



Inter-University Research Institute Corporation
National Institutes for the Humanities

Research Institute for Humanity and Nature

Prospectus 2016-2017



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Message from the Director-General

The Research Institute for Humanity and Nature (RIHN) was established in April 2001 to conduct integrated research in the field of global environmental studies. In 2004, RIHN became one of the original members of the National Institutes for the Humanities (NIHU), as an Inter-University Research Institute Corporation.

Environmental degradation can be understood as an imbalance in interactions between human beings and natural systems. Our mission is therefore to conduct solution-oriented research aimed at exploring how interactions between humanity and nature ought to be. RIHN conducts interdisciplinary research spanning the natural sciences, humanities, and social sciences, and transdisciplinary research that involves collaboration with various stakeholders in society.

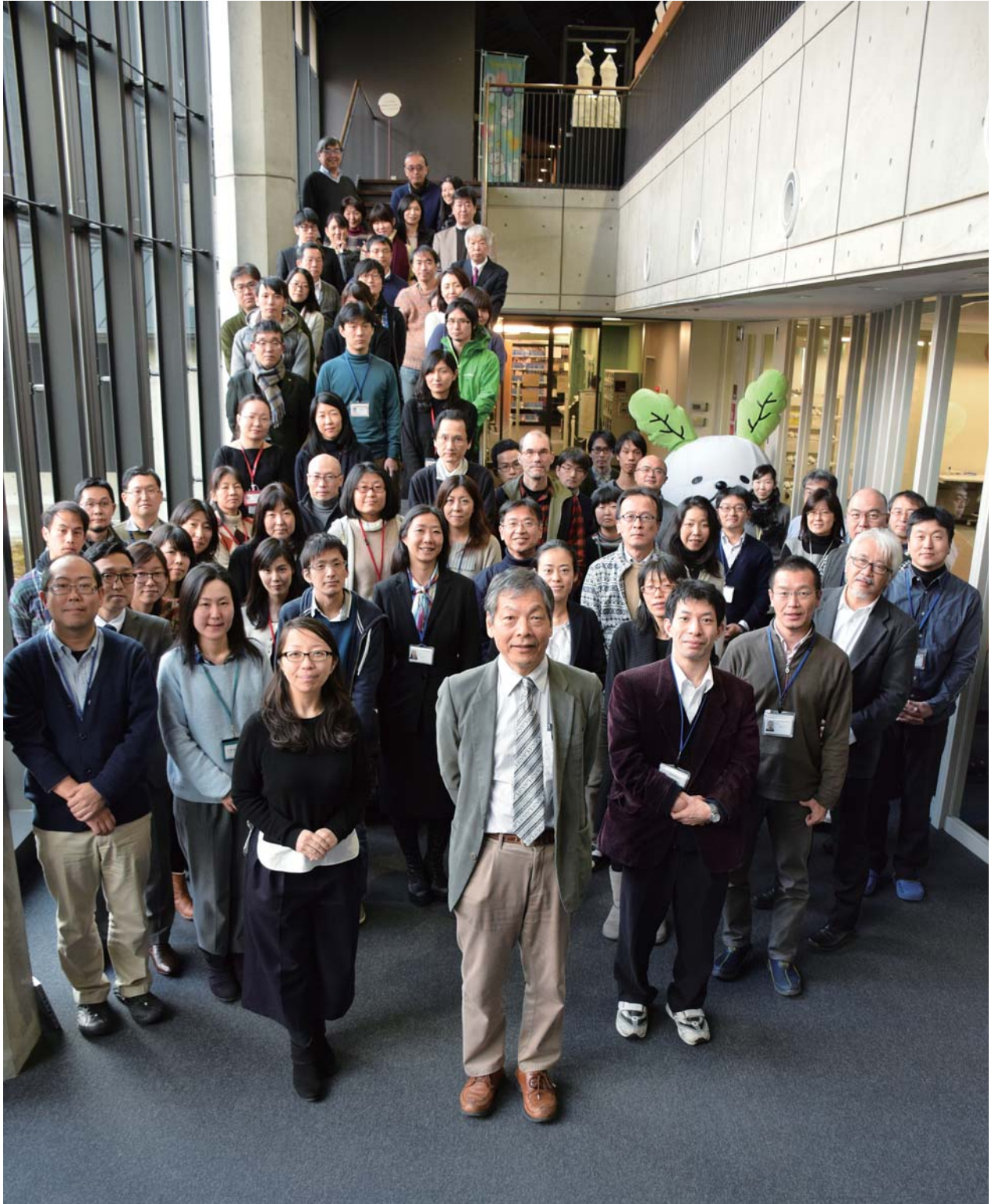
Since its establishment, RIHN researchers have formulated creative projects to address social needs in diverse fields of environmental interaction. For instance, under RIHN's Phase II Medium-Term Plan and targets, the Futurability Initiatives were formulated in 2011 in order to advance from "science for science" to design-science. The RIHN Encyclopedia of Global Environmental Studies was published in the same year, providing a single point of access to the diverse research outcomes of RIHN's first decade. The institute also promoted a network-based Global Environmental Repository in

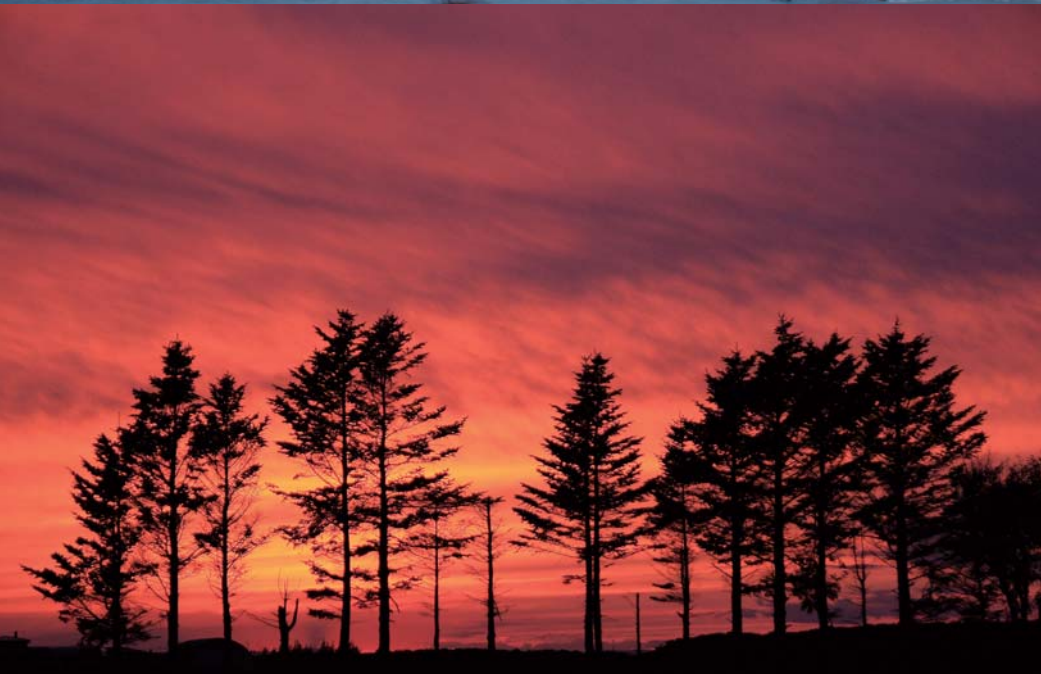
support of its role as an Inter-University Research Institute Corporation. Following an external review of research activities and organizational structures, in fiscal year 2014 we reformed the ways in which we conduct and promote research projects. At this time we also began collaborating in the international research platform Future Earth, which aims to realize a sustainable global society through integration of interdisciplinary and transdisciplinary environmental studies. In fiscal year 2015 RIHN was appointed as the Regional Center for Future Earth in Asia.

Fiscal year 2016 marks the beginning of our Phase III Medium-Term Plan. We have launched a new set of Research Programs, a Core Program, and the RIHN Center in order to organically integrate and support the Research Programs. With a new structure in place, we are determined to pursue our mission even more vigorously through enhanced collaboration within our institute, across our diverse research community, and with society in general.

安成 哲三
YASUNARI Tetsuzo

Director-General
Research Institute for Humanity and Nature





Above: TANAKA Naoko, Round rainbow, New Zealand
Below: ASANO Satoshi, Windbreak, Hokkaido, Japan

RIHN's Mission

For several decades, researchers from many academic disciplines have attempted to find solutions to the environmental problems that now confront human communities at all scales. Despite extensive research in individual disciplines, however, the essential character of many environmental problems remains unknown. There is therefore need not for additional partial descriptions of discrete environmental problems, but for holistic understandings of the underlying causes of these problems, and integrated approaches to their solutions.

RIHN research is characterized by the belief that environmental problems stem from problems in human culture. RIHN research projects therefore are designed to examine not only the diverse range of cultures that currently inhabit the Earth but also past patterns of cultural and environmental change. In addition to conducting high quality basic research, our aim is to enable discussion of diverse perspectives on nature and of their potential relevance to the future.

For over ten years the RIHN research community has discussed the concept of *futurability* (or *sustainable future*), a translation of a Japanese concept that combines the ideographs “future” and “potential”. This idea invites us to consider the kinds of interactions between human beings and nature—some ancient and some entirely new—that various societies and communities might seek. We hope it will continue to stimulate discussion of what should be done to address environmental problems at their roots, so that

future generations will not inherit the same patterns of use and degradation that now characterize our global society.

The idea that environmental problems stem from problems in human culture inevitably leads to the conclusion that environmental research needs to consider the concept of values in various human societies and cultures. Anthropogenic environmental impact is now predominant on a global scale, and the current period of Earth history is being called the “Anthropocene”. Humankind is becoming increasingly conscious of its dependence on finite resources and of the many negative consequences of continued degradation of our biosphere. We have also progressively come to understand that a number of critical environmental problems cannot be separated from social inequity, especially in terms of people’s access to natural resources and their benefits. RIHN is now conducting solution-oriented environmental research projects based on new forms of transdisciplinary knowledge production.

Exposing different value systems in such contexts can lead to social conflicts, but true resolution of socio-environmental issues is a challenge shared by humanity in general. It requires forthright dialogue and exchange between peoples of the world. The term *futurability* thus also indicates our sincere aspiration to establish integrated global environmental studies as a new holistic approach to a sustainable future for human beings on our planet Earth.



Orientation and Structure of RIHN in Phase III

In 2016 RIHN will initiate its Phase III Medium-Term Plan, with the following three goals

- Promotion of environmental studies that elucidate the interaction between humanity and nature and critically examine the future potential of human culture, based on the accumulated body of RIHN research and the results of global environmental research in Japan and abroad;
- Promotion of solution-oriented global environmental studies involving close collaborations with stakeholders, starting from the research community;
- Contribution to problem-solving by applying research results in support of, and participation in, on-site multi-stakeholder arrangements in society.

RIHN's priority issues and areas of research are the following:

- Exploration of the future potential of localities and of the Earth, centered on issues in modern society that are at the root of global environmental problems, including climate change, ecosystem degradation, rapid urbanization, changing population composition, depletion of resources, diversification of disaster risk.
- Developing research globally, but with the Asia Pacific region – a hotspot of global environmental problems – as a core focus area.

Organizational Structure

The overall structure of RIHN consists of four Programs and a Center. The programs are to guide the development of global environmental studies by organically integrating RIHN research results, while the Center provides their operational foundation, helps RIHN engage in two-way collaborations with society, and at the same time is the locus of capacity building activities.

RIHN Programs

RIHN research is organized into Programs and Projects, rather than pre-existing academic disciplines or domains. Three Research Programs and one Core Program each include multiple projects which carry out research in line with the Programs' thematic foci. The bundling and integration of Projects within the Programs is expected to facilitate the production of synthesized results at a level not possible otherwise. Programs are subject to annual review by the External Research-Evaluation Committee whose members include domestic and international researchers (See RIHN Project Trajectory on page 7 & 8). RIHN endeavors to improve its research by making good use of the review results, while respecting the independence of each program.

Research Programs

Research Programs are organized around three themes identified in the Phase III Medium-Term Plan. In addressing environmental problems, technological and institutional developments are important, but RIHN recognizes that these need to build on the foundation of people's awareness, value systems and culture. The programs collaborate closely with society in developing and proposing options that contribute to the transition of society.

Program 1: Transition to a society that can flexibly deal with environmental changes

This program proposes specific options for planning the transition to a society that can flexibly deal with anthropogenic environmental changes, such as global warming, air pollution, and with natural disasters.

Program 2: Fair use and management of diverse resources

Taking tradeoffs into account, this program provides multifaceted options to stakeholders involved in production, distribution, and consumption of resources, in order to realize fair use, optimal management, and wise governance of diverse natural resources.

Program 3: Design of wellbeing-enhancing living spaces and life styles

In collaboration with local governments and residents, this program provides feasible options to realize enhanced prosperity through the dynamic interplay between life-worlds and rural and urban residential environments.

RIHN Project Trajectory : Research Project



Incubation Studies (IS) are proposed by individual researchers to the RIHN Project Review Committee. If approved, the researcher is granted seed money to prepare a proposal for Feasibility Study.

Feasibility Studies (FS) allow the study leader a period to develop a proposal for Full Research.

In the transitional **Pre-Research (PR)** period, the project leader formally assembles the team, establishes MoUs necessary for collaboration with other institutions and makes other preparations to enable Full Research.

Full Research (FR) lasts from three to five years. It typically involves a research team at RIHN and concurrent activity with collaborators overseas, several periods of field study, workshops and presentations, and outreach or communication to relevant communities. FR projects are evaluated by the External Research-Evaluation Committee at the beginning (selection) and the end (final evaluation).

Orientation and Structure of RIHN in Phase III

Core Program

Based on the mission of RIHN and in order to realize the strategies and policies formulated by the Council for Research Strategy, the Core Program undertakes research on an ongoing basis. During Phase III, the Core Program will develop concepts and methodologies to solve global environmental problems in collaboration with society.

RIHN Project Trajectory : Core Project



RIHN Center

Within the structure just described, the RIHN Center is to play the roles described below. See pages 38-39 for detailed description of the Center's divisions.

Collaboration with the Core Program

The Center will identify and propose Core Projects designed to make continued use of research conducted by the Programs by analyzing and enhancing its foundations (including identification and refinement of key research methods, devices, resources, and data) while also promoting collaboration within and between RIHN and its research partners.

Collaboration with Research Programs/Projects

The Center will also engage in collaborative research with the Research Programs that enhances research resources and enables the Research Programs to carry out research in line with the thematic focus of RIHN.

Collaboration with the Academic Community as an Inter-University Research Institute

The Center will facilitate the role of RIHN as an Inter-University Research Institute and operate as an international research networking hub by promoting collaborative research with domestic and international institutions as well as contribute to capacity building and education.

Cooperation with Diverse Stakeholders

The Center will guide and promote transdisciplinary research processes involving domestic and international stakeholders in the entire research process, from problem identification to solution development, while also reflexively developing the methods of transdisciplinary scholarship.

Above: WATANABE Kazuo, Men who sell floral decoration, Tamil Nadu, India

Left below: ABE Ken-ichi, Commute, Indonesia

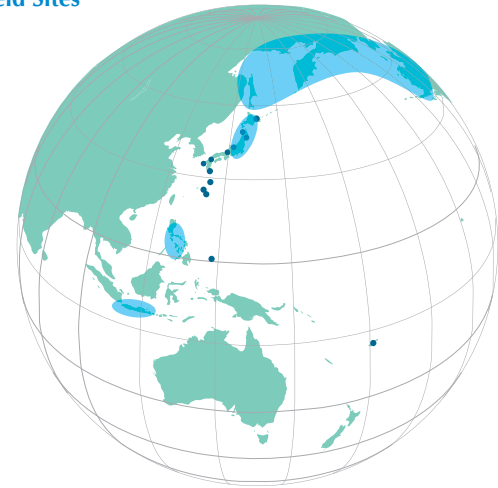
Right below: MUTO Nozomu, Tending the store, Panay Island, Philippines



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Research Project Field Sites



Full Research

FR

Research Program 1: Transition to a society that can flexibly deal with environmental changes

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Long-term Sustainability through Place-Based, Small-scale Economies: Approaches from Historical Ecology



Project Leader **HABU Junko** RIHN

Born in Kawasaki City, Japan, Junko Habu received her BA (1982) and MA (1984) from Keio University in Tokyo and PhD (1996) from McGill University in Montreal. She is the project leader of the Small-Scale Economies Project and a Professor at RIHN as well as also a Professor of Anthropology at the University of California, Berkeley. As an environmental archaeologist, she has excavated a number of prehistoric Jomon sites and historic Edo period sites in Japan and conducted fieldwork in North America. Her books include *Ancient Jomon of Japan* (Cambridge University Press, 2004) and *Evaluating Multiple Narratives* (Springer 2008, co-edited with Fawcett and Matsunaga).

Objectives and background

This project examines the importance of place-based, small-scale and diversified economies for the long-term sustainability of human societies. Our working hypothesis is that a highly specialized subsistence strategy can support a larger community for a short period, but a decrease in subsistence and food diversity makes the production system and its associated community more vulnerable in the long-run. In particular, this project proposes that high levels of diversity, networks, and local autonomy, all of which are strongly correlated with the scale of the system, are the keys to long-term sustainability of socioeconomic systems. Archaeological, historical and paleoenvironmental studies are used to test this hypothesis (*Longue-Durée* Group). Ethnographic and ecological studies of contemporary small-scale food systems and communities engage ongoing academic and popular discussion of the scale and methods of alternative food systems (Contemporary Society Group). In combination, these studies of the past and present point to the future, as the research process also involves the development of implementation and public outreach programs that promote place-based, small-scale, and diversified food production (Implementation, Outreach and Policy Proposal Group).

We realize that there are many additional factors that affect the dynamics of subsistence/food diversity, the scale of a food production system, and its long-term sustainability (see Figure 1). Correlations among these factors will also be examined when testing the main hypothesis.

Small-scale economies and global environmental challenges

For the purposes of this project, a “small-scale economy” is defined not solely on the basis of the absolute size of the economic unit, but rather in terms of the relative scale of food production within a given socioeconomic context. Our definition of small-scale economy addresses the range of networks that enable food production, distribution, and consumption in a given locality without precluding links to the outside economy. We are particularly interested in relatively small-scale food production with the following characteristics: 1) goals not limited to the pursuit of short-term efficiency and profits; 2) production for local markets rather than domination of the world market; and 3) readily available information about the producers.

Geographic focus: North Pacific Rim

Geographically, our project focuses on the North Pacific Rim. In particular, we have identified northern Japan, with its solid archaeological record and its importance to contemporary food production in Japan, as the core area of our field research. The west coast of North America, with its rich traditions of ethnographic and ecological investigation among native populations, as well as active contemporary food/agriculture movements, will provide our main comparative case studies. The two regions share a number of biogeographical characteristics, including climate, vegetation, fauna, and high levels of seismic and volcanic activity. There are also cultural ties with significant historical depth as a result of the eastward migration of anatomically modern humans from Asia after the late Pleistocene. Historically, many of the residents of the North Pacific Rim depended on rich marine and terrestrial resources, including salmon, herring, acorns and other wild food resources.

Research activities and findings

Longue-Durée Group: Results of our analyses of prehistoric Jomon Period data from northern Japan are consistent with our hypothesis that over-specialization leads to vulnerability in a socioeconomic system. New data from Jomon sites also aid in the development of a new understanding of Early-Middle Jomon chronology and vegetation, which is important in determining the role of climate change in the long-term shifts in past

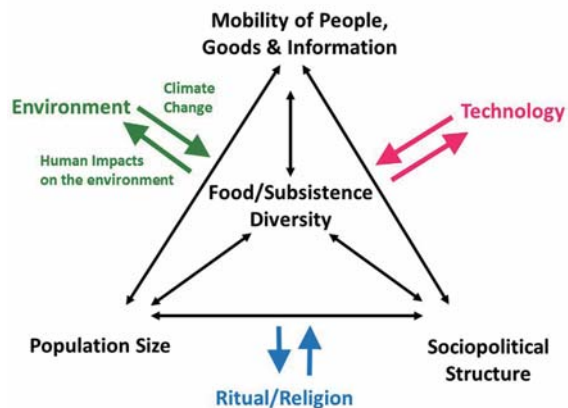


Figure 1 Mechanisms of Long-term Culture Change

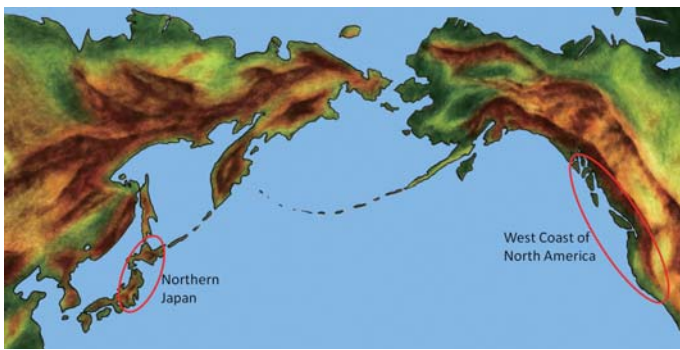


Figure 2 Main Research Areas



Photo 1 Archaeological Excavation, Triquet Island in British Columbia, Canada

subsistence-settlement systems. Contrary to the Jomon data from the Japanese archipelago, comparative studies from California and the Northwest Coast of North America suggest that increased subsistence diversity positively correlates with long-term sustainability of complex hunter-gatherer societies. The role of social networks in system resilience is also being explored across multiple regions.

Contemporary Society Group: As corollaries of our main hypothesis, this group investigates: 1) the positive role of small-scale and diversified production systems in relation to the environment and its changes through time; and 2) whether social networks associated with small-scale and diversified production increase the resilience of local communities, especially in times of disaster. Fieldwork has been conducted with traditional communities, including rural farming/fishing communities in Japan and indigenous communities in North America, and alternative food producers, including organic farmers. Results of our research so far indicate the importance of traditional subsistence practices in maintaining resilient socioeconomic systems within local landscapes/seascapes along the North Pacific Rim. Our studies have also revealed critical historical differences between Japan and North America. For example, Japanese contemporary small-scale food production systems tend to be rooted in rural communities that have never fully accepted large-scale operations, while small-scale food production movements in North America have emerged either as a resurgence of indigenous movements or in response to dominant large-scale operations.



Photo 2 Acorn Processing Workshop with Wukchumni Yokuts people in California

Implementation, Outreach and Policy Proposal Group:

On the basis of the research results of the *Longue-Durée* Group and Contemporary Society Group, this group conducts action research to convey the importance of long-term perspectives to various stakeholders through public lectures and popular books, to promote sustainable fisheries, agriculture and forestry through seminars and classes, and to work together with local and indigenous communities to find the intersection of traditional environmental knowledge (TEK) and scientific knowledge. Activities of this group include eco-literacy programs with both children and adults, seminars to develop community gardens, university classes about urban organic farming, and workshops to promote the use of traditional environmental knowledge and food processing methods.

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Societal Adaptation to Climate Change: Integrating Palaeoclimatological Data with Historical and Archaeological Evidences

Project Leader **NAKATSUKA Takeshi** RIHN

Professor Nakatsuka's specialties are palaeoclimatology and isotope biogeochemistry. Since his early career as a graduate student, he has been using nitrogen isotopes to study long-term variations of climate and its impacts on oceanic biogeochemical cycles. Recently, he changed his main research area from oceans to land and focused on using tree-ring oxygen isotopes to examine the relationship between climate change and human history. Investigating periodicity of climate during the last two millennia in Japan and the world, he now hypothesizes that past human societies were often damaged by multi-decadal climate variations as they were caught in a cycle of over-adaptation and subsequent failure of adaptation.



Background and objectives

When global warming causes many difficulties in our society, how can we adapt to the change? Remarkable recent progress in palaeoclimatology has elucidated the fact that large climate variations often underlay epochs of human history. How did our ancestors address such change in the past? Human history must include many examples from which we can extract common lessons relevant to contemporary global environmental change. The research target of this project is Japanese history from the prehistorical Jomon era to the present. First, we reconstruct past climate variations in Japan and Asia at annual or seasonal time resolutions for the last several millennia, using up-to-date palaeoclimatological methods to identify outstanding periods of climate variations. Then we use historical and archaeological approaches to investigate how local societies reacted to climate variation in order to clarify common sociocultural characteristics of societies that are tolerant or vulnerable to changes in climate.

Research methods

In this project, past climate variations are reconstructed based on various proxies, such as tree rings (Photo 1, 3 and 4), historical weather records (Photo 2), lake and marine sediments, coral rings and speleothem, and compared with human responses recorded in historical documents and archaeological archives. There are three reasons why we have chosen Japan as the main research area in this project. First, Japan is located at northeastern rim of the Asian summer monsoon, where small changes in monsoon dynamics might have significantly affected rice paddy cultivation on which Japanese sustenance has historically depended. Second, due to the historically high literacy rate and long-lasting family system in Japan, innumerable historical documents dating back to the 8th century are preserved in both private and governmental sectors. Third, rapid land developments during last several decades have allowed for precise archaeological excavations at numerous sites all over Japan. In addition, a palaeoclimatological tool (tree-ring cellulose oxygen isotope ratio) particularly useful in the Asian monsoon region has recently been developed to reconstruct summer precipitation on which rice paddy cultivation in Japan depends and provides archaeologists with a reliable tool for annual resolved dating of numerous excavated woods.

Remarkable results

So far, we have been using many tree-ring samples from around Japan in order to analyze tree-ring oxygen isotope ratios during the last 4.3 thousand years in annual time resolution. Besides, we have collected many tree-ring width datasets all over Asia in the framework of an international palaeo-climatological project (PAGES) and reconstructed inter-annual variations of averaged summer temperature in East Asia. Comparison of annual records of past climate with paleographic information such as yearly tax accounts in early modern villages (Fig. 1) and administrative documents on water control in medieval manors, as well as archaeological information on prehistorical and ancient societies excavated from farmland and habitat remains, coupled with the newest isotopic dendrochronological data allow us to investigate how variations in temperature or precipitation influenced agricultural production, human livelihoods, and water management. Figure 2 illustrates that, with the exception of the 14th century, multi-decadal (20-50 year) summer temperature variability might have often underlain major famines during the medieval upheaval period in Japan. Using various historical documents and archaeological archives, we are now investigating how people in the Jomon to Early Modern eras reacted to those large climate fluctuations.

Final goal

As our concerns about on-going global warming are clearly illustrating, large climate variations in the past might have had serious impacts on our ancestors. However, some past societies continued making efforts to overcome the influence of climate variations, while other societies collapsed at once due to abrupt climate variations. For example, there were many volunteers in Early Modern Japan who tried to rescue people from starvation by anticipating famine due to cold weather. They sometime succeeded but often failed to do so. Their actual roles in history give us various insights on our present lifestyles and strategies against global environmental problems. Therefore, the final goal of this project is to construct our fundamental adaptation strategies in relation to global environmental problems by conducting detailed examinations and comparisons of past struggles against climate variations beyond ages and regions.

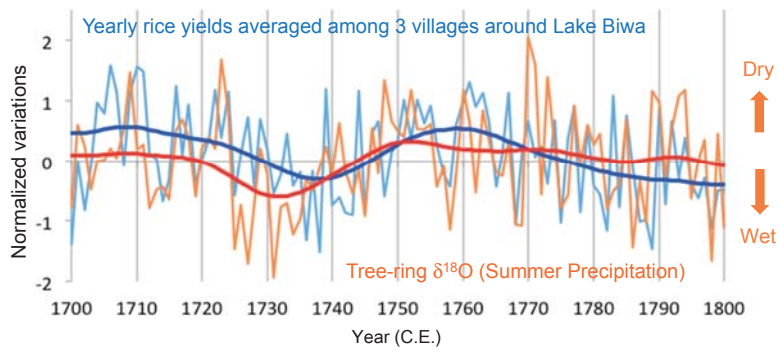


Figure 1 Normalized variations in *Nokoridaka* (estimated rice yields) of yearly tax accounts averaged among three villages around Lake Biwa and the tree-ring cellulose oxygen isotope ratios in central Japan during the 18th century. This data demonstrates that flooding was the largest factor damaging rice yields in the area at this time.

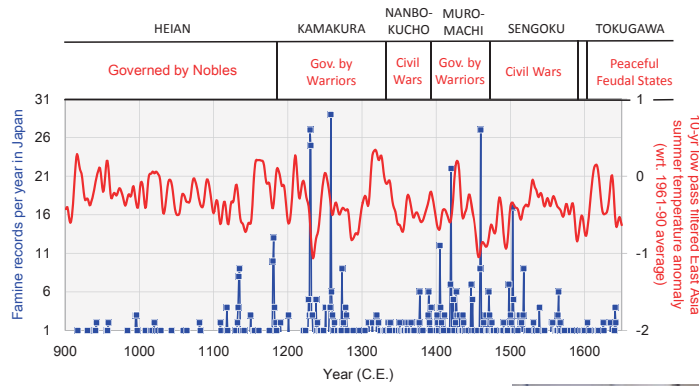


Figure 2 Variations in East Asia summer temperature and annual numbers of famine reports in Japan during the 10-16th centuries.



Photo 1 Collection of tree-ring cores using an increment borer



Photo 3 Separation of annual rings from wood cellulose in the laboratory



Photo 2 Creation of a weather database based on documentation and decoding of old diaries

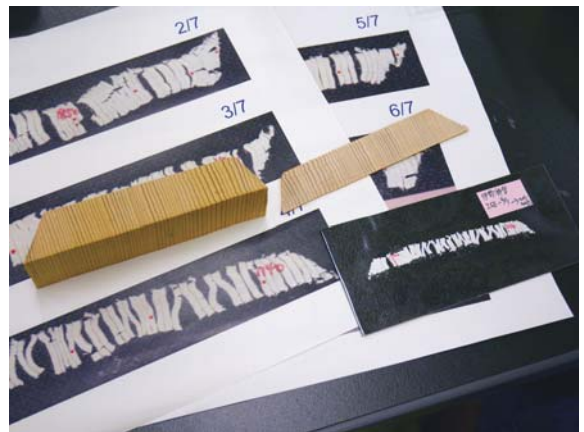


Photo 4 Extracted wood cellulose plates

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Creation and Sustainable Governance of New Commons through Formation of Integrated Local Environmental Knowledge (ILEK project)

Project Leader **SATO Tetsu** RIHN

Professor Tetsu Sato studied the ecology of cichlid fishes of African lakes for 20 years. Throughout his career, including as Conservation Director of WWF Japan and professor of Nagano University, he focused on creating knowledge bases for community-based management of natural resources. He also led a project to create a network of local scientists producing Integrated Local Environmental Knowledge.

Co-Project Leader **KIKUCHI Naoki** RIHN

Associate professor Naoki Kikuchi had been working at the Hyogo Prefectural Homeland for Oriental White Stork as a residential researcher with his academic background on environmental sociology, collaborating with diverse stakeholders in restoration processes of the Oriental White Stork. His transdisciplinary research focuses on seeking solutions of environmental problems from the perspectives of local stakeholders.



Research objectives

Local ecosystem services have deteriorated all over the world for various reasons. Ecosystem services should be managed as new commons by collaboration of various stakeholders, both within and from outside the communities. In order to create and sustainably manage such commons, the formation and circulation of local knowledge systems deeply embedded in real local settings are desperately needed. Integrated Local Environmental Knowledge (ILEK, Fig. 1), a novel concept of local knowledge blending scientific as well as various types of knowledge systems among stakeholders, is produced, circulated and utilized in diverse cases of local research and actions to support adaptive transformations toward sustainability of local communities.

Our project aims to clarify mechanisms to facilitate production and circulation of ILEK and dynamic transformations of social systems to propose ILEK-based adaptive governance mechanisms of local communities. We also seek mechanisms for cross-scale governance of global environment problems, primarily by analyzing formation of cross-scale knowledge bases mediated by bilateral translators who promote the circulation of knowledge between knowledge producers and users, both within local communities and across global, regional and local scales (Fig. 2). Through the transdisciplinary integration of these research results, we aim to design “science for/with society”

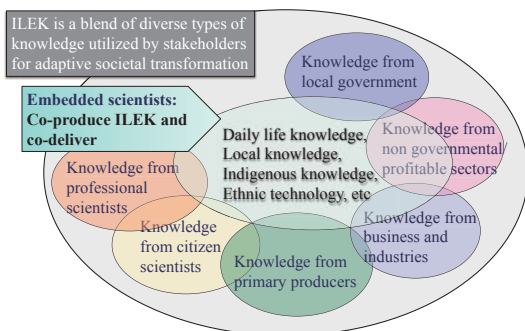


Figure 1 Structure of ILEK

Production and circulation of ILEK is not exclusively performed by professional scientists. Rather, it is usually produced and circulated by diverse actors in local communities, including skilled workers in primary industries, local government officials, local companies and NGOs, most of them being knowledge users at the same time. ILEK is formed and utilized through dynamic interactions among different actors/stakeholders in local communities, integrating scientific and local knowledge in daily livelihood and practices among local stakeholders. In this process of ILEK production, scientists and experts are assuming new roles to reorganize and integrate various knowledge systems from the viewpoints of knowledge users and co-deliver ILEK to promote collaboration among diverse stakeholders for solutions of local environmental problems

and “society making full use of science” for bottom-up solutions of global environmental problems.

Main results to date

We have selected 61 case study sites from past and ongoing RIHN projects as well as other examples of diverse production of local knowledge in order to accumulate and analyze ILEK production mechanisms (Fig. 3). Project members belonging to the case study group are deeply involved in each local community and conduct participatory research. These researchers also conduct meta-analysis in order to integrate diverse case study results in collaboration with the Theory and Modeling group and various task forces to understand ILEK production and adaptive governance mechanisms leveraged by ILEK. Sixteen cases of Action-based Verification have been selected among case study sites and cases of cross-scale translators to verify focused hypotheses concerning ILEK-based adaptive governance, including the Shiraho community in Ishigaki Island (Japan), Nishibetsu River Watershed (Japan), Sarasota Bay in Florida (USA), Karapinar area (Turkey), Lake Malawi National Park (Malawi), and the Japan Biosphere Reserve Network.

Residential researchers live in local communities, and in contrast to visiting researchers from outside the communities, they conduct transdisciplinary research as local stakeholders and community members. Bilateral knowledge translators promote circulation of knowledge among scientists and diverse knowledge users by evaluating

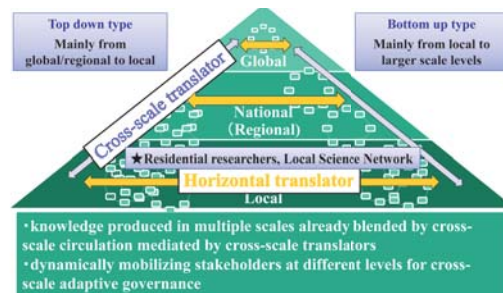


Figure 2 Roles of bilateral knowledge translators

Bilateral knowledge translators connecting scale levels from local to global promote knowledge flows across different scales and levels. Diversity and multiplicity of bilateral translators were found to play crucial roles in promoting cross-scale knowledge circulations. We aim to understand and utilize this processes to clarify mechanisms of cross-scale adaptive governance supported by knowledge bases emerging from integration of various knowledge types at different scale levels.



📍 : East Asia team, 📍 : EU/North America team, 📍 : Developing Country team

Figure 3 Case study sites of the ILEK project
Sixty one project case study sites are grouped into East Asia (32), EU and North America (12), and Developing Countries (17) teams. Project members are embedded in each case study site as residential/visiting researchers or bilateral knowledge translators to collaborate with various local stakeholders in producing and utilizing ILEK. Web GIS and other techniques are currently developed to categorize case study sites using natural and social-ecological indices for meta-analysis and integration.

and transforming scientific knowledge from the viewpoints of knowledge users, and by translating knowledge among stakeholders into scientific language.

We constructed a conceptual model of ILEK-based adaptive governance focusing on functions of these important actors of local communities (ILEK Triangle, Fig. 4), and identified five hypothetical categories of important enablers of adaptive societal transformations promoted by ILEK production and circulation, namely “create and visualize values”, “create new linkages (local and cross-scale)”, “provide options and opportunities”, “create collaborative actions” and “appropriate translation”. Participatory observations in case studies from the world and in-depth interviews with various actors playing important roles in knowledge production, circulation and utilization opened a new research approach to understand interactive functions of these enabler categories in the ILEK Triangle, resulted in identification of diversity and multiplicity of bilateral knowledge translations as an important factor of cross-scale governance. The findings will be integrated in the theoretical models together with outcomes from the action-based verification processes to understand elaborate mechanisms of ILEK-based adaptive governance.

Future research plan

We are moving forward to elaborate the analytical framework of ILEK-based adaptive governance using the ILEK Triangle and the action-based verification processes to verify focused hypotheses derived from meta-analyses of diverse case studies from the world. In order to understand ILEK functions in the real-life adaptive transformation processes in local communities, interactions between science and various types of local knowledge production must be incorporated to the research processes by

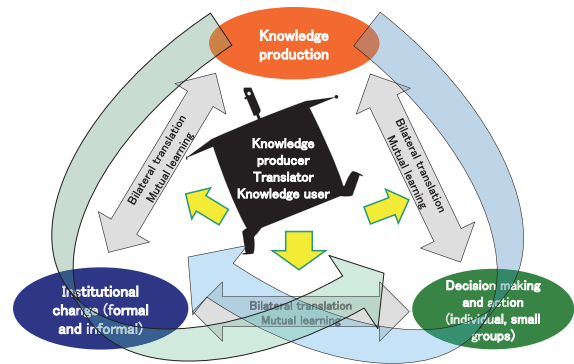


Figure 4 Conceptual model of adaptive governance (ILEK Triangle)

The ILEK Triangle model is composed of an interactive system of three important elements of ILEK-based adaptive governance (knowledge production, decision making and action, and formal/informal institutional change), driven by knowledge producers, knowledge users and translators. The pathways to achieve ILEK-based adaptive governance are postulated in this model with two different processes starting from knowledge production resulting in institutional changes via changes in individual decisions and actions, or directly influencing formal and informal institutions and human networks to transform individual behavior.

co-design of research and co-production of knowledge with stakeholders. This transdisciplinary approach to promote intensive interactions, feedbacks and mutual learning among residential/visiting researchers, bilateral translators, and other diverse stakeholders is the core of the ILEK project. We will further strengthen the transdisciplinary approach both in local case studies and abstract meta-analysis processes by designing stakeholder workshops. Action-based verification processes and further development of meta-analyses and modeling methodologies will contribute to production of solution-oriented research outputs to support ILEK-based societal transformations to tackle the challenges of diverse global environmental problems.

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



Project Leader **ENDO Aiko** RIHN

Associate professor Aiko Endo studies the economics of fisheries as well as coastal and marine policy. She has taken interdisciplinary and multi-sectoral approaches to Integrated Coastal Management (ICM) in coastal areas in Japan and has experience in projects generating national policy proposals. Her research theme is to find the proper governance structure linking local, national, regional, and global to solve the environmental issues through interdisciplinary and transdisciplinary research with co-design and co-production.

Research objectives and background

Climate change and economic development are causing increased pressure on water, energy and food resources, presenting communities with increased levels of tradeoffs and potential conflicts among these resources. Therefore, the water-energy-food nexus is one of the most important and fundamental global environmental issues facing the world. As water is the central matter within this cluster, we will focus on the inherent tradeoffs between water and food, and water and energy. For the purposes of this project, we define human-environmental security as the joint optimization between human and environmental security as well as the water-energy and water-food connections. To optimize the governance and management within these inter-connected needs, it is desirable to increase human-environmental security by improving social management for the water-energy-food nexus. In this research project, we intend to establish a method to manage and optimize the human-environmental security of the water-energy-food nexus. We base our approach on the viewpoint that it is important for a sustainable society to increase human-environmental security and decrease vulnerability by optimizing the connections within the critical water-energy and water-food clusters.

We will take a regional perspective to address these global environmental problems. The geological and geomorphological conditions in our proposed study area are heavily influenced by the so-called “Ring of Fire,” around the Pacific Ocean. Within this area, including Japan and Southeast Asia, the hydro-meteorological conditions are dominated by the Asia monsoon. The populations that live under these natural conditions face elevated risk and potential disaster as negative impacts, while also benefitting from positive ecological goods and services. There are therefore tradeoffs and conflicts within the water-energy-food nexus, as well as among various stakeholders in the region.



Questionnaire survey in Otsuchi

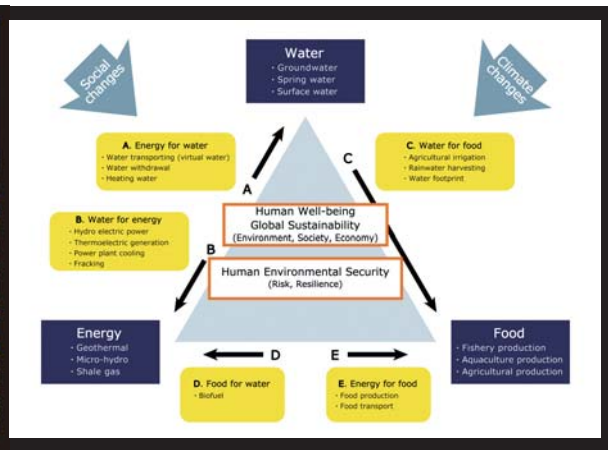
The objective of this project is to maximize human-environmental security (ie. minimize vulnerability) by choosing management structures and policies that optimize both the water-food and water-energy connections in Asia-Pacific coastal regions. We define a joint security approach as optimized policy for both critical water clusters. Optimal policies will develop joint security approaches for human-environmental security in the coastal region of the Ring of Fire, including stakeholders and decision-makers.

Research methods and structures

Five different interdisciplinary approaches, scales and clusters will be used in this investigation: (1) Environmental governance, science in/for society, and co-design/co-production approaches, in particular those emphasizing integration of local-national scale stakeholders, and regional scale stakeholders such as GEC (Global Environmental Change) Asia/ Future Earth in Asia-Pacific Platform; (2) Biophysical measurements/analyses of the water-energy nexus by using state-of-the-art space satellite, geothermic, and hydrogeological techniques to evaluate linkages between water and energy; (3) Biophysical measurements/analyses within the water-food (e.g., fisheries resources) nexus by using state-of-the-art geochemical, coastal oceanographic, geophysical, hydrologic, and ecological techniques including isotopic tracers to evaluate the linkages between land and ocean; (4) Social measurements/analyses of water-energy-food relationships by use of stakeholder analyses, social network analyses, and community surveys, based on sociology, economics, anthropology, psychology, and behaviour science methodologies; and (5) Development of methods for interdisciplinary approaches, such as integrated indices and indicators determined by feedback from stakeholder meeting/workshops, integrated physical models including water, nutrients for fishery resources, and temperature related to energy and food developments for understanding the complexity of nexus systems, integrated maps for sharing actual conditions at a spatial scale among stakeholders, ontology engineering for designing the common platform among stakeholders, and benefit-cost analysis and optimization management models for identifying tradeoffs and making policy options.



Target research sites



Dynamics of the WEF nexus under RIHN WEFN project

Research activities and findings

At the local level of the water-energy nexus, as a result of collecting groundwater samples by depth, it turns out that aquifer levels declined following construction of seawalls and a water gate in Otsuchi, which is a tsunami-affected area. Installing observation wells and long-term monitoring groundwater level would be needed. Regarding the ground heat exchange system, soil temperature readings in Obama and Otsuchi revealed that the soil temperature in Obama is higher than in Otsuchi. As previous studies show ground warming, further research of the interaction between soil temperature and potential energy of soil is needed. In Beppu, examination of the water-energy nexus show that changes in the heat environment caused by drainage water from hot spring resorts and hot spring power generation affect river ecosystems, including Tilapia habitat. We will continue our research into the potential for producing energy, water consumption, and diversification of renewable energy sources.

As for the water-food nexus, physical, chemical and biological surveys were conducted at four sites in Japan. The ratio of submarine groundwater discharge (SGD) to fresh water inflow, and the amount of nutrient supply

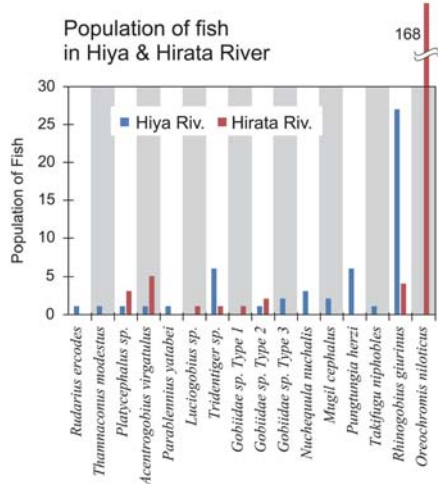
derived from SGD along the coast of Hiji town in Beppu Bay were estimated. Furthermore, it turns out that the ratio of SGD to freshwater inflow is higher in Otsuchi Bay. We will examine the interlinkages between groundwater and fishery production in light of the hypothesis that the flow of nutrients from the land to the ocean affects the coastal ecosystem.

At regional scale, an online survey of perceptions of developing geothermal energy in Japan, the Philippines and Indonesia, revealed that Japanese are not familiar with geothermal energy power plants and are not so interested in promoting local economies through the use of geothermal energy, and that Japanese prefer political referenda rather than trusting scientific evidence.

Further project research will develop understanding of the complexity of the water-energy-food nexus and contribute to policies intended to mitigate tradeoffs among water-energy-resources and reduce the conflicts between resources users through co-design and co-production with stakeholders based on scientific knowledge we discovered.

Expected results

1. Suggested guidelines to increase environmental security and reduce conflicts related to the water-energy-food nexus.
2. Recommendations for decreasing coastal vulnerability related to the separate governance of land and oceans.
3. Policy and governance structure recommendations for improved water management.
4. Suggestions for sustainable environmental management of the water-energy-food nexus in the Asia-Pacific region.



Population of fish in Hiya & Hirata River



3rd WEFN meeting in Kyoto

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Biodiversity-driven Nutrient Cycling and Human Well-being in Social-Ecological Systems

Project Leader **OKUDA Noboru** RIHN

My specialty is ecology, the field of study concerned with the relationships between biodiversity and ecosystem functioning. One of ecology's central questions is why we should conserve biodiversity. While a member of the Center for Ecological Research at Kyoto University, I have approached this question by integrating different research fields related to biodiversity from gene to ecosystem. At present, I am developing methods for adaptive watershed governance in which new environmental knowledge will be developed to reconcile global and regional issues with local issues. I also should say that I love nature and humanity and how they come together very much!



Research background and objectives

Technological innovations in the use of nutrients, such as nitrogen and phosphorus, to produce food are related to the great global increase in population, life expectancy, and economic prosperity experienced in the twentieth century. Overexploitation of nutrient resources, however, leads to disturbance of natural biogeochemical cycles, contributing to serious eutrophication in many watersheds around the world. Such nutrient imbalances are a main driver of biodiversity loss at a global scale. It is now recognized that nutrient imbalances and biodiversity loss are prevalent throughout the planet, posing a risk to sustainable human development. In order to solve problems related to nutrient imbalances and to ultimately ensure sustainable social-ecological systems, we have to enhance nutrient recycling at watershed scales.

This project therefore aims to facilitate cross-linkage of multi-level governance, in which governments and researchers with a systemic view intend to solve nutrient imbalance-derived issues at the regional and global scales, while civilians want to solve social and environmental issues in the context of their life and livelihood. For such watershed governance to be successful, local and scientific knowledge must be shared and integrated by a variety of stakeholders in order to reconcile conflicts at different scales. Here we will develop a framework for the adaptive watershed governance, in which civilians are empowered for

nature conservation, resulting in enhancement of their well-being, while scientists make visible how biodiversity enhances nutrient recycling through their conservation activities (Fig. 1).

Research methods

Our hypothesis is that human activities affect biodiversity through alteration of nutrient balances, while biodiversity affects human well-being through alteration of natural and social capitals. A working hypothesis is proposed to explain how well-being is enhanced through community-based governance of natural resources (Fig. 2). First, local communities will be empowered for nature conservation when they value natural resources (or biodiversity) whose wise and sustainable use has been fostered by local or indigenous cultural knowledge (Fig. 2-1). If bonding social capitals are accumulated through sharing of these cultural values by community members (Fig. 2-2), well-being will be enhanced (Fig. 2-3). If scientific knowledge showing that community activities contribute to enhancement of biodiversity-driven nutrient recycling is shared among a variety of stakeholders in a watershed-based society (Fig. 2-4), community activities will be supported by non-community members directly or indirectly through social evaluation of public values from the biodiversity (Fig. 2-5). A shift from bonding to bridging social capitals will reinforce well-being (Fig. 2-6). These processes will be driven by transdisciplinary science (Fig. 2-7).

To test this hypothesis, we will practice adaptive watershed governance in two extreme systems in Asia, the

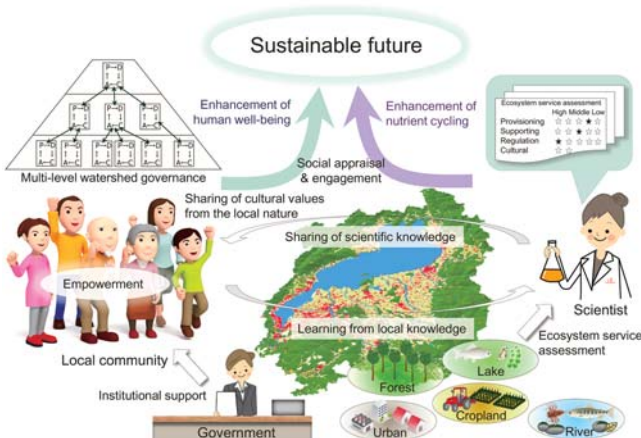


Figure 1 A conceptual schema of adaptive watershed governance

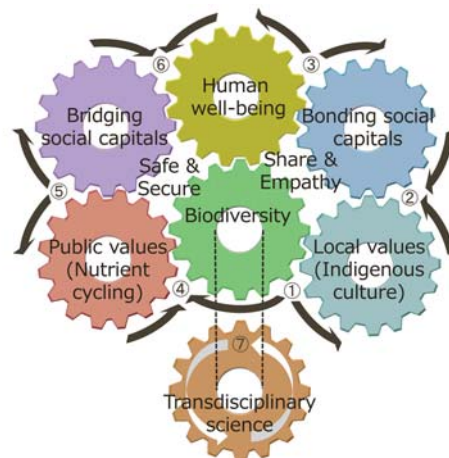


Figure 2 A working hypothesis of how human well-being is enhanced through community-based governance



Photos 1 A well-managed communal spring (left) and one recently abandoned (right).



Photos 2 Social engagement in biodiversity monitoring. Housewives are key stakeholders in management of communal springs and reduction of domestic loadings.

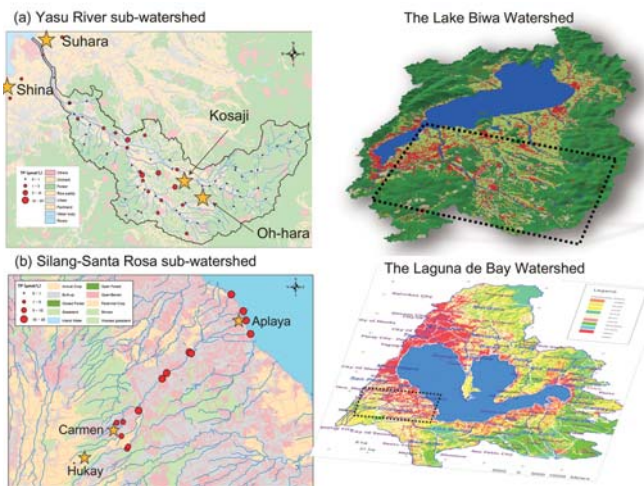


Figure 3 Maps of phosphate concentrations indicated by circle size in the upper Yasu River sub-watershed and lower Silang-Santa Rosa sub-watershed.

Lake Biwa Watershed and the Laguna de Bay Watershed. The former is an infrastructure-oriented society and the latter a high-loading society.

Research progress

In the Yasu River sub-watershed of Lake Biwa, downstream areas have low phosphate concentration even though they are urbanized (Fig. 3a), suggesting that the extensive sewage treatment system is effective in nutrient removal. Counter-intuitively, phosphate concentrations were among the highest in less populated middle-stream areas where agricultural land uses are dominated.

In the Silang-Santa Rosa sub-watershed of Laguna de Bay, by contrast, the phosphate concentration was much higher than that in the Yasu River sub-watershed, except for its most upstream reaches (Fig. 3b). With recent economic development in this sub-watershed, new residential areas have expanded up into the middle-stream areas. Incomplete sewage treatment systems may be a possible cause of phosphorus loading, resulting in an extreme nutrient imbalance. The loading has caused harmful algal blooms in coastal waters as well as

biodiversity loss in the middle- and downstream areas.

In this sub-watershed, until recently local communities managed communal springs wisely as common pool resources (Photos 1 Left). After establishment of a tap water system, however, most of these springs were abandoned (Photos 1 Right). Our project will therefore soon begin action research together with a local community to conserve stream and spring environments (Photos 2).

Perspectives

Infrastructure in developed societies, such as sewage treatment and tap water systems, has reduced eutrophication and led to greater comfort and convenience. Environmental consciousness, however, has receded, especially that related to the nature of wetlands as a lifeworld. What enhances human well-being? Is it enhanced by infrastructure? We want to seek answers to these questions together with a variety of stakeholders.

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Coastal Area-capability Enhancement in Southeast Asia

Project Leader **ISHIKAWA Satoshi** RIHN

Satoshi Ishikawa investigates population genetics and population dynamics of aquatic animals, and has participated in several rural development programs focused on improving fisheries and human capacity building in Southeast Asia. His current interest is how to harmonize conservation of coastal ecosystems and community-based management of fisheries resources. He received his baccalaureate from the National Fisheries University Japan, M.A. from Hiroshima University, and doctoral degree from the University of Tokyo.



Background

Coastal area ecosystem services are indispensable for rural people, but are also easily damaged by human use. Many coastal areas with high biodiversity and biological productivity are located in tropical zones of developing countries, as is the case in Southeast Asia. In such areas, ecosystem services, local livelihood and culture are closely related. Conservation and resource management strategies, however, are often derived from those of temperate regions, and usually target particular species or commercial resources with little consideration of how multiple ecologies and livelihood strategies overlap in culturally diverse contexts. In addition, in many cases, resource management and conservation activity are individually conducted by several different actors.

Ecosystem services have different significance for different peoples, depending on their interests and contexts. Although overuse and/or abuse of ecosystem services should be avoided, conservation actions should take careful account of the close relationship of local livelihoods and culture to local ecosystems, especially in rural areas lacking other livelihood opportunities. Addressing solutions to environmental problems in such contexts therefore requires linking people and policies engaged in both conservation and resource utilization.

This project attempts to examine several good ecosystem management practices based on local community participation in order to assess the conditions and functions of each actor in creating “Area-capability”. We expect that an action contributing to Area-capability can link utilization and conservation and facilitate appropriate ecosystem utilizations, improve local life, cultivate ecosystem health, and foster hope for local society.

Project framework

In Nishio City and Ishigaki Island in Japan, environmental education links several actors having different jobs and interests in new utilization and conservation activities. Around Hamana Lake (Japan), stock enhancement of Kuruma shrimp enhanced social capital among seven villages, facilitated smart fishery management, and stimulated fishermen to care for ecosystems. In Rayong, Thailand, a new community of fishermen was created based on set-net fishery installation, and they collected detailed fishery data and promoted zoning of fishing ground. In Batan Bay, Philippines, shrimp stock enhancement increased local peoples’ interest in ecosystem health. Project research conducts field surveys in these areas to collect detailed data and information about social and environmental changes regarding each event. Scientific and social analyses are conducted in order to examine the impacts of each event on both ecosystem health and quality of life. Further, we collaborate with key stakeholders, including local communities, governments and scientists,



Figure 1 Research sites and characters of each area

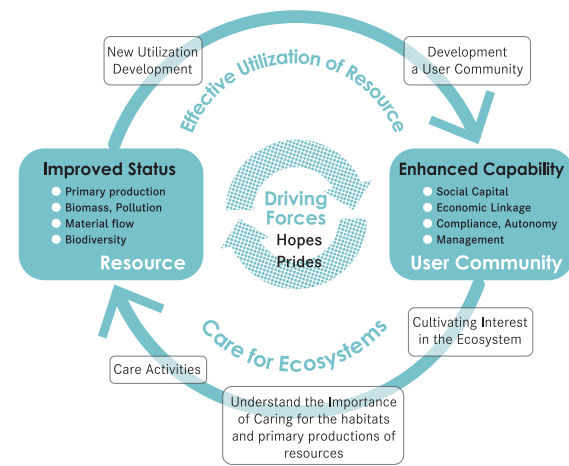


Figure 2 Conceptual model of the “Area-capability Cycle”

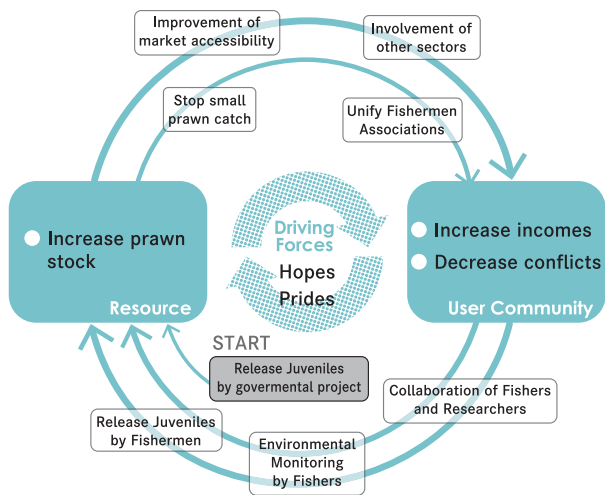


Figure 3 AC Cycle for shrimp stock enhancement in Hamana Lake, Japan



Figure 4 AC Cycle for a set-net fishery in Rayong, Thailand. The AC Cycle suggests there is weakness in the impact survey on environments. Researchers should therefore try to conduct an impact survey with the local community, and its results taken into account by the set-net fishery operation. The AC Cycle should further clarify other improvements as well.

in order to identify key factors and conditions for local community-based ecosystem management and rural development, examining the functions of each actor in the transformation of society.

This project is based on the joint research efforts of Southeast Asian Fisheries Development Center (SEAFDEC), Eastern Marine Fisheries Research and Development Center of Department Fishery, Thailand, Faculty of Fisheries of Kasetsart University, the University of the Philippines, Visayas (UPV), Aklan State University, and researchers from ten universities and one research organization in Japan.

Future tasks

The Area-capability (AC) Cycle was proposed as one model of sequential change in harmonization of natural resource conservation and management. The AC Cycle would be comprised of: (1) Local community use of resources unique to the region; (2) Resource users understanding of the importance of, and care for, the environment that supports the resources used; and (3) A balance is struck between using and caring for resources and the supporting environment, which is evaluated by outside entities.

Project research will apply the AC Cycle model to many cases in order to examine its validity and refine understanding of how to harmonize conservation and management of natural resources. We believe that the set of factors included in AC and the AC Cycle will be useful as a checklist when developing proposals for regional development and revitalization activities, assessing the balance between use and care, and clarifying the standpoint and role of each stakeholder when evaluating projects. As



Photo 1 Community-based set-net fishery in Rayong, Thailand



Photo 2 Group photo of International Area-capability Workshop held at RIHN in December 2015

each AC Cycle corresponds to a resource used by a local community, we believe the number of AC Cycles can be an indicator of the abundance of local resources in a given region and, at the same time, an indicator of the potential for various types of cooperation. As such, we suggest that the number of AC Cycles could be used as an index for regional development.

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Desertification and Livelihood in Semi-Arid Afro-Eurasia

Project Leader **TANAKA Ueru** RIHN

Ueru TANAKA obtained a Doctorate in Agriculture from Kyoto University (1997). He has previously worked as lecturer of Jomo Kenyatta Collage of Agriculture and Technology, Kenya (1983–1987), assistant professor in the Faculty of Agriculture, Kyoto University (1990–1999), associate professor in the Graduate School of Agriculture, Kyoto University (1999–2002), associate professor in the Graduate School of Global Environmental Studies, Kyoto University (2002–2011), and since 2012 is honorary professor of Hue University (Vietnam). His major fields of interests are agronomy, indigenous livelihood systems, desertification, and rural development support in West Africa, Southern Africa, India and Southeast Asia.



Research backgrounds

Desertification is a global concern. The international community ratified the United Nations Convention to Combat Desertification (UNCCD), with a special focus on Africa, in 1994. Despite great effort, the problem of desertification has not been solved. Under conditions of increasing population, desertification is primarily caused by daily subsistence livelihood activities, especially in semi-arid Africa. This is a difficult aspect, since local people have to combat desertification without addressing its underlying causes. Following the UNCCD framework, we focus on the knowledge, experiences and innovations at the field level (Figure 1)

Objectives and study sites

Our project set three objectives: 1) to deepen understanding of the areas experiencing desertification, and its causes and local strategies for adaptation; 2) to design and verify some practical techniques and approaches for desertification control; and 3) to disseminate the results and experiences.

Study sites are located in semi-arid areas of Africa and Asia (Figure 2), where demographic pressure, uncertain social and economic conditions, and extreme weather degrade ecological conditions and land resources. Major study sites are in the Sahel of West Africa (Burkina Faso, Niger and Senegal), Southern Africa (Namibia and Zambia) and South Asia (India), and some satellite sites are in North Africa (Algeria), Northeast Africa (Sudan), East Africa (Tanzania), and East Asia (Mongolia and China).

Research activities and progress

Together with local people, we developed some practical techniques especially relevant to semi-arid West Africa that enable livelihood improvement and control of desertification.

The ‘fallow-band system’ is a technique that reduces

wind erosion and improves crop yield without any additional cost of labor or materials (Figure 3). It has already entered to the dissemination phase, but in collaborating with a local NGO we can only diffuse the technique slowly at present due to deteriorating security conditions since 2013.

The ‘Contour-lines of Andropogon’ technique combines *Zai* (planting pit with manure) and *Kukokse* (line planting), which is an indigenous technique originated in Burkina Faso (Figure 4). It is effective in reducing water-related soil erosion, trapping nutrients and harvesting rain water. It also contributes to household economy, as the harvest of Andropogon from three rows, each 100 meter long and with a total width of 5 meters, is sometimes equivalent to millet grains consumed in one to two months. One of the remarkable features of the technique is its benefit to vulnerable people, such as elders and widows, who cannot collect as much wild Andropogon as others.

Shallow tillage using an animal-driven harrow, an indigenous farming tool in India, encourages infiltration of rain water to soil (Figure 5). It may improve retention of soil moisture and therefore the growth of crops, grasses and trees.

By adding a sawing attachment to an animal-driven harrow it is possible to grow cowpea, which is a local variety both for human and animal consumption (Figure 6). Degraded grassland is dominant in the Sahel, West Africa, due to over-grazing for many decades. With this technique, we are able to convert some of the degraded grassland into productive fields.

Afforestation is one of the commonly practiced activities for desertification control. The conventional conceptualization of and techniques for afforestation are, however, not necessarily suitable for local conditions, as they rarely improve local subsistence. As shown in Figure 7, *Zai* (a planting pit with manure) is used to plant tree seedlings. The planting pits collect rainwater, while manure

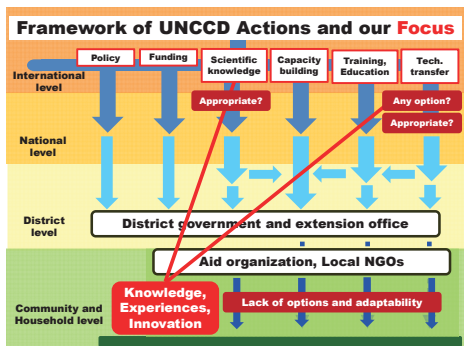


Figure 1 Framework of UNCCD actions and our focus

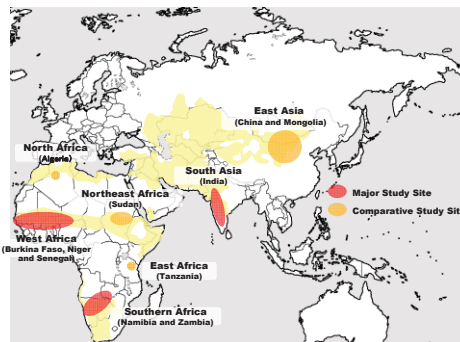


Figure 2 Study sites

Figure 3 Fallow-band system

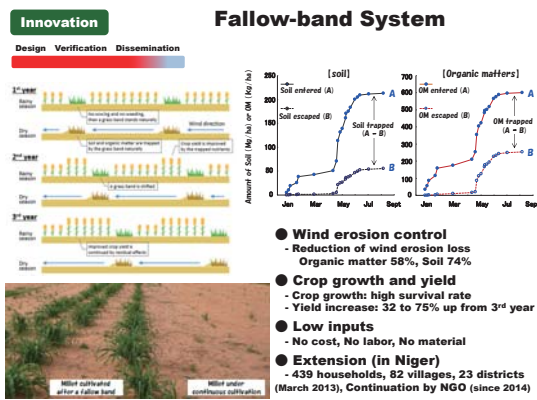


Figure 4 Contour-lines of Andropogon

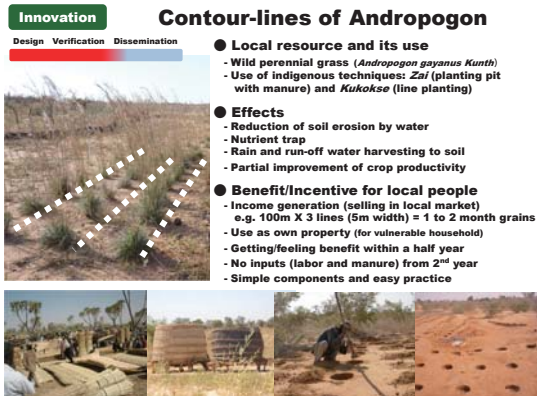
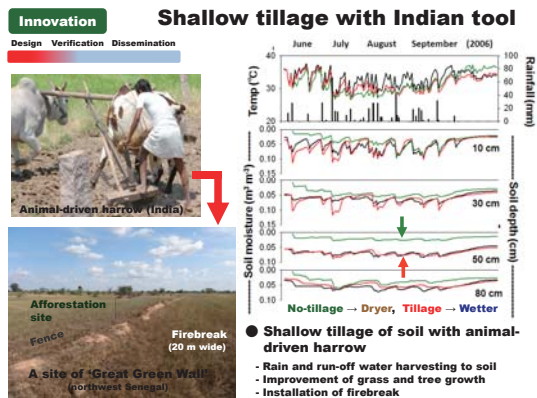


Figure 5 Shallow tillage with animal-driven harrow from India



encourages plant growth. If a crop, such as pearl millet or cowpea, is planted around each tree seedling, people are encouraged to weed around them in order to improve the potential harvest, and the weeding also encourages growth of the tree seedling. For afforestation, we intentionally choose an acacia species that produces pods. Pruning increases the productivity of acacia pods, which are sold in local market or stocked as a fodder crop. This technique therefore re-casts afforestation as a 'fodder tree woodland', and not simply as a tree plantation. This kind of design is very important, because local people consider such woodlands as their own work, rather than that of foreigners or the government.

We modified the participatory approach conventionally used in rural development activities by incorporating some steps of 'social network survey' (Figure 8). The

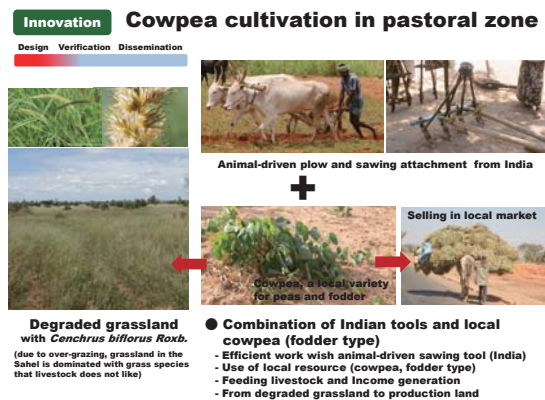


Figure 6 Cowpea cultivation to convert degraded grassland into productive fields

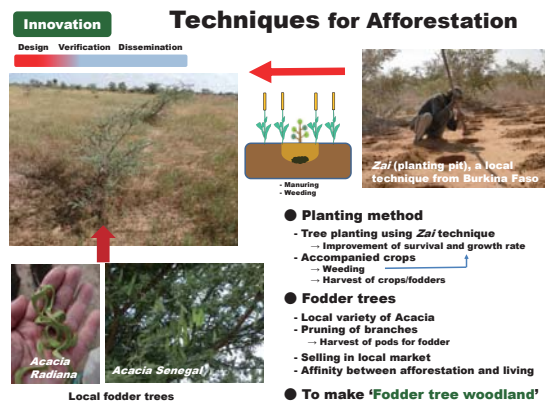


Figure 7 Techniques to improve afforestation

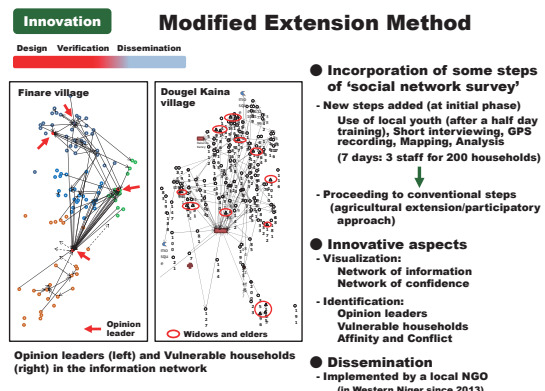


Figure 8 Modified extension method incorporating some steps of our social network survey

innovative aspects of this modification are the visualization of networks and the identification of key persons and vulnerable people.

Future tasks

Since our project is entering its final year, we are accelerating the dissemination of our research results through publications, and international and domestic workshops. For social implementation, we are providing some of the practical techniques developed in the project to the 'Great Green Wall for the Sahara and the Sahel Initiative', an international desertification project initiated by the African Union and other entities. We are also preparing proposals which should be helpful in linking our academic results to specific future social implementations.

Sub Leader

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Lifeworlds of Sustainable Food Consumption and Production: Agrifood Systems in Transition (FEAST Project)



Project Leader **Steven R. McGREEVY** RIHN

Steven R. McGreevy is an environmental sociologist (Kyoto University Ph.D. 2012) and associate professor at RIHN. He has a background in agriculture, rural sustainable development, and environmental education. His research focuses on novel approaches to rural revitalization that utilize local natural resources, sustainable knowledge dynamics, sustainable agrifood and energy transition, and the relinking of patterns of food consumption and production in local communities.

Background and objectives

Agrifood systems in Asia face a myriad of sustainability challenges related to declining environmental quality (GHG, resource overuse, pollution, soil fertility), loss of diversity (biological, cultural, knowledge), and the deterioration of small-scale farming due to globalizing market forces. On the consumption side, over-reliance on globalized food chains limits consumer agency and decreases food security and sovereignty, while diets composed of heavily processed food create public health impacts (rise in diabetes, obesity). The ways in which food is provided, consumed, and governed need urgent change.

In order to realize these changes, the FEAST project will partner with key stakeholders to envision plausible futures and initiate democracy-oriented food experiments and actions. FEAST will co-design and co-produce knowledge and societal mechanisms that challenge the predominant logic of the market by valorizing the non-economic qualities of food and agriculture that improve quality of life. The project will engage society in a public debate on its relationship with food and nature, a discussion in which shared beliefs are re-examined so that consumers are re-positioned as citizens and co-producers in the foodscapes around them.

The FEAST project takes an action research approach to explore the realities and potential for sustainable agrifood transition at sites in Japan, Thailand, Bhutan, and China, while also exploring their general significance in Asia. We will analyze patterns of food consumption, food-related social practices and their socio-cultural meanings, and the potential of consumer-based agency to change deeply-held cultural notions and institutions. The notion of “lifeworld” (See Figure 1) captures the meaning behind the shared everyday lived experience of food consumption and production, and allows us to more deeply investigate and understand the “inner dimensions” that can catalyze socio-cultural change.

Research organization and team descriptions

WG1: Food System Mapping & Modeling

WG1 provides contextual information (statistical, spatial, and qualitative) on existing and potential systems of food provisioning and consumption at the local, regional, and national level for each site in Japan and Thailand. GIS mapping, spatial modeling, fieldwork, and statistical analysis will be employed. In order to judge the relative sustainability of said systems, we need to define how we might conceive of a sustainable food system. Toward those ends, we formulated the notion of “holistic local food security” to include the physical capacities to produce and access food in an environmentally-friendly way, as well as the socio-economic factors of overall well-being, food sovereignty, and producer livelihoods.

WG2: Ethics & Consumption Practices

WG2 leads the action research interventions to create communities of practice and food governance in Japan. Three types of workshops are envisioned: 1) to elicit urgent food related problems and co-design research priorities with selected local food system stakeholders; 2) to envision possible alternative food consumption practices and backcast transition frameworks with selected innovators in the food sector; 3) and food ethics-themed workshops to engage the general public. A stakeholder forum at each site will allow participants to conduct citizen-science activities and engage in self-monitoring of consumption-related behaviors. For the sake of comparison, research on the evolution of food-related social practices in Beijing and Bangkok is also planned.

WG3: Agro-ecological Food Provisioning Futures

WG3 addresses three problems facing food provisioning: 1) What role will traditional agrifood systems and knowledge play in the future? 2) What are the ways in which new farmers can be supported and encouraged to farm? 3) How can consumers contribute to the sustainable management of sources of wild food? Fieldwork, case studies, and workshops will be employed to bring further clarity to these research questions over the course of the project at designated Globally Important Agricultural Heritage

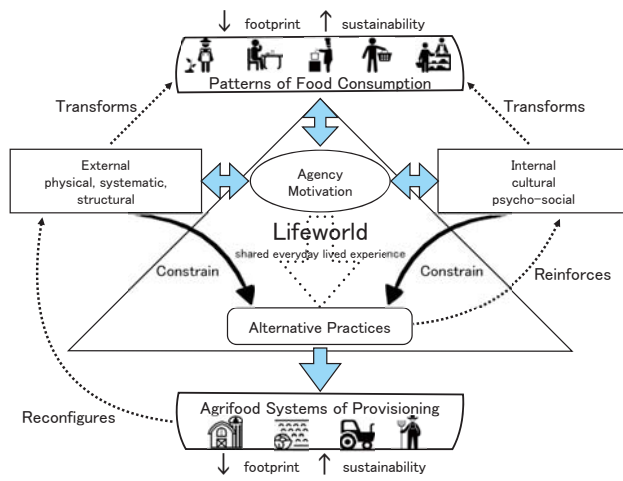


Figure 1 Conceptual framework: a lifeworld perspective on socio-cultural and structural change in agrifood systems of provisioning.

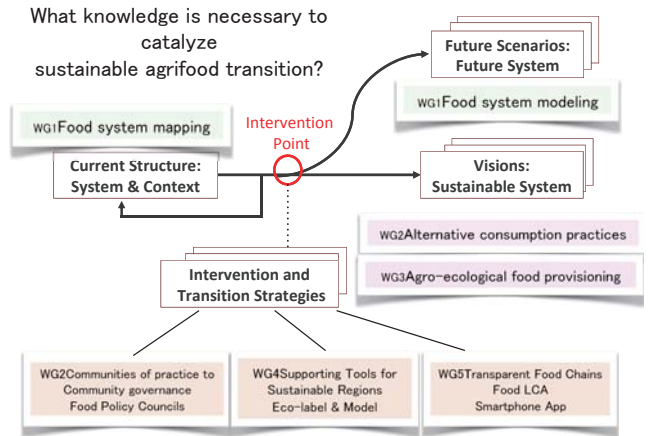


Figure 2 Diagram detailing how each FEAST working group is organized around the question “What knowledge is necessary to catalyze sustainable agrifood transition?” Four kinds of knowledge are listed: 1) Current system and contextual knowledge; 2) Visions of sustainable future systems knowledge; 3) Future system scenario knowledge; and 4) Knowledge associated with intervention and transition strategies.



Photo Upper left: Bhutanese agricultural landscape; Upper right: Child food literacy education (Japan); Lower left: Consumer food cooperative (Holland); Lower right: Farmers and researcher workshop (China)

Systems (GIAHS) sites in Japan and China, as well as locations in Bhutan.

WG4: Supporting Tools for Sustainable Regions

WG4 explores tools— food labeling, corporate-social responsibility, and carbon valuation— for integrating ecologically sound production practices with unique market support structures that can be used to revitalize rural communities in Japan. Indicator analysis and development, local agro-economic modeling, and marketing surveys will be used to create a regional ecological food label and model case site in Kameoka City, Kyoto.

WG5: Transparent Food Chains

WG5 sets out to develop a smartphone app that tells the backstory of food products using existing and developed LCA data and various sustainability assessment criteria. Ecological, social, and health impacts are the three target factors around which a suite of data sets will be organized for various food categories. Close cooperation with key stakeholders in the food industry will be needed to maximize the impacts of this work and steps are being taken to ensure this is possible.

Sub Leader

TAMURA Norie RIHN Senior Project Researcher

Project Researchers at RIHN

KOBAYASHI Mai Project Researcher
RUPPRECHT, Christoph D. D. Project Researcher

OTA Kazuhiko Project Researcher
MATSUOKA Yuko Project Research Associate

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TANIGUCHI Yoshimitsu Akira Prefectural University
NAKAMURA Mari Nagoya Bunri University
TANAKA Keiko University of Kentucky, USA
KISHIMOTO-MO Ayaka National Institute for Agro-Environmental Science

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 and are assessed in the final project evaluation, conducted two years after formal project conclusion. At RIHN, however, 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 Tsugihiro	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
	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
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

Megacities and the Global Environment

Project Leader **MURAMATSU Shin** The University of Tokyo

What, and how much, have we learned?

The seven findings presented below represent the accomplishments of the Megacity Project over the past five years.

(1) We identified the principle underlying the ideal organization of megacities from the standpoint of sustainability of human society. That is to say, we delineated constraints for cities so that the burden they place on the global environment does not exceed planetary boundaries. In order to enable this, it is necessary to mobilize humanity in a direction that maximizes the economic and social potential of cities. In doing so, it is critically important that we simultaneously pursue optimal benefits in the three areas of global environment, society, and economy (the *triple benefit principle*)

(2) We developed the City Sustainability Index (CSI) as a means of assessing megacities. Using this index, we assessed 18 megacities and found that none can be considered sustainable at present (Figure). What policies and measures, then, are needed to respond to this situation? In reply to this question we proposed a fundamental approach to achieving the ideal organization of megacities (3), which we coined “radical incrementalism with long-term vision.” Megacities are extremely large and complex. At present, it is not possible to find an optimal solution for all aspects of megacities. Radical incrementalism entails (a) repeatedly choosing actions from among the feasible options that are locally optimal in the short-term while (b) maintaining a long-term vision for pursuing sustainability for humankind and (c) emphasizing a city’s history.

Similarly, in order to deal with the size and complexity of megacities, it is necessary to deliberate on the ideal organization of cities with a wide range of experts and variety of stakeholders. We proposed a “megacity scenario-based approach” (4) as a means for realizing such co-design. Furthermore, as a prerequisite to achieving the ideal organization of megacities, we pointed out the importance of taking the local ecosystem into

consideration while also paying attention to the geographic characteristics and history of a given city (5). Each megacity is influenced by the climate, livelihood patterns, and topography of the particular ecosystem in which it is located, whether it be in the Monsoon Asia or mid-latitude arid region. Each megacity is further constrained, in both positive sense and negative senses, by events that occur on the time axis.

We also pointed out that in order to realize the ideal organization of megacities, we should focus on “residential environment” (6), which is the most important space in which humans live. The Megacity Project identified two means of intervening in the residential environment based on an inclusive urbanism approach focusing on the triple benefit society. Furthermore, we pointed out that in order to achieve the ideal organization of megacities, we should pay close attention to the economic development of the middle class (7). This focus on the economic component of the triplet benefit stems from the belief that people begin to consider the sustainability of human society only after they feel a certain degree of economic affluence.

Our vision of global environmental studies

Global environmental studies integrates a wide range of disciplines in order to think about the means necessary “for humankind to continue existing on the planet called Earth while enjoying a certain degree of affluence.” There are a number of possible approaches to creating such a field of study. In our project, we focused on cities, which are home to half of the world’s population, and, especially among these, on 18 megacities with a population of 10 million or greater.

New connections

The identification and development of the seven concepts and approaches presented above represent the accomplishments of our Megacity Project. Detailed content of each can be found in *Shiriizu: Megashitii* (Series: Megacities) a complete set of 6 volumes scheduled to be published by the University of Tokyo Press in 2016.



Figure City sustainability index (CSI)

A model constructed to investigate the sustainability of 18 megacities (Tokyo, Jakarta, Seoul, Mumbai, Sao Paulo, Mexico City, Manila, New Delhi, Cairo, Kolkata, Osaka-Kobe, Shanghai, Buenos Aires, New York, Los Angeles, Karachi, Dhaka, and Moscow).

Designing Local Frameworks for Integrated Water Resources Management

Project Leader **KUBOTA Jumpei**
Co-Project Leader **Dorotea Agnes RAMPISELA**

RIHN
Hasanuddin University

Background and objectives

The concept of Integrated Water Resources Management (IWRM) was first proposed in the 1990s in order to recognize and coordinate the many stakeholders and sectors involved in water resources management. While IWRM has focused on integrating the sectors and organizations governing water resources, it has not typically been able to incorporate demands from local water users or taken account of their cultural or historical backgrounds. New frameworks or guidelines have been requested in the field of local-to-regional water resources management.

The objective of this project is to propose knowledge structures and functions of water resources management to local-level stakeholders who play the essential role in adapting IWRM into society. The research therefore involves considerable exchange between the scientific study of water cycles in particular places and the wide range of stakeholders involved in water management and use. The project's goals are to develop cooperation between science and society in order to stimulate the co-creation of desirable local water resource management.

Achievement

In order to accomplish the goals of the project, we established several study sites in Indonesia, Turkey, Egypt and Japan. Project research put special emphasis on sites in Indonesia and Turkey as they present a simple hydrological contrast between humid and arid regions, while their historical and cultural differences offer comparative examples of water management structures. We held stakeholder meetings and conducted action research in field study areas in order to promote mutual understanding of how different actors perceive water-related problems and to seek new ways of establishing proper water resources management.

In Indonesia, field surveys in the subak systems of Bali indicated recent changes in their societal functions and roles related to globalization and mass tourism. At the same time, a stakeholder meeting held in Bali in 2013 demonstrated that problems such as water pollution caused by illegal waste dumping and illegal constructions on irrigation canals have recently arisen between subak members and outsiders. Through intensive dialogues among stakeholders, the project established a new "Forum DAS" (river committee) including subak representatives, officials and engineers in local governments, scientists, and NGO workers in order to address these problems beyond the normal scale of subak governance. In South Sulawesi, a lack of communication among water managers was clearly identified in the stakeholders meeting in January 2014, in which almost a hundred farmer leaders, water managers, and governmental supervisors participated. After this meeting, the project supported further autonomous

discussion among water managers by utilizing the traditional "apalili" meeting. These meetings established a detailed schedule of water allocation which was then shared with water managers and farmers, improving the performance of water allocation and, consequently, rice production in 2014. In 2015, this method was applied to other irrigation districts,

In Turkey, we identified similar problems in water management, including information disparities and unclear responsibilities in spite of privatization. Excessive use of irrigation water and chemical fertilizer was responsible for degradation of watershed environment and land productivity. After a stakeholders' meeting in March 2014, we conducted a pilot project on night irrigation with WUAs, NGO and a private financing agency, in order to address over-irrigation and resulting decrease in production. This project was very successful, reducing water used for irrigation by more than 30 %, while improving production by 26%.

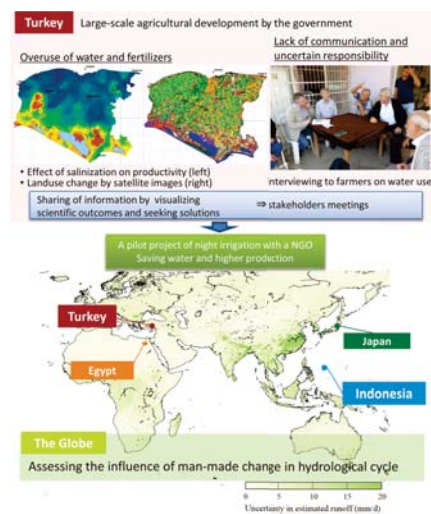


Figure 1 Progress of the project at a glance. The map in the center indicates the uncertainty indicated by a model predicting water runoff, on which the key elements of research problems and findings in the case study sites on water resources management are featured. Deeper green color signifies higher uncertainty in estimating water resources, and demonstrated the need for transdisciplinary approaches to local-level co-creation of water knowledge and resource management.

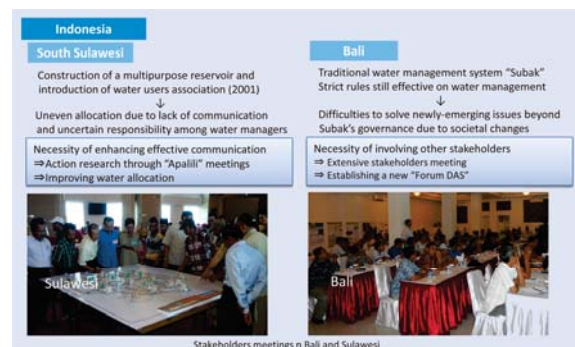


Figure 2 The results of stakeholders meetings in Indonesian study sites

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

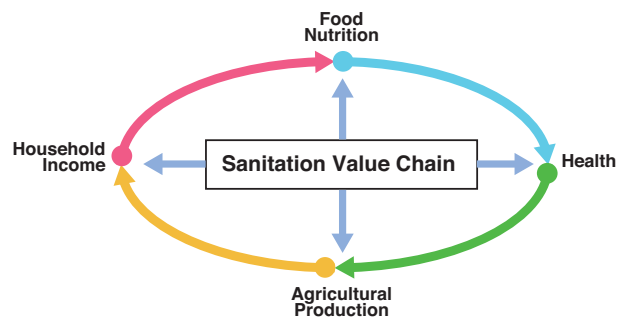
The Sanitation Value Chain: Designing Sanitation Systems as Eco-Community-Value System

* 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.

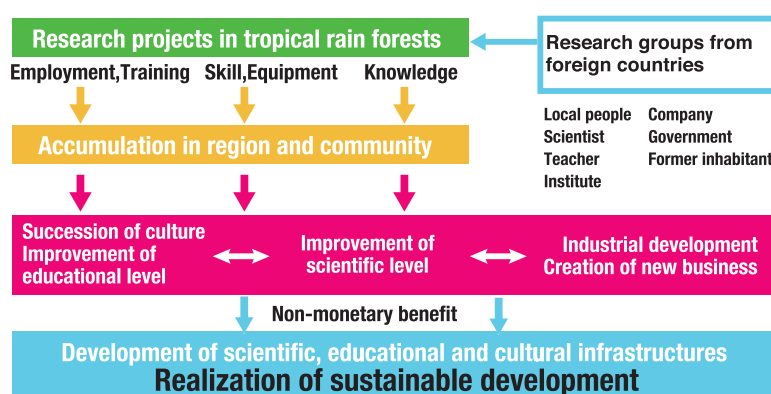
FS **Effective Use of Unidentified Intellectual Resources in Southeast Asian Tropical Rain Forests**

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

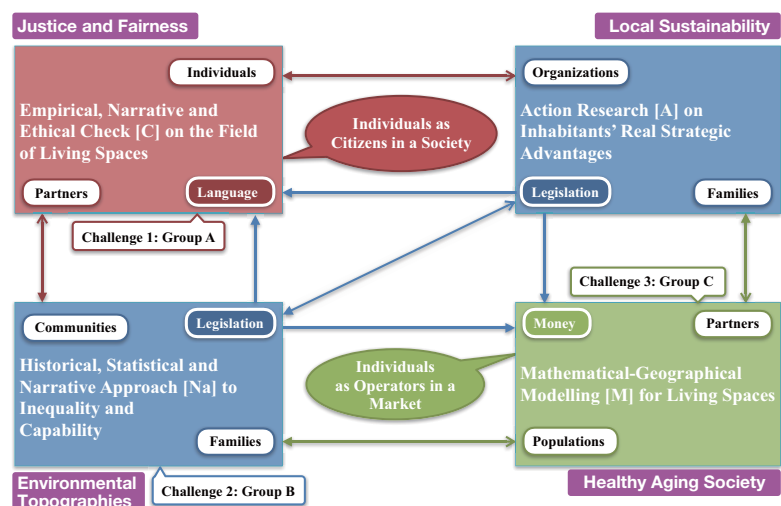
MURAYAMA Satoshi, Kagawa University / ICEDS

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)

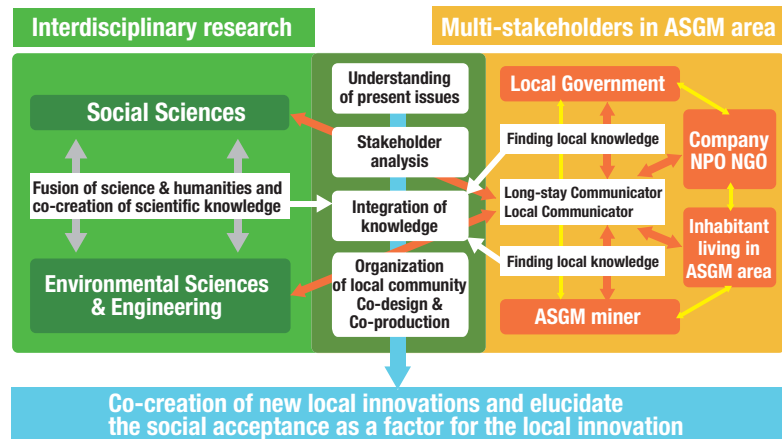
FS

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

FS

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 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, 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

Coordination



The RIHN Center provides foundations and platforms for RIHN's research activities and promotes engagement in interactive collaborations with academic and societal stakeholders. The Center also promotes capacity building activities related to global environmental studies.

The RIHN Center consists of four divisions. The Laboratory and Analysis Division develops and maintains the laboratory facilities necessary for research and fieldwork. The Information Resources Division maintains RIHN research databases and archive. The Communication Division develops a variety of communication strategies linking RIHN research to academic, public and user-specific communities. The Collaboration Division facilitates internal and external research networking as well as RIHN engagement with the international Future Earth initiative and manages activities of Future Earth in Asia.



Science Communication

As a national research institute, RIHN is expected to conduct exemplary science. It also must communicate its research agenda and results to the public and contribute to public awareness and discussion of contemporary environmentalism. A number of public symposia, seminar series, and publications are designed to reach specialist and general audiences. Recent activities and publications include:

The Earth Forum Kyoto and the Earth Hall of Fame Kyoto Award

The Earth Forum Kyoto invites world-renowned experts and activists to discuss the environmental and cultural bases of more responsible human societies. The Earth Hall of Fame Kyoto Award is given to those who have made exemplary contributions to the protection of the global environment. Organizers of the event are the International Institute for Advanced Studies, the Kyoto International Conference Center, and RIHN.



The 2015 recipients of the Earth Hall of Fame Kyoto Award were a well-known father and daughter as environmental activist, Prof. Dr. David SUZUKI, biologist and professor emeritus at the University of British Columbia, Ms. Severn CULLIS-SUZUKI, author, speaker and television host, and Prof. Dr. Herman E. DALY, ecological economist and professor emeritus at University of Maryland.

RIHN International Symposium

An annual symposium at RIHN describing the key findings of concluding RIHN research projects.



Professors Claudia PAHL-WOSTL (left), of the University of Osnabrück, Germany, and Marco TODERI (right) of the Marche Polytechnic University, Italy, giving the 2015 keynote addresses.

Beyond stakeholder engagement : The people, cultures, institutions, and ecologies of new water governance
17-19 June 2015

RIHN Public Seminars

Public seminars are held throughout the year at RIHN or in the city center.

Kyoto and the blessing of Mother Lake
19 May 2015

Water quality mapping with citizens
20 November 2015

Network of living organisms revealed by stable isotope ratios
4 December 2015

Heart, Life, Environment - A discussion with high school students
4 February 2016

RIHN Area Seminars

RIHN Area Seminars take place in, and address specific environmental issues pertaining to, a particular part of Japan.

The futurability of Kitagatako: How to use the lake surroundings

6 March 2016, Seifuso, Awara city, Fukui

RIHN Seminars

This seminar series is oriented towards researchers at RIHN, inviting a wide range of visiting scholars to present their most current research. Seminars in 2015 included:

The importance and operation of small-scale fisheries in Thailand

Anukorn BOUTSON, Lecturer, Department of Marine Science Faculty of Fisheries, Kasetsart University / RIHN Visiting Research Fellow 16 June 2015

Sharing in the new economy: An alternative for a sustainable future?

Maurie COHEN, Professor, New Jersey Institute of Technology / RIHN Visiting Research Fellow 15 July 2015

Quantification of water balance in Subak managed paddy field in Saba watershed

Satyanto Krido SAPTOMO, Lecturer, Department of Civil and Environmental Engineering, Bogor Agricultural University / RIHN Visiting Research Fellow 27 July 2015

Lessons from integrated local environmental knowledge and practices of Lake Malawi riparian communities to achieve sustainable development: Challenges and opportunities

Dylo PEMBA, Associate Professor, Department of Biology, University of Malawi / RIHN Visiting Research Fellow 28 September 2015

Development of integrated indices for Indonesia water-energy-food nexus: Case of Jatiluhur/Citarum basin

Hidayat PAWITAN, Professor, Department Geophysics & Meteorology, Faculty of Mathematics and Natural Sciences, Bogor Agricultural University / RIHN Visiting Research Fellow 29 September 2015

On the relation of Imanishi's "renatured science" (shizengaku 自然学) with mesology

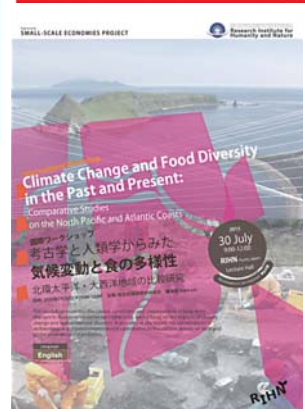
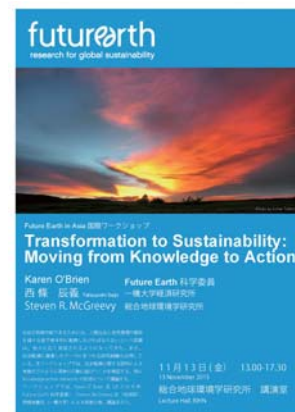
Augustin BERQUE, Professor, École des Hautes Études en Sciences Sociales / RIHN Visiting Research Fellow 29 October 2015

RIHN Book Series: Global Environmental Studies

RIHN has partnered with Springer Publishers to establish the Global Environmental Studies book series. Titles in the series reflect the full breadth of RIHN scholarship.



Other Symposia



Facilities

Research rooms on the RIHN campus are designed to provide a sense of openness. The design concept is to allow implemented projects to be loosely interconnected as they occur in one large curved space 150 meters in length. The facilities help external researchers as well as RIHN research staff to meet one another, since they are designed with the maximization of shared use in mind. At the center of the main building, a library and computer room are located for the convenience of many users, and three common rooms are provided for casual discussions. On the basement floor, a cluster of fully functional laboratories has been designed with emphasis on convenience for shared use, as with the research rooms.

The separate RIHN House is a guesthouse. The assembly hall and a dining lounge located to the left of the house entrance serve as meeting spaces for the RIHN staff as well as for guests.

Appropriately for an institution researching the global environment, RIHN is housed in a tile-roofed building suited to the Kyoto landscape, where as many as possible of the trees already on the site have been retained. Lighting and air-conditioning also employ the latest designs to minimize the building's impact on the environment. The design has won acclaim, receiving awards from the Illumination Engineering Institute of Japan, the Japan Institute of Architects, the Green Building Award from MIPIM Asia, and the Architectural Institute of Japan.



Management

RIHN researchers work across the breadth of global environmental studies. If the diverse knowledge they produce is the warp, then the unifying weft is provided by field measurement, laboratory analysis, data and information management, and academic and social communication of research progress and results. In maintaining and supporting RIHN research capacity to collect and analyze data and to communicate research in numerous professional and public fora, the RIHN Center enhances our collaborative research around the world and contributes the kind of integrated knowledge that can solve global environmental problems.

Laboratories

RIHN research projects are multi-disciplinary and multimethod; in common they share the need for high quality physical observation and chemical and biological analysis of the surface environments of the earth. As a national institute, RIHN houses eighteen basement laboratories designed to address this need. There are state-of-the-art laboratories dedicated to microscopic, DNA and stable isotope analysis. Additional facilities include two fieldwork preparation rooms for storage and maintenance of observational and sampling equipment, three low-temperature rooms for organism and ice core storage, three incubator rooms for storage of organisms requiring specific temperatures, and a clean room in which samples can be processed in a contamination-free environment.

Instruments

RIHN research projects conduct a variety of studies around the world and collect a diverse range of samples that contain valuable information that will help illuminate human-nature interactions. Stable isotope and DNA data in particular can give very precise descriptions of how materials and species interact, change, and move through time and space. In addition to maintaining state-of-the-art laboratories, the Laboratory and Analysis Division of the RIHN Center continues to develop new methods of data analysis and application. In conducting this research in collaboration with RIHN projects, universities and affiliated institutions throughout Japan, the division enhances the sophistication of experimental techniques and exchange of research information, and promotes the shared use of facilities.



Main building



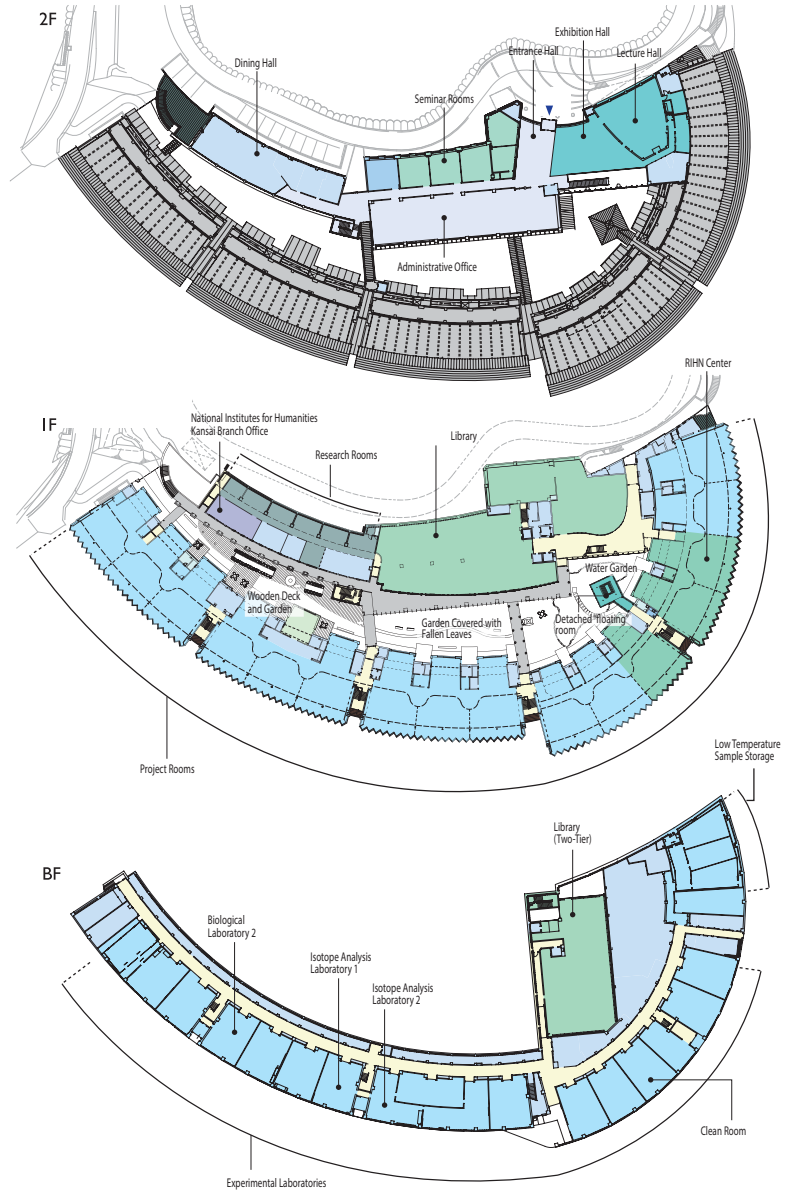
Main entrance hall



Basement laboratories



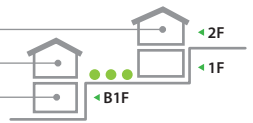
The RIHN House with one-, two-, and three-bedroom apartments for guest researchers and their families.



2F
Main Entrance Hall
Administration
Lecture Hall
Seminar Rooms
Dining Hall

1F
Employee Entrance
Research Project Rooms
RIHN Center
Library
Media Center
National Institutes for the Humanities Kansai Office

Basement
Laboratories
Book Repository
Field Research Equipment and Facilities
Cold Storage



RIHN-China

As one of the research hubs of the National Institute's Area Studies Project for Contemporary China, RIHN conducts the Research Initiative for Chinese Environmental Issues in order to promote environmental studies on China and networking with scholars concerned with environmental issues there. A RIHN-China Newsletter is published in Japanese and Chinese. The RIHN-China program also supports a series of symposia, held in both China and Japan, on critical environmental topics in China and East Asia. In 2015-16, among other activities, RIHN-China held three international workshops: "Learning from Dry Land Farming History in Loess Plateau"; "Environment and Health in Asia"; and "Exploring 'Ecohealth' in China and Japan". Also, the program co-organized the 4th International Meeting of the Amur-Okhotsk Consortium at Harbin and conducted the 5th Lecture on Global Environmental Studies at Peking University.



Photos (counterclockwise from top):

- The participants of International workshop on "Learning from the History of Dry Land Farming in Loess Plateau" in August 2015 at RIHN.
- The 5th Lecture on Global Environmental Studies at Peking University in March 2016.
- RIHN-China newsletter "Ten Chi Jin" and "Water Resources and the Environment in China"

Future Earth

Future Earth is a global research platform designed to provide the knowledge needed to support transformations towards sustainability (see www.futureearth.org). Future Earth seeks to build and connect knowledge to increase the impact of research in diverse contexts, to explore new development paths, and to find new ways to accelerate transitions to sustainable development. While mobilizing scientists around the world, the initiative will strengthen partnerships with policy-makers and other stakeholders, to design and implement research in close collaboration. The Collaboration Division, RIHN Center, is actively engaged in the co-design of research development including articulating a strategic research agenda for Japan. The Division also hosts the Regional Centre for Future Earth in Asia. The Centre supports the development of Future Earth in the region, helps connect researchers and other stakeholders, and facilitates the formation of regionally relevant and credible governance structures for the initiative. The Centre has convened a Regional Advisory Committee, which will over time develop into a Regional Committee, taking greater responsibility for the regional development of Future Earth.



Conceptual image of Future Earth Open Network
Future Earth launches a network open to any individuals, projects, and institutes who are committed to the vision of the Future Earth, bringing a light-touch coalition for new collaboration among the researchers and stakeholders.

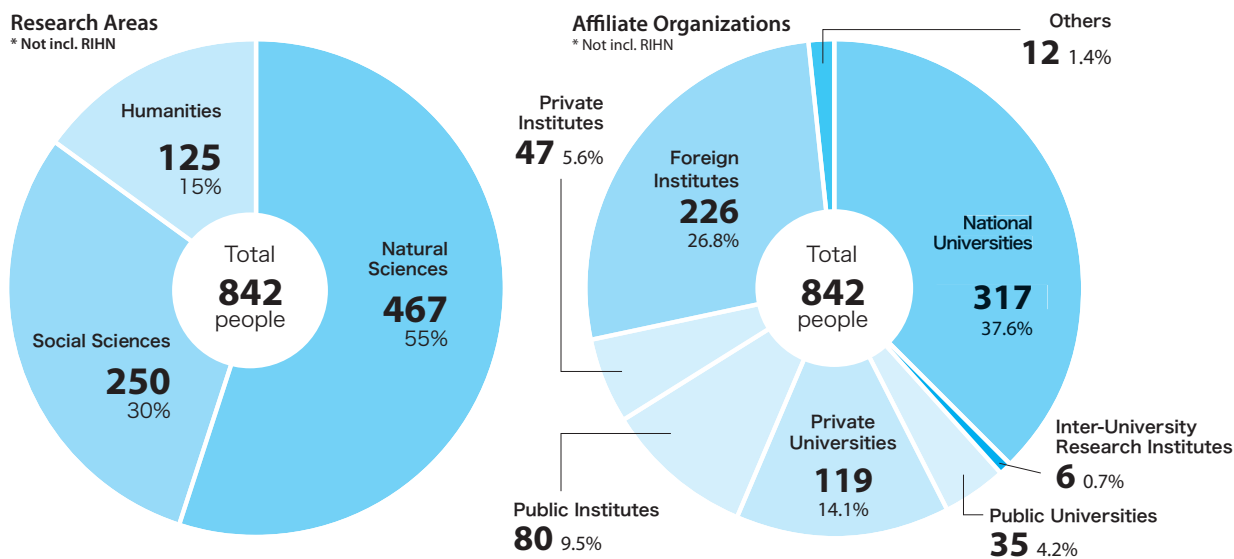


The 4th International Workshop on Future Earth in Asia



Regional Advisory Committee Inaugural Meeting for Future Earth in Asia

Collaboration



*As of March 31st, 2016

Collaboration in Japan

Research Institutions

1. Graduate School of Environmental Studies, Nagoya University
2. Doshisha University
3. Nagasaki University
4. Kyoto Sangyo University
5. Tottori University of Environmental Studies
6. Miyagi University
7. Kyoto University
8. Center for Environmental Remote Sensing, Chiba University
9. Institute of Decision Science for a Sustainable Society, Kyushu University

Municipal Governments and Other Agencies

1. Saijo City, Ehime Prefecture
2. Kyoto Municipal Science Center for Youth
3. Tokyo Research Laboratory, Japanese Grain Inspection Association (KOKKEN)
4. Food and Agricultural Materials Inspection Center (FAMIC)
5. Ono City, Fukui Prefecture

International Collaboration

Memoranda of Understanding and Research Cooperation Agreements (As of March 31st, 2016)

AUSTRIA

International Institute for Applied Systems Analysis

BANGLADESH

International Centre for Diarrhoeal Disease Research

CHINA

East China Normal University
Peking University
Yunnan Health and Development Research Association

EGYPT

National Water Research Center (NWRC)

FRANCE

La Fondation Maison des Sciences de l'Homme

INDIA

Institute of Rajasthan Studies, JRN Rajasthan Vidyapeeth
Maharaja Sayajirao University of Baroda

INDONESIA

The Center for International Forestry Research
Universitas Hasanuddin
Universitas Indonesia

LAOS

National Institute of Public Health, Ministry of Health

MALAWI

University of Malawi

NAMIBIA

Ministry of Agriculture, Water and Forestry

NIGER

International Crops Research Institute for the Semi-Arid Tropics (ICRISAT), West and Central Africa
L'Organisation Nigériennes des Educateurs Novateurs

PHILIPPINES

Laguna Lake Development Authority
University of the Philippines Diliman
University of the Philippines Visayas
University of Santo Tomas

RUSSIA

Far Eastern Federal University

SUDAN

Sudan University of Science and Technology

SWEDEN

The Sven Hedin Foundation

THAILAND

Faculty of Fisheries, Kasetsart University
Rice Department, Ministry of Agriculture and Cooperatives
The Southeast Asian Fisheries Development Center

TURKEY

Adiyaman University
Çukurova University
Harran University

UNITED KINGDOM

Sainsbury Institute for the Study of Japanese Arts and Cultures

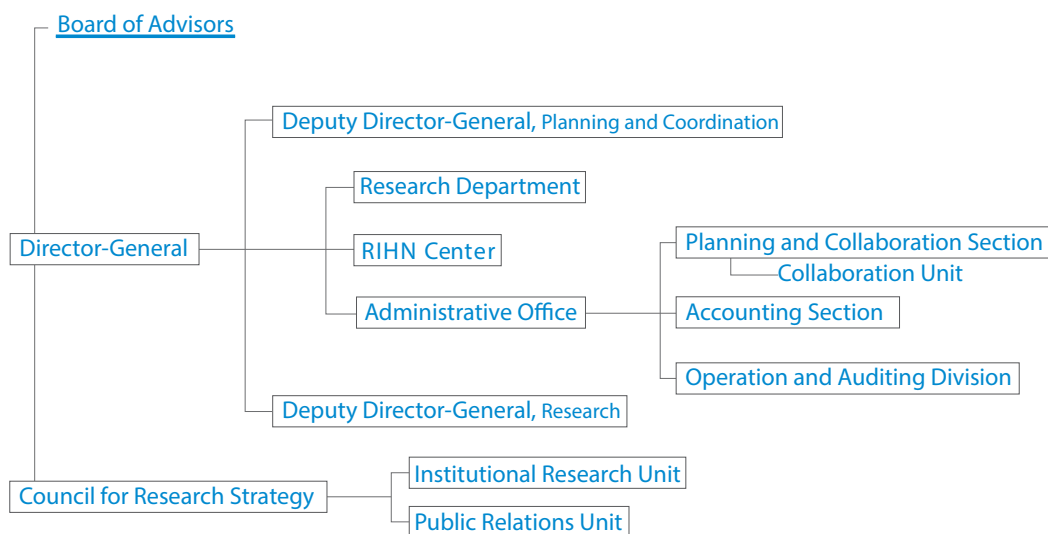
UNITED STATES OF AMERICA

The University of California, Berkeley
Mote Marine Laboratory
University of the Virgin Islands

ZAMBIA

Zambia Agricultural Research Institute, Ministry of Agriculture and Livestock

Administrative Structure



Financial Information

Segmental Financial Information (Fiscal Year 2014)

Operating Expenses

Category	Amount (Yen in thousands)
Operating Expenses	1,822,095
Inter-University/Joint Research	900,269
Outsourced Studies	96,217
Outsourced Operations	55,589
Personnel	770,018
General Management	106,280
Financial Expenses	28,891
Total Expenses	1,957,267

Operating Income

Category	Amount (Yen in thousands)
Subsidy for Operation	1,735,773
Contract Operations, etc.	69,718
Donations	4,997
Others	155,339
Total Earnings	1,965,829

Operational Balance 8,562

External Sources of Funding

(Fiscal Year 2014)

Category	Amount (Yen in thousands)
Fund for Promotion of Academic and Industrial Collaboration	93,503
Grants-in-Aids for Scientific Research	70,590
Donations for Research	13,582

* Fund for Promotion of Academic and Industrial Collaboration is the sum of contract research expenses.



Boards and Committees

*As of April, 2016

Board of Advisors

Oversees personnel, planning, administration and operation of the institute

IKEYA Kazunobu
Professor, National Museum of Ethnology
KADA Yukiko
President, Biwako Seikei Sport College
KANZAWA Hiroshi
Dean, Graduate School of Environmental Studies, Nagoya University
KOIKE Toshio
Professor, School of Engineering, The University of Tokyo
KONO Yasuyuki
Director, Center for Southeast Asian Studies, Kyoto University

NIIKAWA Tatsuro
Professor, Graduate School of Policy and Management, Doshisha University
NOE Keiichi
President-appointed Extraordinary Professor, Institute of Liberal Arts and Sciences, Tohoku University
OTSUKI Kyoichi
Professor, Faculty of Agriculture, Kyushu University

KUBOTA Jumpei
Deputy Director-General, RIHN
Director, RIHN Center, RIHN
TANIGUCHI Makoto
Deputy Director-General, RIHN
Core Program Director, RIHN
MALLEE, Hein
Professor, RIHN
NAKATSUKA Takeshi
Professor, RIHN
SATO Tetsu
Professor, RIHN
TANAKA Ueru
Professor, RIHN
TAYASU Ichiro
Professor, RIHN

External Research-Evaluation Committee

External review of research project proposals

Domestic

KOIKE Isao
Professor Emeritus, the University of Tokyo
NAKANISHI Hisae
Professor, Graduate School of Global Studies, Doshisha University
TODA Takao
Director General Human Development Department, International Cooperation Agency (JICA)
UCHIBORI Motomitsu
Professor, The Open University of Japan
WADA Eitaro
Member of the Japan Academy / Professor Emeritus, Kyoto University
YASUOKA Yoshifumi
Professor Emeritus, The University of Tokyo

Overseas

BAI, Xuemei
Professor, Fenner School of Environment and Society, Australian National University, Australia
BINDER, Claudia
Professor, Laboratory for Human-Environmental Relations in Urban Systems (HERUS), IIE - ENAC - EPFL, Switzerland
LU, Yonglong
Professor, Research Center for Eco-Environmental Science Chinese Academy of Sciences, China
MCDONALD, Anne
Professor, Graduate School of Global Environmental Studies, Sophia University, Japan
RANDALL, Roland
Life Fellow, Girton College, University of Cambridge, UK
SCHOLZ, Roland
Professor Emeritus, Institute for Environmental Decisions, Swiss Federal Institute of Technology Zurich, Switzerland
VAN DER LEEUW, Sander
Foundation Professor, School of Sustainability, Arizona State University, USA
ZHANG, Shiqiu
Professor, College of Environmental Sciences and Engineering, Peking University, China

Council for Research Strategy

Oversees research strategy, personnel, project, and evaluation system

YASUNARI Tetsuzo	Director-General	SUGIHARA Kaoru	Specially Appointed Professor	TANAKA Ueru	Professor
KUBOTA Jumpei	Deputy Director-General	MALLEE, Hein	Professor	TAYASU Ichiro	Professor
TANIGUCHI Makoto	Deputy Director-General	NAKATSUKA Takeshi	Professor	KAWANO Hiroshi	Director, Administrative Office
NAKASHIZUKA Tohru	Visiting Professor	SATO Tetsu	Professor		

Senior Advisor

TACHIMOTO Narifumi

Professors Emeritus

NAKANISHI Masami
WADA Eitaro
HIDAKA Toshitaka
NAKAWO Masayoshi
FUKUSHIMA Yoshihiro
AKIMICHI Tomoya
KAWABATA Zen'ichiro
OSADA Toshiki
TACHIMOTO Narifumi
SATO Yo-ichiro
MOJI Kazuhiko
KADA Ryohei
NAKANO Takanori

RIHN STAFF

■ DIRECTOR-GENERAL	YASUNARI Tetsuzo
■ DEPUTY DIRECTOR-GENERAL (Planning and Coordination)	KUBOTA Jumpei
■ DEPUTY DIRECTOR-GENERAL (Research)	TANIGUCHI Makoto

ADMINISTRATIVE OFFICE

■ ADMINISTRATIVE DIRECTOR KAWANO Hiroshi

PLANNING AND COLLABORATION SECTION

Head HIRAISHI Noriyoshi
Deputy Head KITA Yoshifumi

General Affairs and Planning Subsection

Head BIVONE Junko
Clerk INOUE Yuko
Clerk KARIYA Midori
Clerk NAGATA Satoko
Clerk NAKANISHI Keita

Personnel Subsection

Head NAGATA Yukihiko
Clerk NAKAOHJI Yu
Clerk TANAKA Naoko

International Affairs Subsection

Chief FUJIKAWA Takeshi

Collaboration Unit

Head UEDA Yasutoshi

Research Planning Subunit

Head NARUI Akinori
Chief ISHII Hatsue

Cooperative Research Support Subunit

Head ZENIZUKA Rie
Clerk MASUDA Maho

ACCOUNTING SECTION

Head OBAYASHI Reiko
Deputy Head TERAZAWA Kunihiro

Financial Planning Subsection

Head MIYAUCHI Teruaki
Clerk TSUJIMURA Hanako

Facility Management Subsection

Head OISHI Toru

Procurement Subsection

Head NONAMI Masatoshi
Clerk SAWAMURA Takahiro

Accounting Subsection

Head UEGAKI Yasuhiro

OPERATION AND AUDITING DIVISION

Head OBAYASHI Reiko

Auditing Subunit

Head MIYAUCHI Teruaki

RESEARCH DEPARTMENT

Program Directors

NAKASHIZUKA Tohru	Forest Ecology, Biodiversity
SUGIHARA Kaoru	Economic History, Environmental History

Professors

HABU Junko	Environmental Anthropology, Historical Ecology, East Asian Archaeology
ISHIKAWA Satoshi	Conservation Ecology, Global Fisheries Science
NAKATSUKA Takeshi	Biogeochemistry, Paleoclimatology
SATO Tetsu	Local Environmental Studies, Conservation Ecology
TANAKA Ueru	Agricultural Studies

Associate Professors

ENDO Aiko	Marine and Coastal Policy, Fishery Economics
KIKUCHI Naoki	Environmental Sociology
MCGREEVY, Steven R.	Environmental Sociology
OKUDA Noboru	Ecological Science

Specially Appointed Professor

SUGIHARA Kaoru	Economic History, Environmental History
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Visiting Professors

FUNAMIZU Naoyuki	Sanitary Engineering
HIYAMA Tetsuya	Ecohydrology
KANEKO Shinji	Environmental Economics
KANIE Norichika	Earth System Governance
KASUGA Fumiko	Food Safety
KUSAGO Takayoshi	Action-based Development Studies
MATSUI Takeshi	Nature in Cultural Perspectives
MIZUNO Kosuke	Area Study on Indonesia
MURAMATSU Shin	Architectural History, Urban History
MURAYAMA Satoshi	Economic/Environmental History
NAKASHIZUKA Tohru	Forest Ecology, Biodiversity

NAWATA Hiroshi	Cultural Anthropology
RAMPISELA, Dorotea Agnes	Soil and Water Management
SAKAKIBARA Masayuki	Earth and Environmental Sciences
UCHIYAMA Junzo	Environmental Archaeology, Landscape History
YONEMOTO Shohei	History and Philosophy of Science

Visiting Associate Professors

ICHIE Tomoaki	Forest Ecology
HANDOH Itsuki C.	Earth Systems Science, Mathematical Modeling
HOMMA Kousuke	Forest Ecology
SHIRAIWA Takayuki	Glaciology
TAKAGI Akira	Fisheries Science, Molecular Ecology
TERADA Masahiro	History, Museum Anthropology
YASUTOMI Natsuko	Meteorology, Climatology
YOSHIDA Takehito	Ecology

Invited Scholar

ALTIERI, Miguel Angel	Agroecology
BRONDIZIO, Eduardo Sonnewend	Anthropology
NEWELL, Joshua Peter	Urban Sustainability

*As of May, 2016

Senior Project Researchers

SANO Masaki	Paleoclimatology
TAMURA Norie	Natural Resource Management
WATANABE Kazuo	Area Studies

Project Researchers

ADACHI Kaori	Archaeology
ASANO Satoshi	Regional Planning
ISHIDA Takuya	Forest Environmental Science
ISHIYAMA Shun	Cultural Anthropology
ITO Keisuke	Japanese History
KAMATANI Kaoru	History
KITAMURA Kenji	Environment
KOBAYASHI Mai	Environmental Sociology

MASUHARA Naoki	Public Administration Studies, Energy Policy
MIKI Hiroshi	Statistical Physics
MIYAZAKI Hidetoshi	Soil Science
OH Tomohiro	Resource Governance
OMOTO Reiko	Geography, Food Studies, Social Network Analysis
OTA Kazuhiko	Japanese Environmental Ethics
RUPPRECHT, Christoph D.D.	Geography
SHINKAI Rika	Archaeology, Ethnology
TAKEMURA Shion	Landscape Ecology
TESHIROGI Koki	Geography
TSUSHIMA Akane	Paleoclimatology
YAMADA Makoto	Hydrology

Project Research Associates

FUKUSHIMA Atsuko	
HONDA Hisami	Coastal Oceanography
HONMA Saki	
ISOKAWA Aki	
KAKIOKA Ryo	Evolutionary Ecology of Fish
KIHIRA Tomoe	
KITOLELEI, Jokim Veu	Fisheries Resource Management
KOBAYASHI Yuko	
LI Zhen	Earth and Environmental Sciences
MATSUOKA Yuko	
OJIKI Yukari	
OKAMOTO Takako	
TAKEHARA Mari	
TERAMOTO Shun	
TOMII Noriko	
UEHARA Yoshitoshi	Ecology
WATANABE Kirie	
YAMAMOTO Mami	

FS Researcher

NAITO Daisuke	Southeast Asian Area Study, Political Ecology
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RIHN Center

DIRECTOR KUBOTA Jumpei

Core Program Director TANIGUCHI Makoto

Heads of Divisions

Laboratory and Analysis Division	TAYASU Ichiro
Information Resources Division	SEKINO Tatsuki
Collaboration Division	MALLEE, Hein
Communication Division	ABE Ken-ichi

Professors

ABE Ken-ichi	Ecological Anthropology
KUBOTA Jumpei	Hydrology
MALLEE, Hein	Social Science
SEKINO Tatsuki	Information Science
TANIGUCHI Makoto	Hydrology
TAYASU Ichiro	Isotope Ecology, Isotope Environmental Science

Associate Professors

ISHII Reichiro	Theoretical Ecology
KONDO Yasuhisa	Archaeology, GIS
NILES, Daniel	Geography

Assistant Professors

KUMAZAWA Terukazu	Environmental Planning, Regional Informatics
ONISHI Yuko	Biogeography, Macroecology
SHIN Kicheol	Petrology, Geochemistry, Isotope Geology

Specially Appointed Assistant Professor

TAKESHIMA Hirohiko	Molecular Ecology, Evolutionary Genetics
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Research Fellow, NIHU Center for Transdisciplinary Innovation (Ecohealth)/ Specially Appointed Assistant Professor

JIANG Hongwei	Human Ecology
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Center Researchers

KATO Yoshikazu	Aquatic Ecology
NISHIMURA Takeshi	Environmental Economics
SAITO Yu	Sedimentology
YOSHIMIZU Chikage	Biogeochemistry

Center Research Associates

HAYASHI Kengo	Urban History in Southeast Asia
KISHIMOTO Sayaka	International Collaboration Studies
MATSUBAYASHI Jun	Stable Isotope Ecology
MIMURA Yutaka	Architectural History, Urban History, Historical GIS
OKA Masami	Ecology
OSADA Yutaka	Forest ecology, Ecological Stoichiometry
OHTA Tamihisa	Study of Ecological Thought
SHIMADA Nahoko	Isotope Hydrology
YABUSAKI Shiho	

Institutional Research Unit

HEAD TANIGUCHI Makoto

Members of Unit

KUBOTA Jumpei SATO Tetsu TAYASU Ichiro KONDO Yasuhisa KUMAZAWA Terukazu

Specially Appointed Technical Officer

OSHIUMI Keiichi

Public Relations Unit

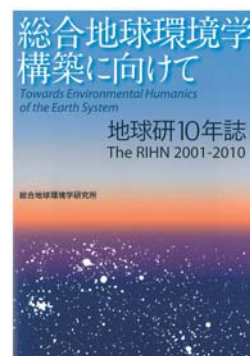
HEAD KUBOTA Jumpei

Members of Unit

ABE Ken-ichi ISHIKAWA Satoshi SEKINO Tatsuki TANAKA Ueru KIKUCHI Naoki MCGREEVY, Steven R. NILES, Daniel KUMAZAWA Terukazu

A Brief History of RIHN

- 1993 — Prime minister's advisory panel on the Global Environment in 21st Century launched
- 1995 — "On the Promotion of Global Environmental Studies" published by The Science Council of Japan
- 1997 — Report "On the core research institute for Global Environmental Studies" published by MEXT (Ministry of Education, Culture, Sports, Science and Technology)
- 2001 — RIHN Established on the Kyoto University campus
— HIDAKA Toshitaka, Director-General
- 2002 — RIHN relocated to the former Kasuga Primary School
— The 1st RIHN Forum
- 2004 — RIHN becomes a member of the National Institutes for the Humanities
— The 1st RIHN Public Seminar
- 2005 — The 1st RIHN Area Seminar
- 2006 — RIHN relocates to current facilities in northern Kyoto
— The 1st RIHN International Symposium
- 2007 — TACHIMOTO Narifumi appointed as the second Director-General
— The Center for Coordination, Promotion and Communication established
— RIHN-China established
— First research projects concluded
- 2008 — The 1st Collaborative Symposium with the International Research Center for Japanese Studies
- 2009 — The Earth Forum Kyoto and Earth Hall of Fame Kyoto Award established
- 2010 — Core Research Hub established
— The RIHN Encyclopedia of Global Environmental Studies published
- 2011 — RIHN 10 year anniversary and publication
— GEC-Japan network established
- 2013 — YASUNARI Tetsuzo appointed as the third Director-General
— The Center for Coordination, Promotion and Communication reorganized into the Center for Research Development and the Center for Research Promotion
- 2014 — Selected as Regional Center for Future Earth in Asia
- 2016 — 3 Research Programs and Core Program established and RIHN Center reorganized



Inter-University Research Institute Corporations National Institutes for the Humanities (NIHU)

<http://www.nihu.jp/e/>

NIHU is one of the four Inter-University Research Institute Corporations. It consists of six Inter-University Research Institutes involved in research in humanities. While each of the institutes is deeply involved in foundational research in their core field within Japan and internationally, the six institutes interact in a complementary fashion transcending the frameworks of previous scholarship. They also cooperate with research institutes in Japan and other countries in their attempt to identify and solve issues in contemporary society. NIHU promotes research that advances the human sciences as it also enriches human life.

Promotion of Research and Public Information Activities

In 2016, NIHU established two centers, the Center for Transdisciplinary Innovation and the Center for Information & Public Relations. The six member institutes, each serving as a center for nationwide research exchange, are accessible to the national research community, as they engage in multifaceted joint research projects, publish information to the world proactively, and promote and enhance the development of the next generation of scholars.

Center for Transdisciplinary Innovation (CTI)

The CTI promotes collaboration and cooperation within and between the six institutes, linking them to domestic and international universities, research institutes and local communities. It promotes the NIHU Transdisciplinary Project, an organizational joint research project that identifies contemporary issues, with the aim of creating a new value system for the human sciences.

NIHU Transdisciplinary Project

Institute-based Projects

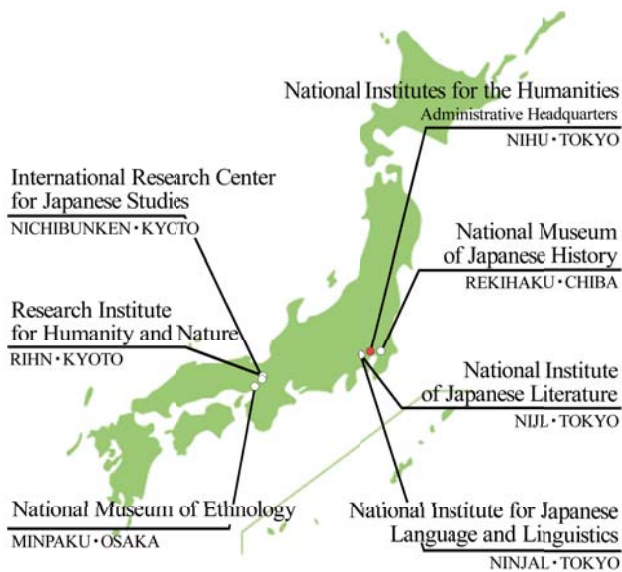
- REKIHAKU: Constructing Integrated Studies of Cultural and Research Resources, and Renovating Sharing Infrastructures of Research Resources in Japanese History and Culture
- NIJL: Project to Build an International Collaborative Research Network for Pre-modern Japanese Texts
- NINJAL: Diverse Language Resources and the Consolidation of Japanese-language Studies
- NICHIBUNKEN: Diachronic International Research into Mass Culture and the Construction of a New Image of Japan
- RIHN: Transformation towards Sustainable Futures in Complex Human-Nature Systems in Asia
- MINPAKU: Info-Forum Museum for Cultural Resources of the World

Multidisciplinary Collaborative Projects

- Reconstruction of Local Cultures after Disasters and under Social Change in the Japanese Archipelago
- Rethinking Eco-health in Asia
- Towards the Development of a New Field of Holistic Japanese Philology Based on Interdisciplinary Research

Network-based Projects

- NIHU Area Studies
 - Northeast Asia
 - Modern Middle East
 - South Asia
 - Contemporary China
- Japan-related Documents and Artifacts Held Overseas: NIHU International Collaborative Research and Utilization
 - Archives of the Dutch Factory in Hirado
 - Japan-related Overseas Artifacts and Documents of the 19th Century in Europe
 - Marega Collection Preserved in the Vatican Library
 - Japan-related Documents and Artifacts in North America



The NIHU Headquarters and six Inter-University Research Institutes



The four Inter-University Research Institute Corporations

Center for Information & Public Relations (CIP)

The CIP digitalizes comprehensive academic research resources related to the human sciences to promote the widespread use of the resources by universities and scholars all over the world. At the same time, it encourages sharing of research outcomes for the common good by strengthening two-way collaboration with society.

Public Information Activities

Resource Sharing nihu INT <http://int.nihu.jp/>

nihu INT is a database on research in the human sciences for the integrated retrieval of information resources from inside and outside NIHU

Public Information

Institutional Repositories and Research Achievements Database

Each institute publishes a repository for sharing research outcomes with the world. An integrated database of scholars, which provides information about scholars who belong to NIHU, is also in operation

English Resource Guide for Japanese studies and Humanities in Japan. http://www.nihu.jp/sougou/kyoyuka/japan_links/

NIHU magazine: This magazine provides information about NIHU's latest research activities and findings to the world

Collaborations with Society

NIHU Symposium: Information about research activities and findings is made widely available

26th: "The Middle East in Distress", Apr, 25, 2015

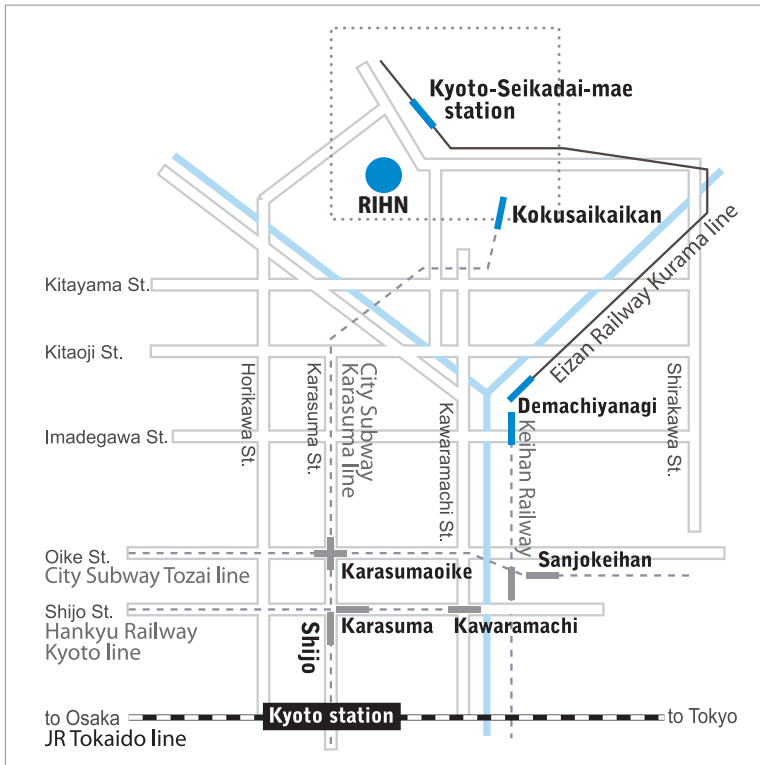
27th: "Siebold's Introduction of Japanese Culture: Commemorating the 150th Anniversary of His Death", Jan, 30, 2016

In FY 2016, the symposium will be held under the themes "Yokai Monsters" in June, and "Food" in November

Industry-Academia Collaborations

Promoting sharing of research outcomes for the common good by collaborating with industries such as the tourism industry

Access



By City Subway

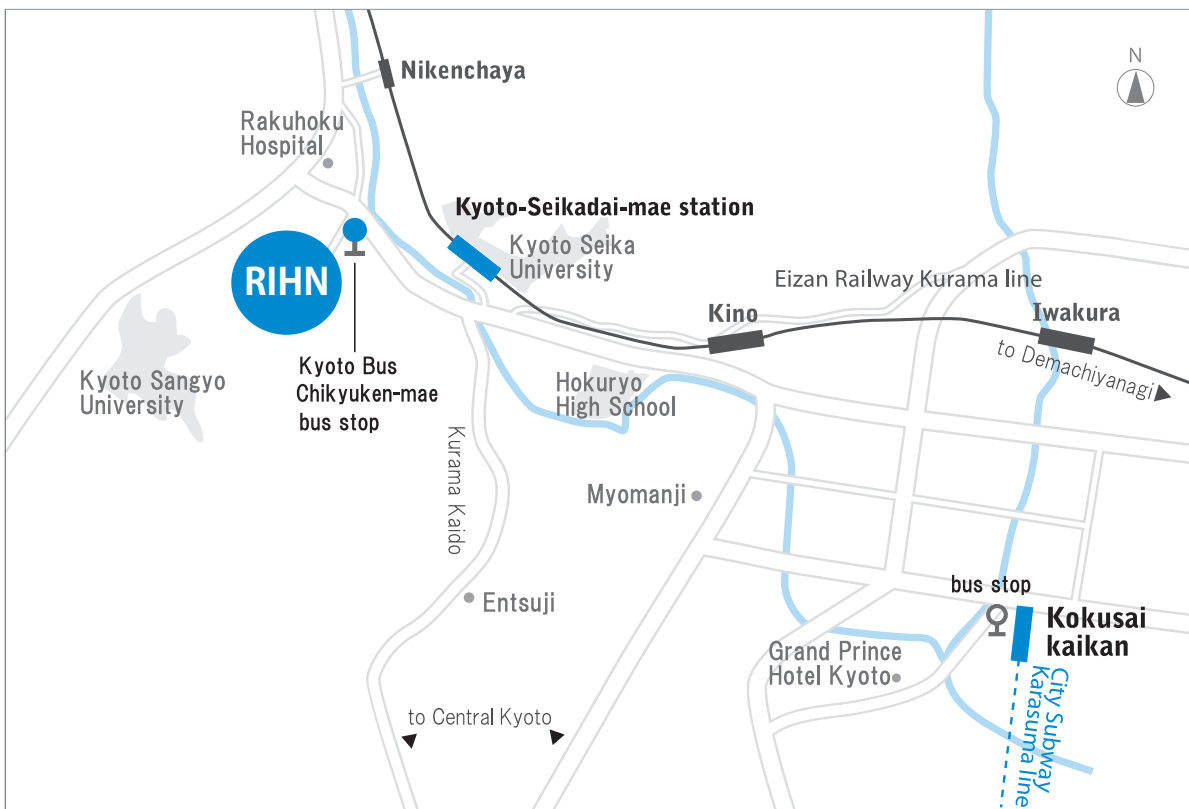
From Kyoto Station, take the Karasuma Line to Kokusaikaikan Station (the last station), and transfer to Kyoto Bus.

By Kyoto Bus

From Kokusaikaikan Station, take bus No. 40, 50 or 52 to Chikyuken-mae. RIHN is at the base of the hill on your left.

By Eizan Railway

From Demachiyanagi Station in Kyoto City, take the Kurama Line. Get off at Kyoto-Seikadai-mae Station. RIHN is a 10-minute walk from the station.



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Flying over RIHN in the autumn sky
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