

Completed Research



When a project moves to Completed Research (CR) status, the contract with RIHN is concluded. Research teams disperse to university research, teaching, and other duties. Project publications and other communications and contributions may follow for several years. At RIHN, each project forms part of the institute's heritage; project results and data are entered into the RIHN archives upon which future RIHN projects may be formulated.

Fiscal Year Completed	Leader	Research Project
2006	HAYASAKA Tadahiro	Emissions of Greenhouse Gases and Aerosols, and Human Activities in East Asia
	KANAE Shinjiro	Global Water Cycle Variation and the Current World Water Resources Issues and Their Perspectives
	WATANABE Tsugihiko	Impact of Climate Changes on Agricultural Production System in the Arid Areas
	NAKAWO Masayoshi	Historical Evolution of the Adaptability in an Oasis Region to Water Resource Changes
	YACHI Shigeo	Multi-Disciplinary Research for Understanding Interactions between Humans and Nature in the Lake Biwa-Yodo River Watershed
2007	FUKUSHIMA Yoshihiro	Recent Rapid Change of Water Circulation in the Yellow River and Its Effects on Environment
	ICHIKAWA Masahiro	Sustainability and Biodiversity Assessment on Forest Utilization Options
	AKIMICHI Tomoya	A Trans-disciplinary Study on Regional Eco-History in Tropical Monsoon Asia: 1945-2005
2008	SEKINO Tatsuki	Interaction between Environmental Quality of the Watershed and Environmental Consciousness: With Reference to Environmental Changes Caused by the Use of Land and Water Resource
	TAKASO Tokushiro	Interactions between Natural Environment and Human Social Systems in Subtropical Islands
2009	SHIRAIWA Takayuki	Human Activities in Northeastern Asia and Their Impact on Biological Productivity in the North Pacific Ocean
2010	TANIGUCHI Makoto	Human Impacts on Urban Subsurface Environments
	YUMOTO Takakazu	A New Cultural and Historical Exploration into Human-Nature Relationships in the Japanese Archipelago
	SATO Yo-Ichiro	Agriculture and Environment Interactions in Eurasia: Past, Present and Future - A ten-thousand-year history
2011	KAWABATA Zen'ichiro	Effects of Environmental Change on the Interactions between Pathogens and Humans
	KUBOTA Jumpei	Historical Interactions between Multi-Cultural Societies and the Natural Environment in a Semi-Arid Region in Central Eurasia
	OSADA Toshiki	Environmental Change and the Indus Civilization
	UCHIYAMA Junzo	Neolithisation and Modernisation: Landscape History on East Asian Inland Seas
	UMETSU Chieko	Vulnerability and Resilience of Social-Ecological Systems
2012	OKUMIYA Kiyohito	Human Life, Aging and Disease in High-Altitude Environments: Physio-Medical, Ecological and Cultural Adaptation in "Highland Civilizations"
	SAKAI Shoko	Collapse and Restoration of Ecosystem Networks with Human Activity
	MOJI Kazuhiko	Environmental Change and Infectious Disease in Tropical Asia
2013	HIYAMA Tetsuya	Global Warming and the Human-Nature Dimension in Siberia: Social Adaptation to the Changes of the Terrestrial Ecosystem, with an Emphasis on Water Environments
	NAWATA Hiroshi	A Study of Human Subsistence Ecosystems in Arab Societies: To Combat Livelihood Degradation for the Post-oil Era
	KADA Ryohei	Managing Environmental Risks to Food and Health Security in Asian Watersheds
2014	MURAMATSU Shin	Megacities and the Global Environment
2015	KUBOTA Jumpei	Designing Local Frameworks for Integrated Water Resources Management
2016	HABU Junko	Long-term Sustainability through Place-Based, Small-Scale Economies: Approaches from Historical Ecology
	SATO Tetsu KIKUCHI Naoki	Creation and Sustainable Governance of New Commons through Formation of Integrated Local Environmental Knowledge
	ISHIKAWA Satoshi	Coastal Area-capability Enhancement in Southeast Asia
	TANAKA Ueru	Desertification and Livelihood in Semi-Arid Afro-Eurasia
2017	ENDO Aiko	Human-Environmental Security in Asia-Pacif Ring of Fire: Water-Energy-Food Nexus
2018	NAKATSUKA Takeshi	Societal Adaptation to Climate Change: Integrating Palaeoclimatological Data with Historical and Archaeological Evidences
2019	OKUDA Noboru	Biodiversity-driven Nutrient Cycling and Human Well-being in Social-Ecological Systems
	TAYASU Ichiro	Proposal and Verification of the Validity of Isotope Environmental Traceability Methodology in Environmental Studies
2020	Steven R. McGREEVY	Lifeworlds of Sustainable Food Consumption and Production: Agrifood Systems in Transition
	KONDO Yasuhisa	Information Asymmetry Reduction in Open Team Science for Socio-environmental Cases

Lifeworlds of Sustainable Food Consumption and Production: Agrifood Systems in Transition

Project Leader **Steven R. McGREEVY** RIHN

Over the course of the FEAST project, the evidence we gathered pointed to one conclusion: dramatic changes are needed in the food system and in society at large if we are to live sustainably. We need new values, radically different ways of provisioning our societies, and economic models that reject the logics of growth and embrace sufficiency.

Major findings from the FEAST project:

- The ecological footprint of Japan's food consumption is dominated by imported and processed foods. Food consumption by urban and aged populations has a larger footprint than that of rural peoples. A decentralized food system that supports local production for local consumption will shrink food footprints and make food systems more sustainable. At the same time, agricultural land in urban areas is being paved over to make new housing developments, even though Japan's population is shrinking, leaving millions of homes unoccupied. Integrated agricultural and urban/suburban land use policy is desperately needed.
- Sustainable food policy involves multiple government departments and sectors of the economy. Agricultural production, distribution, public health, tourism, environmental concerns, technology and business, education, city planning—all of these areas are related to food. The challenge is to integrate these elements to produce coherent and effective food policies. Current governance structures correspond to sectoral and narrow departmental structures; they are inadequate to the challenges of sustainability. In FEAST, we partnered with diverse local stakeholders to create food policy councils able to address the challenges of developing integrated food policy.
- Food production must shift away from industrial, monoculture, large-scale operations towards more robust agroecological approaches. Agroecological production is based on ecological principles and

- protects nature and the living creatures, for example bees, that enable food production. Japan urgently requires regulations on neonicotinoid insecticides already restricted in the EU yet found in >60 'household products' sold in Kyoto City, with a focus on avoiding both negative impacts on ecosystems and farmers' livelihoods. Agroecological farmers have high autonomy and produce highly diverse organic crops. Support systems for new farmers in Japan are quite generous financially, but farmers are pushed into industrial agriculture and training programs for sustainable and organic agriculture are not available.
- Informal food practices, such as gardening, food sharing, hunting and foraging, and rearing small livestock, will play a critical role in creating regional, distributed, and sustainable food systems. These informal food practices improve community food security and resilience, as well as sense of well-being and physical and mental health.
- In workshops on the future of food and agriculture, Japanese citizens indicated their interest in more leisure time for working in the garden, cooking, and enjoying food. They also indicated widespread support for local production for local consumption in schools, restaurants, and community kitchens.

Download 'Ecokana', the FEAST app that explores the environmental, social, and health impacts of the food you eat! With information on close to 1,800,000 food products, you can learn more about how food consumption affects nature and society, and push food companies to make our food system more transparent.

FEAST project research and collaboration with food stakeholders in Japan will continue into the future through the formation of the FEAST NGO. We hope to continue to develop food policies with local stakeholders that make our food systems more sustainable and resilient.



Kyoto, Kamogawa River in the year 2050. A post-growth food system in which nature and people flourish. (credit: © 2021 AOI Landscape Design, Yoshida Aoi)



Ecokana app UI. Download the app via the QR code! Android on the top. iPhone on the bottom.

Information Asymmetry Reduction in Open Team Science for Socio-environmental Cases

Project Leader **KONDO Yasuhisa** RIHN

Backgrounds and Objectives

Environmental deterioration can result from defective interactions between human society and nature. It is often perceived as a wicked problem that has no clear-cut solution. Such a problem cannot simply be solved by research experts. Rather, it requires collaborations with experts from different domains (interdisciplinary research) as well as practitioners such as governments, funding bodies, industry, non-profit organizations, and members of civil society (transdisciplinary research) to solve the problem. Therefore, such solution-oriented research projects are always completed by a team of two or more experts in an interdependent fashion.

However, this team format is often disrupted by asymmetric information, knowledge, wisdom, value, socio-economic status, and power among the above-mentioned actors, as well as by different historical and geopolitical contexts. To reduce (rather than solve) such socio-psychological asymmetry to enable more effective community-based research on socio-environmental issues, this CORE Project, also called the Open Team Science Project, developed an adaptive and abductive methodology in which working hypotheses were continuously improved by assessing practical case studies. At the completion of the project, the methodology was summarized in the form of the following Open Team Science Method as a self-checklist of socio-environmental practice research.

The Open Team Science Method

Conceptually, we interlinked open science, as an open scientific knowledge production system, with boundary

spanning as an essence of transdisciplinary research to transform in-between spaces into shared epistemic living spaces. This can be practically achieved through our Open Team Science Method (1) guaranteeing ethical equity with special attention to empowering marginalized (or “small voice”) actors; (2) building trust by guaranteeing transparency (i.e., traceability and synchronousness) in the research process; (3) facilitating dialogue and synlogue (a conversation in which individual speakers seamlessly succeed one another’s speech); and (4) discovering and sharing the platform on which actors with different interests and thoughts can jointly tackle (transcend) specific problems or issues, where necessary (Figure 1).

Outputs, Outcomes, and Future Directions

This project academically explored a new dimension of open science for and with society. The Open Team Science Method was published in a Japanese book (環境問題を解く *Dissolving Environmental Problems*) for general readers, a concept paper in *Current Opinion in Environmental Sustainability*, three case reports in international academic journals, four opinion papers in Japanese academic journals, and two Japanese newspaper commentaries, among other media.

The Open Team Science Method is a working hypothesis to be further improved. To make this method a new academic norm of open science with and for society, we will continue developing and disseminating the Open Team Science Method after completion of the CORE project.

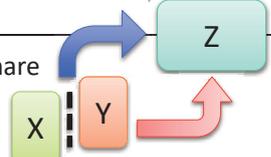
<p>Ethical Equity</p>	<ul style="list-style-type: none"> • Is our project inclusive (anyone can join & leave at any time)? • Do we empower and encourage marginalized (or “small voice”) actors to participate? • Do we eliminate socio-economic inequities?
<p>Visualization & Transparency</p>	<p>Do we guarantee transparency of the process of research through visualizing and sharing them widely?</p> <ul style="list-style-type: none"> • Traceability and synchronousness may build and warrant trust. • Was informed consent made with local actors? • Is the process of research made transparent, with respecting the intent of local actors?
<p>Dialogue & Synlogue</p>	<p>Do we facilitate mutual conversation to understand other views and conditions? → Psychological safety → Trust</p> <ul style="list-style-type: none"> • Synlogue in Asian contexts (Chen 2020 after Mizutani 1983)
<p>Transcend</p>	<p>Do we build a platform to perceive and share problems from multiple viewpoints?</p> <ul style="list-style-type: none"> • Multipaths are allowed 

Figure 1: The Open Team Science Method as a self-checklist