

## 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 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: UEHARA Yoshitoshi, Focused on fieldwork, Shina area, Otsu City, Shiga, Japan  
Bottom: SEKINO Nobuyuki, Collaborators and friends, Bali, Indonesia

FS/PR

## Toward the Regeneration of Tropical Peatland Societies: Building International Research Network on Paludiculture and Sustainable Peatland Management

\* This project will be converted to PR status in mid-2016. (Research Program 1)

**MIZUNO Kosuke, Kyoto University**

Area : Tropical peat swamp forests and peatland, degraded areas, Southeast Asia

The objective of this research project is to generate solutions to the current crisis of peat degradation and fire/haze through implementation of alternative practices, such as rewetting and reforestation. The project will demonstrate the transformability of peatland-based societies, and thus its future prospects, through the phasing out of monoculture production activity, the development of paludiculture, and the enlargement of protected peatland areas. Project research will examine several livelihood strategies addressing the environmental and social vulnerability of tropical frontier societies, thus advancing the field of global environmental studies.



Our FS collaborated with the local community to plant local species on rewetting peatlands

FS/PR

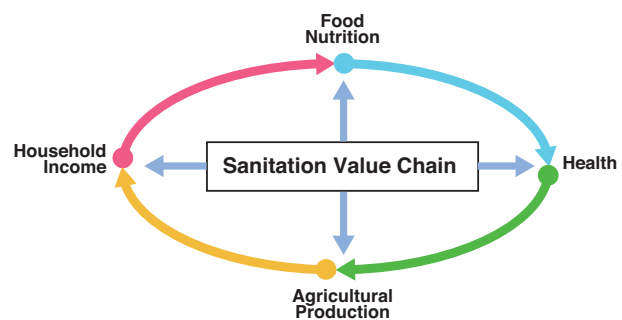
## The Sanitation Value Chain: Designing Sanitation Systems as Eco-Community-Value System

\* This project will be converted to PR status in mid-2016. (Research Program 3)

**FUNAMIZU Naoyuki, Hokkaido University**

Area : Burkina Faso, Indonesia, Japan, Zambia

Sanitation systems are essential for promoting public health, preventing environmental pollution, conserving ecosystem functions, and recycling resources. The question of how to handle the waste of 10 billion people is therefore highly relevant to the global environment. Accordingly, the goals of this research project are to: 1) propose the concept of Sanitation Value Chain as relevant to both developing and developed countries; 2) design several pilot studies demonstrating the significance of societal, academic, and professional involvement in the co-creation of this value chain; and 3) contribute to the establishment of a new interdisciplinary academic foundation regarding sanitation.



The Sanitation Value Chain acts within and between other important social values

**FS** **Diversity and Productivity of Satoyama Paddy-Rice Systems: Reassessing Rural Landscapes in Relation to Rural Transformations**

**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.

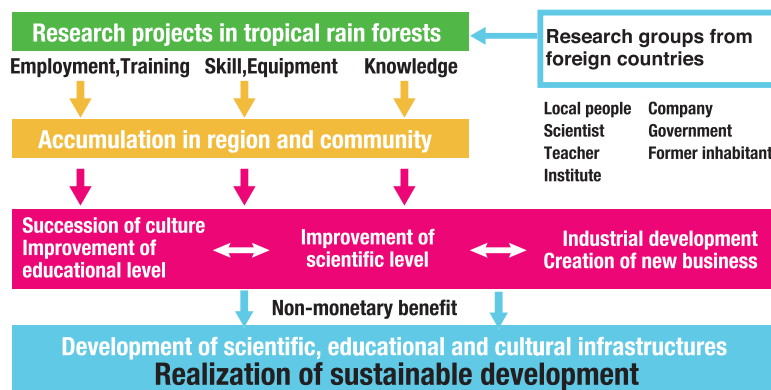
**FS** **Effective Use of Unidentified Intellectual Resources in Southeast Asian Tropical Rain Forests**

**ICHIE Tomoaki, Kochi University**

Area : Malaysia, Indonesia

Numerous biological research groups have contributed to knowledge of tropical rainforests and biodiversity in Southeast Asia. Much of this knowledge has not yet been sufficiently utilized by local people in the course of their various activities, however. This project therefore aims to assess the possible benefits, monetary and non-monetary, that can be drawn from this stock of knowledge. Project research will analyze current utilization of specialist knowledge of biodiversity in the tropical rainforests of Southeast Asia, and develop a new system in order to enhance its utility to local populations.

**Possible benefits from past academic research projects**



Possible benefits from past academic research projects in tropical rain forests of Southeast Asia

## The Water-Energy Nexus in Small-Scale Distributed Systems for Poverty Alleviation

KANEKO Shinji, Hiroshima University

Area : Nepal, Myanmar, Indonesia

This project attempts to identify the optimal scale of community infrastructure that can simultaneously improve water and energy supplies in marginalized developing-world communities. The project is motivated by the Solar Water Pumping System (SWPS) developed in 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 marginalized communities: (1) high mountain villages in Nepal; (2) “floating people” of Inlay Lake, Myanmar; and (3) small remote islands in Indonesia.

Country	Nepal	Myanmar	Indonesia
Disadvantaged area	High mountain	Floating villages	Remote islands
Major religion	Hindi	Buddhism	Islam
Other features	Water carry with large elevation gap	Long distance of water transfer	Desalinization
	Caste	Water pollution	Biomass
	Remittance	Donation	Familism

Brief profile of study areas

## Living Spaces: Local Narratives, Regional Clusters, and Communal Movements

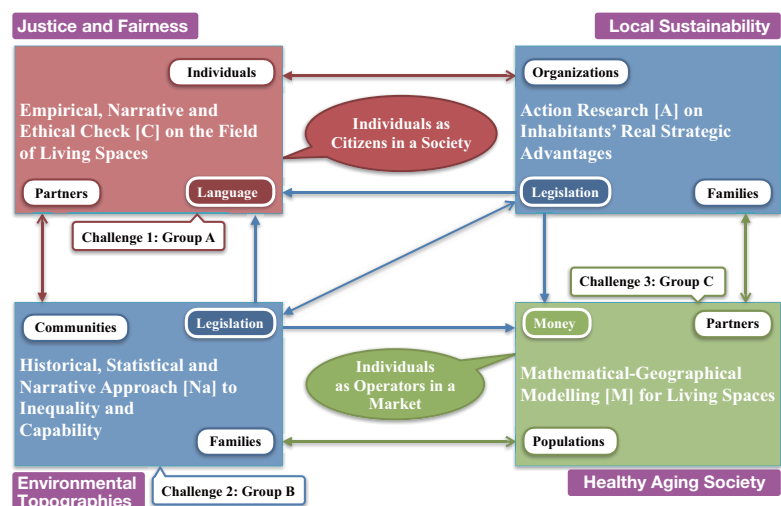
MURAYAMA Satoshi, Kagawa University / ICEDS

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 NaMAC Cycle

- Where have flora, fauna, and humanity lived in the past?
- Where do they live today?
- Where will they live in the future?



Research Groups in NaMAC Cycle for Living Spaces (= LS-NaMAC)

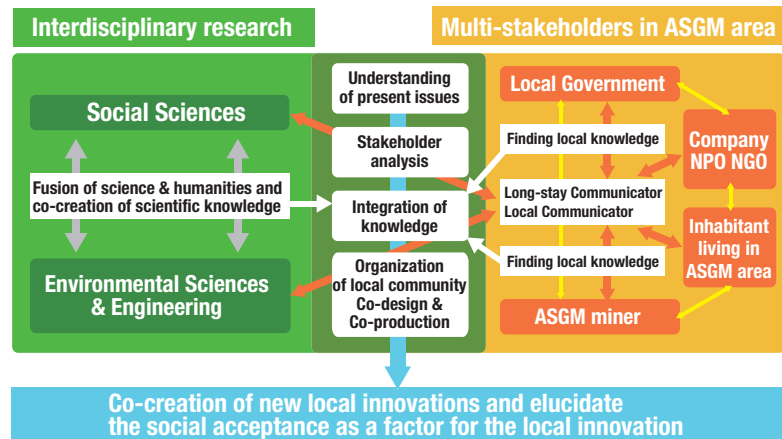
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## Social Acceptance of Regional Innovation for Reducing High-Impact Environmental Pollution

SAKAKIBARA Masayuki, Ehime University

Area : Sulawesi Island, Indonesia

Developing countries commonly face the problem of intensive environmental degradation, which occurs against a background of poverty. The objective of this Feasibility Study is to assess the possibility of establishing an innovative regional strategy to enable local stakeholders to address problems arising from high environmental impact activities. This project will utilize local knowledge and a transdisciplinary approach in order to examine mercury pollution resulting from artisanal and small-scale gold mining in Sulawesi, Indonesia. For regional innovation to function autonomously, it is also necessary to recognize the social acceptance of particular strategies, and to clarify the conditions that will enable establishment of a sustainable society.



Transdisciplinary approach in the future project

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

YOSHIDA Takehito, The University of Tokyo

Area : Japan and Asian Countries

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 population. The ecosystem-based disaster risk reduction (Eco-DRR) takes advantage of the multifunctionality 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 multifunctionality of Eco-DRR, conducting scenario analysis, co-delivering trial implementation in local communities, and collaborating with the insurance sector.

### Ecosystem-based Disaster Risk Reduction (Eco-DRR)

$$\text{Risk} = \text{Hazard} \times \text{Exposure} \times \text{Vulnerability}$$

(e.g. Flood)                      (Land use)                      (e.g. Housing structure)



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.



Above: KIMURA Aoi, Is this heaven?, Lake Louise, Canada

Bottom: ABE Ken-ichi, Waterway, Indonesia