Current Feasibility Studies

Feasibility Studies are based on proposals solicited annually by RIHN from the research community at-large. If approved by the Project Review Task Committee, lead researchers are granted seed funding in order to develop their proposal for Full Research. FS status can be maintained for no longer than two years.

Above: ABE Ken-ichi, After the rain, Yunnan, China
Bottom: TANAKA Ueru, Cats are waiting to profit, Alexandria, Egypt

FS/PR

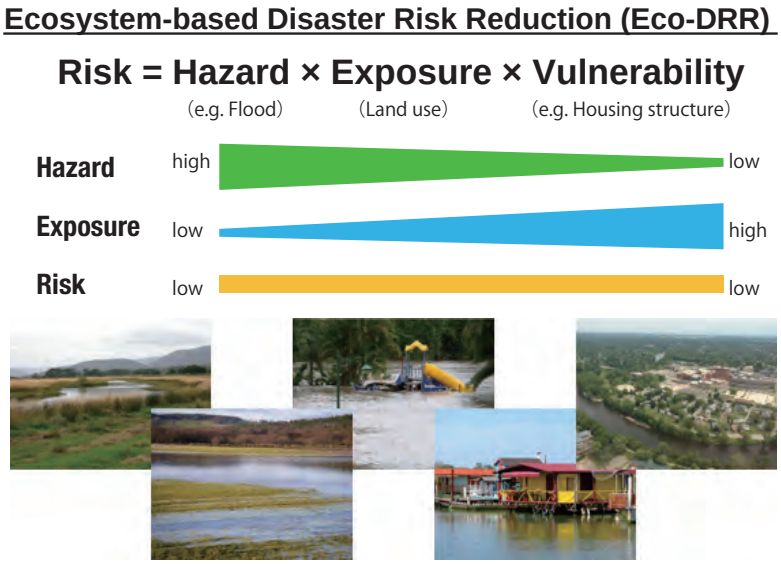
Research and Social Implementation of Ecosystem-based Disaster Risk Reduction as Climate Change Adaptation in Shrinking Societies

YOSHIDA Takehito, The University of Tokyo

* This project will be converted to PR status (Research Program 1) in mid-2017

Area : Japan

The occurrence of natural disasters has been increasing—partly due to contemporary climate change—and adaptation to disaster risks is important for local communities. At the same time, many communities are experiencing shrinking populations. The ecosystem-based disaster risk reduction (Eco-DRR) takes advantage of the multi-functionality of ecosystems, including their capacity to mitigate disasters while providing multiple ecosystem services. Population decline provides ample opportunity for implementing Eco-DRR. Project research will develop practical solutions for implementation of Eco-DRR in local communities by visualizing natural disaster risks, evaluating multi-functionality of Eco-DRR, conducting scenario analysis, examining traditional and local knowledge of Eco-DRR, and collaborating with insurance and other sectors.



Ecosystem-based disaster risk reduction (Eco-DRR) not only lowers disaster risks but also receives benefits of ecosystem services by reducing the exposure of human activities in high-hazard locations and performing human activities in low-hazard places.

FS/PR

Assessing Functional Diversity of *Satoyama* Paddy Landscapes in East Asia's Monsoon Region

HOMMA Kosuke, Niigata University

Area : Japan, Korea, China, Laos, Thailand, Nepal

Traditional paddy rice-based landscape production systems—known as *satoyama* in Japanese—have been maintained for more than a thousand years throughout the monsoon East Asian region. Such systems are now experiencing drastic socio-economic change, however, that affects their biodiversity and ecological productivity. This study evaluates the current management systems of *satoyama* ecosystems and presents prescriptions designed to maintain the diverse functionality of *satoyama* systems within the context of contemporary social and ecological change.

A typical satoyama landscape in Yunnan Province, China.

FS

Water-Energy-Nexus Technology for Marginal Settlements: Socially Optimal Size from the Perspectives of Reciprocity and Indigenous Knowledge

KANEKO Shinji, Hiroshima University

Area : Nepal, Myanmar, Indonesia

This project attempts to identify the optimal scale of community infrastructure that can improve water and energy supplies in marginal settlements. The project is motivated by the Solar Water Pumping Systems (SWPS), which have been expanding to marginal settlements in the deep mountains of Nepal. While the capital cost of such community-scale projects can be relatively low, when scaled-up for larger social contexts, such projects increase social transaction costs of decision-making and operation, as they require comprehensive consideration of education, religion, social class, and social norms. This project investigates the tradeoffs surrounding community infrastructure works in three different types of marginal settlements: (1) high mountain villages in Nepal; (2) "floating people" of Inlay Lake, Myanmar; and (3) small remote islands in Indonesia.

Country	Nepal	Myanmar	Indonesia
Marginal Settlements	High mountain	Floating villages	Remote islands
Major religion	Hindi	Buddhism	Islam
Other features	Water carry with large elevation gap	Water transport of goods and passengers	Desalinization
	Caste	Pollution trestments	Familism
	Remittance	Donation	

Brief profile of study areas

FS

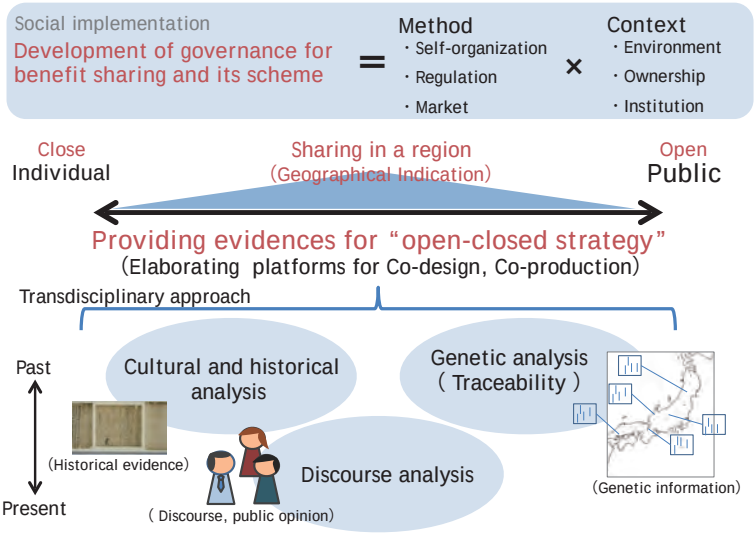
Transdisciplinary Approaches to Governance of Intellectual Properties: Genetic Resources and Traditional Knowledge in Terrestrial, Coastal and Marine Areas

KOHSAKA Ryo, Tohoku University

Area : Japan, Thailand, Philippines, Myanmar, South Korea, China, Indonesia

The discrepancy in technology between the so-called developed and developing worlds underpins the Access to Genetic Resources and the Fair and Equitable Sharing of Benefits Arising from their Utilization (ABS). The project addresses this long-lasting global environmental problem by highlighting the role of intellectual property in fair and equitable benefiting sharing. We use an "open-closed strategy" in order to avoid loss or degradation of genetic resources and related indigenous and local knowledge.

The proposed transdisciplinary approach consists of three pillars: culture and history; genetic analysis; and discourse analysis. Based on evidence collected, the open-closed strategy is formed in relation to self-governance practices, existing regulations, and market based approaches.



Development of governance of "open-closed strategy" based on evidence from transdisciplinary research

FS

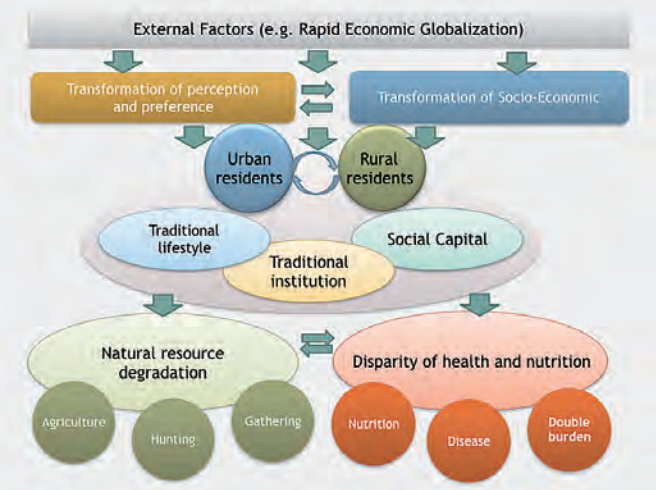
Nature Cultural Diversity and Building Sustainable Society in Asia

MATSUDA Hirotaka, The University of Tokyo

Area : South East Asia

The environmental degradations associated with modern societies have been based on culture and institutions which reflect the incentives of human beings. Naturally, culture and institution have been dynamically transformed.

The purpose of this research is to examine the East Asian historical experience of poverty, disparity of health, and utilization of natural resources, including agriculture, in order to reveal the significance of change in Asian institutions and cultural diversity and contribute to the construction of sustainable East Asian societies.



Research framework of the research

FS

Developing Interactive Rural-Urban Systems to Improve Human Well-being

MORI Koichiro, Shiga University

Area : Jakarta and Medan in Indonesia, Sabae, Saijo, Umajimura and Toyooka in Japan

The purpose of this research is to develop interactive urban-rural systems that can address global environmental problems and enhance human well-being within global environmental limits. The project investigates our hypotheses that the incomplete division of labour between urban and rural areas and virtual movement from urban to rural areas can provide strategies to abate problems related to urban overcrowding. The project will conduct social practical experiments.

FS

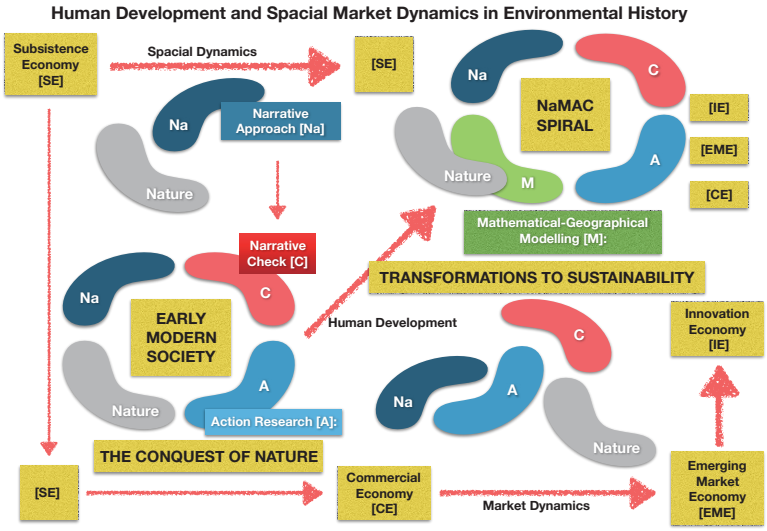
Living Spaces: A Transdisciplinary Study on Locality, Nature and Global Interdependency

MURAYAMA Satoshi, Kagawa University / ICEDS

Area : Local communities and regions in Japan, Europe, and the world

The purpose of this research is to conduct comparative environmental historical research in order to reveal the historical process by which human cultures have been separated from nature. Project research will employ mathematical-geographical modelling to identify the underlying mechanism for this separation, present a future vision of local environments, and conduct action research reflecting and reinforcing our findings.

Conceptual Chart of Living Spaces
- Where have florae, faunae, and humanity lived in the past?
- Where do they live today?
- Where will they live in the future?



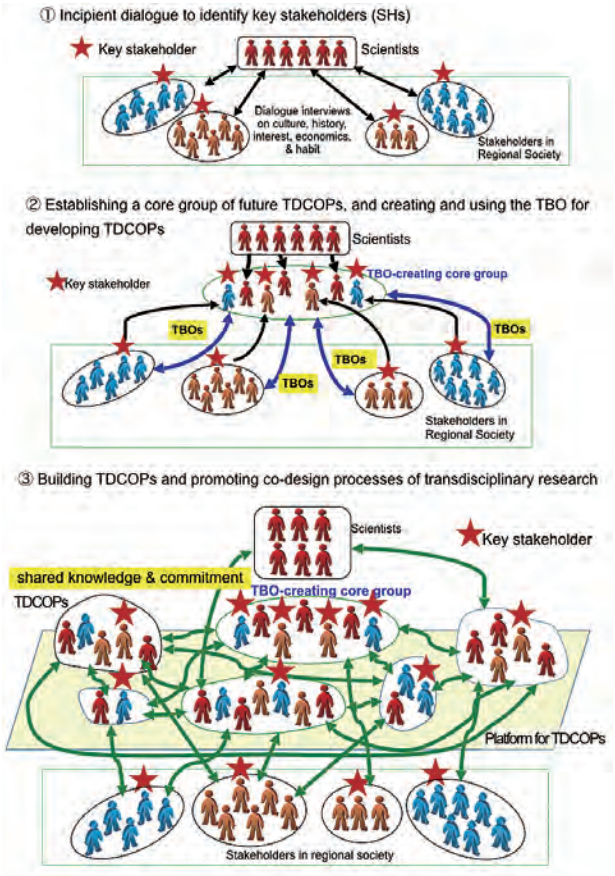
FS

Co-Creation of Regional Innovation for Reducing Risk of Environmental Pollution

SAKAKIBARA Masayuki, Ehime University

Area : Sulawesi Island, Indonesia

Developing countries frequently face the problem of intensive environmental degradation, occurring against a background of poverty. The purpose of our project is to reduce the long-term poverty and environmental risk in areas with high loads of environmental pollution in developing countries, and to create a process for constructing a sustainable society with regional innovations based on environmental and industrial innovations introduced with a transdisciplinary approach. It will include the co-creation and practical application of "transformative boundary objects" by transdisciplinary communities of practice, and will clarify the conditions that will allow a sustainable society to be established.



Co-creation of transdisciplinary communities of practice using by transformative boundary objects

Core FS

Knowledge Binding to Overcome Gaps in the Problem Perception in Collaborative Research on Socio-Environmental Interaction

KONDO Yasuhisa, RIHN

Core FS

Co-Design and Stakeholder Engagement According to Geographical Scales

ONISHI Yuko, RIHN

NISHIMURA Takeshi, Morning glow, Aso, Kumamoto, Japan

TANAKA Ueru Going to the top of a sand dune, Namibia

Above: ISHIAYAMA Shun, From behind we see her story, Zambia
Bottom: KAN Seicyou, Praying for the harvest, Yaizu, Shizuoka, Japan