorghe**  
*Vulnerability of Critical Infrastructures Exposed to Technical Failures or Natural Hazards Chernobyl and Katrina: Two Names to make History*
3. **Adolfo Mascarenhas**  
*Assessing the Viability of Using Local and Indigenous Knowledge Systems in Disaster and Risk Management in Tanzania*
4. **Hitomi Murakami**  
*Information System to Support Post-Earthquake Consultation Services for Restoration of Damaged Dwellings*
5. **Suman Ranjan Sensarma**  
*Risk of Survival. A Denominator of Social Conflict: An Illustration from Rajaji National Park Conflict, India*
6. **Erica Seville**  
*Shared Organisational Resilience: a New Zealand Approach*
7. **Koichi Shiwaku**  
*Future Perspectives and Problems associated with School Disaster Education in Nepal*
8. **Akhilesh Kumar Surjan**  
*Eco-cities to Disaster Resilient Eco-Communities: a Concerted Approach in the Coastal City of Puri, India*
9. **Hiroki Yabe**  
*Creating a river environment index for assess of ecology function (habitat) for multiple organisms such as fish and birds considering flood risk in urban area*



## NIHAN ERDOGAN

### “Coordination of the International Response at the Earthquakes in Turkey, Lessons Learned from 1999 and the Steps for the Future”

To cope with a major earthquake usually exceeds the means of the affected country. Therefore every country should make its own coordination plan to the international response. This study takes Turkey's major quakes as examples and builds a relief plan about assessments and coordination systems for the future.

#### Future Steps.

- A more efficient central coordination body
- Increased awareness of international coordination bodies
- More qualified human resources
- General trainings to be a part at and understand the international coordination bodies



**ADRIAN GHEORGHE - Swiss Federal Institute of Technology, Zurich and Old Dominion University, Norfolk, Virginia, USA**

**“Vulnerability of Critical Infrastructures Exposed to Technical Failures or Natural Hazards Chernobyl and Katrina: Two Names to make History”**

- *a generic model developed recently for quantitative vulnerability assessment of complex system (e.g. System of system), already known as Gheorghe -Vamanu model), has been proven to have robust structure in order to assess and quantify a vulnerability related indicator for a variety of threats (induced by either technical or natural events), for critical infrastructures such as petrochemical and refineries.*
  
- *Critical Infrastructures: new issues to be addressed*
- *Risk and vulnerability concepts: evolution and current conditions for critical infrastructures*
- *Threats and their role in assessing vulnerabilities*
- *Role of Decision Support Systems; integrating stakeholders for assessing vulnerabilities for critical infrastructures :A case for Switzerland*



## ADOLFO MASCARENHAS

*“Assessing the Viability of Using Local and Indigenous Knowledge Systems in Disaster and Risk Management in Tanzania ”*

- Natural and Human Disasters such as Periodic Floods & Drought, Diseases & Epidemics  
Earthquakes & Tsunami, HIV/AIDS, Climate Change have become so common that insufficient attention paid to the coping mechanisms of the people.
- Along with these are the changing circumstances in which disasters occur,  
Population, Agriculture, Livestock ,Health, Technology
- The complaint  
Tendency to ignore the past: Are there lessons from the past, - Institutional memory,  
Reality Factor: Implications of Last Drought,  
The Poverty Factor

### **Conclusion: Disaster Risk Management**

**Requires the following:**

- **All knowledge systems working together; (Walking on two legs)**
- **Maximum participation of those at greatest risk;**
- **Greater understanding among people**



**HITOMI MURAKAMI** - Division Environmental Systems Engineering Graduate School of Science and Engr., Yamaguchi University

*“Information System to Support Post-Earthquake Consultation Services for Restoration of Damaged Dwellings”*

- A large scale quake leaves the home owners with heavy damage to their dwellings and problems about how to restore them. The consultation centers are stuffed with home owners waiting for information of how to restore. Thus, they investigated consultation services for housing recovery in the 2004 Niigata Chuetsu earthquake, and propose information system to support and improve housing recovery consultation services

**Conclusion:**

- They investigated recovery consultation services in the 2004 Niigata Chuetsu earthquake and found out dissatisfaction by staffs and residents and needs to improve.
- Information system to support housing recovery consultation was developed to improve services after future earthquake disaster

**Future tasks:**

- Need to add functions usable in normal times
- Experiment closer to post disaster reality
- System upgraded using internet interface



**SUMAN SENSARMA - Research Center for Disaster Reduction Systems, Disaster Prevention Research Institute, Kyoto University, Japan**

*“Risk of Survival. A Denominator of Social Conflict: An Illustration from Rajaji National Park Conflict, India”*

- *In cases of forced migration loss of livelihood involves many risk factors. In 1983, people who lived many years in Rajaji park were deployed. The real conflict arose between the park authorities and the habitants. They approached the conflict model, in a theoretic game to solve the problem and reduce it to a possible equilibrium of negotiation and cooperation.*



**ERICA SEVILLE - Resilient Organisations Research Programme, Department of Civil Engineering, University of Canterbury, New Zealand**

*“Shared Organisational Resilience: a New Zealand Approach”*

- *A six year research in New Zealand present new strategies to improve the resilience of organisations to major crisis events. The effective resilience management must look beyond one organization to the others organizations that it depends on. Organizations are required to work together toward system resilience, and share responsibility*
  
- *6 year FRST funded research programme that is a collaboration between the University of Canterbury, University of Auckland, and Kestrel Group, New Zealand; continues until 2010,*
  - The programme has three main objectives*
    - \* Organisational planning for hazard events*
    - \* Prioritisation and deployment of resources*
    - \* Legal and contractual frameworks*
  
- *This presentation reviewed the successes and ongoing challenges for these initiatives and key lessons that other countries might take from the New Zealand experience.*



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***KOICHI SHIWAKU*** - Graduate student, Graduate School of Global Environmental Studies, Kyoto University, Japan

*“Future Perspectives and Problems associated with School Disaster Education in Nepal “*

*Providing disaster education with schools is one of activities of this program. It consists of two parts: One is a questionnaire for students to identify the problems. The other is based on the survey of teachers. The program was conducted at 6 schools in Nepal. Giving a lot of information at schools is effective to enhance their risk perception. Community education can be linked to the schools to promote pre-disaster mitigation*



**AKILESH KUMAR SURJAN** - Doctoral Scholar, Graduate School of Global Environmental Studies,  
Kyoto University

*“Eco-cities to Disaster Resilient Eco-Communities: a Concerted Approach in the Coastal City of Puri, India”*

- The town of Puri is a pilgrimage center and can reach a floating population of one million. The city is at risk of stampede, fire hazards and heat wave apart from cyclones, tsunami and earthquake. High density at the core of the city has worsened the living conditions. The ecocity program in Puri helps in achieving sustainable developments through implementation of environmental improvement measures.
- This paper argues that the vision of the plan of ecocity leaves crucial elements of community participation and disaster risk aside. The all embracing approach is currently being tested in Puri.



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**HIROKI YABE** - Incorporated Administrative Agency, Civil Engineering Research Institute for Cold Region Watershed environmental engineering research team

*“Creating a river environment index for assess of ecology function (habitat) for multiple organisms such as fish and birds considering flood risk in urban area”*

*For proper river improvement and management it is important to understand the status, ecosystems and environmental of the rivers. The comprehensive index is modeling the river environment using the physical components of that region such as river channels riparian forests and flood plain. A river environment assessment index was created for rivers in Sapporo city by observing habitat data, inhabitant environment of human and birds. By this method comprehensive index values can be easily recalculated when components of the river environment change. The river section was divided into many units each 20 m. long and these data were analyzed.*



## DISCUSSION SESSION

- The importance of the local information for the vulnerability reduction was emphasized.
- The importance of the structural safety of school buildings was emphasized



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