Human-Environmental Security in the Asia-Pacific Ring of Fire: Water-Energy-Food NEXUS

Convener: RIHN Co-convener: UNU-EHS

This event focuses on the human-environmental security in the Asia-Pacific Ring of Fire. The event introduces the project on water-energy-food nexus, consisting of five topics about (1) codesign/co-production, (2) water-energy nexus, (3) water-fishery resources nexus, (4) behavior-science methodologies, and (5) integrated index development.

Photo: Steam from hot spring in Beppu

2014 World Water Week in Stockholm

ENERGY AND WATER

Seminar

THURSDAY, SEPTEMBER **4**

Time • 9:00-12:30

Room • T4

Event description:

The event will be lead by the RIHN in cooperation with the UNU-EHS.

This focuses on the human-environmental security in the Asia-Pacific Ring of Fire, which is experiencing drastic social change alongside the huge potential risks and benefits associated with development. The event introduces the project on water-energy-food nexus lead by the RIHN. Themes for this project include, for example, conflicts and tradeoffs between geothermal power generation and the hot spring business (water-energy nexus), water uses on land vs environmental flow from land to the ocean for coastal ecosystem (water-food nexus), and resource development vs water use and contamination (water-energy nexus), among others. The project takes interdisciplinary and transdisciplinary research approaches.

UNU-EHS will further contribute to an improved understanding of the new challenges of coastal communities in terms of natural hazards, climate change, food and water security. Specific attention in this regard will be given to the assessment of resilience of countries and coastal communities and especially the challenges to measure resilience in complex urban and peri-urban areas. A first composite index to measure resilience will be presented based on own research and global data available.

Photo: Spring water in Shiga

Event Objectives and Expected Outcomes:

Climate change and economic development are causing increased pressure on water, energy, and food resources, presenting increased levels of tradeoffs and conflicts among these resources and stakeholders. Because these resources are inter-connected, policy development and resource management require careful consideration of the complex interconnections between nature and society. A balance between risk and resilience is critical for achieving human and environmental security, particularly in Asia, a region within the "Ring of Fire." The need to maximize human-environmental security (minimize the risk) by choosing policies and management structures that optimize water-energy-food connections in Asia-Pacific region is critical. The purpose of this event is to: (1) share and disseminate information, knowledge and wisdom to resolve conflicts and tradeoffs between geothermal power generation and the hot spring business (water-energy nexus), water uses on land vs environmental flow from land to the ocean for coastal ecosystem (water-food nexus); (2) make policy proposal for nexus resource management in local, national, regional and global societies; (3) create horizontal integration with different issues and sectors, and vertical integration from local, national, regional to global scale.

Opening remark		
9:00 -9:10	Introduction of RIHN NEXUS project	Prof. Makoto TANIGUCHI, RIHN
9:10 -9:25	Water risk management at global level	Prof. Jakob RHYNER, UNU-EHS
Part I: Water-energy-food nexus		
9:25 -9:40	Energy-water nexus relevant to baseload electricity source including mini/micro hydropower generation	Dr. Masahiko FUJII, Hokkaido University
9:40 -9:55	Evaluation of indicator related to the Energy-water nexus: Case study of geothermal energy	Dr. Jun NISHIJIMA, Kyushu University
9:55 -10:10	Effectiveness and challenges of stakeholder analysis for water-energy-food nexus issues: Implications from Japanese cases studies	Prof. Kenshi BABA, Hosei University
10:10-10:15	Q&A	
Part II: Integrated index & map		
10:15-10:30	Integrated approach to evaluate water-energy-food nexus for maximizing human environmental security	Dr. Aiko ENDO, RIHN
10:30-10:45	Indicators for Evaluating a Water- Food (Fisheries) Nexus: The Case of Laguna de Bay in the Philippines	Mr. Pedcris ORENCIO, RIHN
10:45-11:00	Assessing global risk patterns – the World Risk Index	Dr. Joern BIRKMANN, UNU-EHS
11:00-11:05	Q&A	
Coffee Break (30 min)		
Part III: Integrated risk management		
11:35-11:50	Integrated risk management: Case study of flooding & water-energy- food nexus in Indonesia	Prof. Hidayat PAWITAN, Bogor Agricultural University
11:50-12:00	Rehabilitation from Tsunami in Otsuchi, Japan	Prof. Makoto TANIGUCHI, RIHN
12:00-12:05	Q&A	
Part IV: Open discussion		
12:05-12:25	Open discussion	Prof. Makoto TANIGUCHI, RIHN Prof. Jakob RHYNER, UNU-EHS
Closing remark		
12:25-12:30	Summary of the seminar	Prof. Makoto TANIGUCHI, RIHN

Key messages:

To maximize human-environmental security (minimize the risk) by choosing policies and management structures that optimize water-energy-food connections in Asia-Pacific region. To solve the conflicts and tradeoffs between stakeholders in different local, national, regional and global scales, it is necessary to implement interdisciplinary and transdisciplinary research with co-design and co-production and science in/for society.

Photo: Water wheel in Shiga

NEXUS RIHN

Inter-University Research Institute Corporation
National Institutes for the Humanities
Research Institute for Humanity and Nature

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