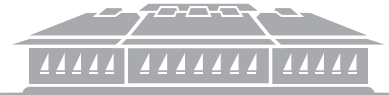




Research Institute for
Humanity and Nature

大学共同利用機関法人 総合地球環境学研究所
人間文化研究機構



Prospectus
2022-2023

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Message from the Director-General

Most human beings have benefited greatly from modern civilization. If we continue down the current civilizational path, however, weather and water-related natural disasters will intensify, ecosystem degradation and loss of biodiversity will increase, and human livelihood, health, and safety will be at ever-greater risk. Modern civilizations have incessantly expanded the scale of production and consumption, but at nature's expense, and humans are both the perpetrators and victims of this path of development. The Covid-19 pandemic clearly shows the result, as it was caused by ever-expanding global human activities.

New technological fixes will not offer fundamental solutions to such complex problems, unless human lifestyles also change to achieve harmonious relationships with nature on Earth. For the last 20 years RIHN has conducted research with the awareness that the roots of global environmental problems are found in human culture. Based on the results of our past projects, it is time for us to promote new practical research.

Cultural diversity is based on the diversity of nature. However, nature forms ecosystems in which regions are connected through the circulation of materials and energy, while cultures insist on their uniqueness and are sometimes in conflict. Solutions to global environmental problems therefore depend on connecting cultures through common environmental ethics. Great traditions of Eastern environmental wisdom and experience still exist, as do those of other regions; their valuable insights can help to break the deadlock in modern science and capitalism. It is for this reason that RIHN undertakes interdisciplinary research spanning the natural sciences, humanities, and social sciences, and in recent years, has evolved towards transdisciplinary research seeking to expand the kinds of knowledge that are considered valid in scientific inquiry.

RIHN has recently established three Research Programs, one Strategic Program, and the RIHN Center to promote such research. We have enhanced collaboration within the institute, across the diverse research community linked to RIHN research projects, and with society in general. RIHN also collaborates with the international research platform Future Earth, which aims to integrate global environmental change research and contribute to the United Nations Sustainable Development Goals. As part of this effort, RIHN hosts the Japan Hub of the Future Earth Global Secretariat to strengthen research collaboration and capacity building across the region.

We will strive to expand these activities in the coming years, and implement new research initiatives in the search for solutions to the many environmental challenges of our planet.

YAMAGIWA Juichi

Director-General
Research Institute for Humanity and Nature



Philosophy and Goals

Vision and Mission

The Research Institute for Humanity and Nature (RIHN) promotes research activities aimed at contributing to solving global environmental problems based on the following vision and mission.

→ Vision

To strive for the realization of an equitable, fair and sustainable society globally by formulating how the relationship of people and nature to be, from the community to global scale.

→ Mission

To lead the way in the comprehensive study of the environment that aims for a practice directed towards solving global environmental problems and a fundamental and inclusive understanding of the mutual interaction of humans and nature, based on interdisciplinary research that fuses humanities, social science and natural science and as well as transdisciplinary research that cooperates and collaborates with society.

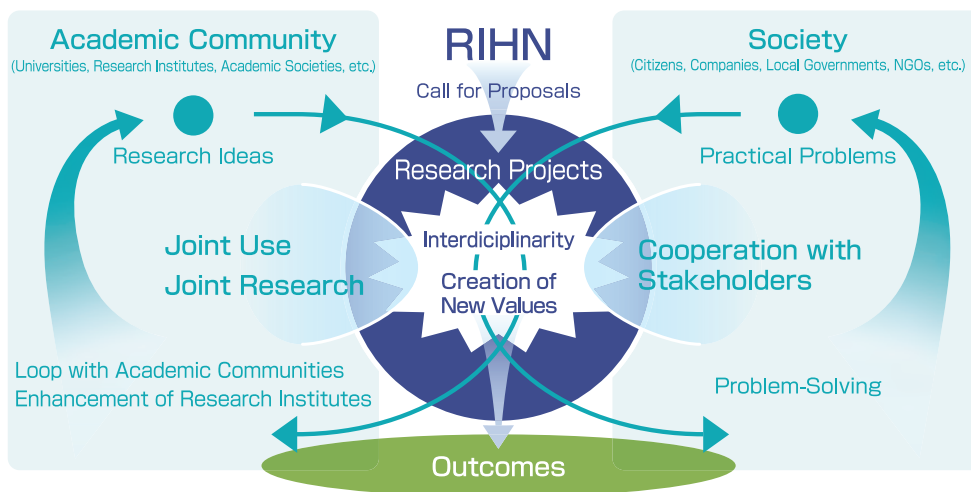
RIHN recognizes that global environmental problems are a challenge common to all humankind, and conducts research based on the foundations of various academic fields. In this context, we approach issues from a slightly different perspective from that of conventional research. The accumulation of research in individual academic fields may be insufficient by itself to approach the essence of global environmental problems. We believe that what is needed is not a partial understanding, but a holistic understanding of the relationships formed by the interaction of humans and nature. To realize this, we are promoting “integrated global environmental studies” as the pursuit of comprehensive knowledge incorporating interdisciplinary research that combines the humanities, social sciences, and natural sciences in combination with a transdisciplinary approach that aims to solve problems in cooperation with society.

According to Dr. HIDAKA Toshitaka who is the first director of RIHN, “Global environmental problems are a matter of human *culture* in the broadest sense of the word.” This means that it is a matter of culture whether we revere nature, desecrate it, feel it to be part of us, or consider it a resource to be used. Furthermore, we need to learn not only from the various cultures on the planet today, but also from the cultures of the past. An important issue in this context is what kind of culture based on the view of nature (view of Earth), that is, what kind of relationship between humans and nature, we should build in the future on a global scale based on the recognition that culture is rooted in the nature of each local region.

In response to this challenge, we have adopted the concept of “futurability,” which extends beyond the commonly used concept of sustainability. This is because it is more important to search for possibilities that will enable future generations to live better (futurability) than to find ways for us to sustain our current lives (sustainability). While understanding and considering the current problems, we must think of ways to leave the planet to the generations of our grandchildren, great-grandchildren, and more in a state that is more livable than it is today.

In 2001, the year RIHN was established, the UNESCO General Conference in Paris signed the Universal Declaration on Cultural Diversity. Article 1 of this declaration states: “As a source of exchange, innovation, and creativity, cultural diversity is as necessary for humankind as biodiversity is for nature.” In Article 2, it states: “It is essential to ensure harmonious interaction among people and groups with plural, varied, and dynamic cultural identities as well as their willingness to live together.” Today, as the information and communication revolution progresses and urban dwellers account for about half the world’s total population, cultural diversity and its values are rapidly disappearing. Furthermore, we have now reportedly entered the “Anthropocene” era, a new geological age in which the effects of human activities have become apparent in every corner of the planet. The depletion of limited resources, deterioration of the biosphere, and pollution of the atmosphere and hydrosphere are progressing on a global scale, and problems are piling up. To solve these problems, the amelioration of which are included in the SDGs of the United Nations, as issues common to all humankind, it is necessary to create new values through various dialogues and exchanges while taking advantage of diverse values. Futurability expresses our desire to further establish “integrated global environmental studies” that consider what the future of people and Earth should be.

To achieve integrated global environmental studies, RIHN conducts interdisciplinary research traversing the academic foundations of the humanities, social sciences, and natural sciences, as well as problem-solving transdisciplinary research in collaboration and cooperation with society. We believe research should contribute to solving real-world problems, and we promote a collaborative approach in which researchers and people in society work together to uncover problems and find new frameworks and solutions.



Structure and Flow of the RIHN Research

The Research Institute for Humanity and Nature (RIHN) is developing comprehensive research that transcends existing academic fields and disciplines through a “Program–Project system” that unites several research projects under a Program. The Programs consist of a Research Program and Strategic Program, with several research projects under each Program. The research projects are conducted in accordance with the priority issues set for each Program.

During the six years of Phase 4 starting from FY2022, the Research Programs and the Strategic Program are to clarify the relationships among various elements in global environmental issues, as well as the dynamics in the temporal and historical development processes that led to the Anthropocene. The Program results will be linked with transformations that will lead to a more sustainable (furable) society. We strive to achieve flexible, versatile, and effective results, and disseminate them in society.

In addition to Program research, we will promote research within the framework of “Designated Research,” which is special collaborative research that contributes to the achievement of the RIHN mission.

Please note that at the start of the Phase 4, some projects that have continued from the Phase 3 may not belong to a Phase 4 Program.

Research Program

Three Research Programs will be implemented in accordance with the mission of the RIHN, and with activity policies that contribute to the realization of the promotion goals of Phase 4, which include the three perspectives listed below. Particularly, projects that accomplish the Program Director’s (PD) plan are openly called.

Perspectives for the Research Program

RIHN’s aim is the realization of an equitable, fair, and sustainable global society by envisioning ideal relationships between humans and nature from regional perspectives, on a global scale.

■ This perspective explores the understanding of environmental changes, as well as responses to degradation, from an Earth-systems perspective, in addition to an investigation of the interrelationships and linkages between social/economic systems and natural/ecological systems within Earth systems. Further, it aims to elucidate how the anthropogenic degradation of the natural environment and ecosystems occurs in Earth systems, which comprise intertwined elements and processes, and to explain how this degradation affects human society. Various points are elucidated, such as how Earth systems cascade to tipping points with potentially irreversible consequences, and how far-reaching interactions relate to changes in socioeconomic and ecological systems across the world. An investigation is conducted into the responses that can prevent the further degradation of global environments and restore already degraded global environments.

■ This perspective explores the “ways of life” in the Anthropocene through understanding environmental issues in terms of their connections to culture and value systems. In the current “Anthropocene,” as global environmental problems are rapidly increasing in size and scope, we promote interdisciplinary research involving the humanities, social sciences, and natural sciences to help solve these urgent issues. We ask how we can create spaces within the limits of the earth and society where humanity can operate justly and safely, and what are the ways people can best live in the Anthropocene. Through these studies, the relationships between humans and nature are explored in an explicit and normative manner, as well as the significance and importance of culture and value systems.

■ This perspective presents mechanisms for developing ideas and measures to solve global environmental problems, in collaboration with diverse actors in society, in addition to the means to realize such solutions. To transition and transform socio-economic systems into sustainable systems, it will be important to reorganize the roles of key institutions and parties on a large scale. Here, we ascertain how various actors in society (researchers, citizens, non-profit organizations (NPOs), governments, international organizations, etc.) can act to bring about partial renewal and a fundamental change in the system, without being bound by stereotypes and vested interests. We will explore methods of transition/transformation to a sustainable society through case analyses of historical and contemporary transition/transformation processes, social experiments based on practical research, and in other practical and scholarly ways.

Strategic Program

The Strategic Program is designed to develop important concepts and theories for interdisciplinary and transdisciplinary research toward a further synthesis of global environmental research, and to formulate frameworks for methodologies to apply to social practices for problem solving. The Strategic Program invites applications for projects that implement the Program's mission, and while collaborating and cooperating with the Research Program and research projects, we will utilize the resources of the RIHN Center; incorporate trans-disciplinary research from outside the Institute; and develop specific and applicable theories, methodologies, and concepts consistent with the mission of RIHN.

Flow of the RIHN Project Formation

Projects established under the Research Program and Strategic Program will continue to accumulate research while undergoing evaluation both within and outside of the Institute.

- IS (Incubation Studies, Research Program only)
- FS (Feasibility Studies)
- PR (Pre-Research, Research Program only)
- FR (Full Research)

Through the above stages, projects will deepen and refine the research content.

Project Formation for Research Projects



Project Formation for Strategic Projects

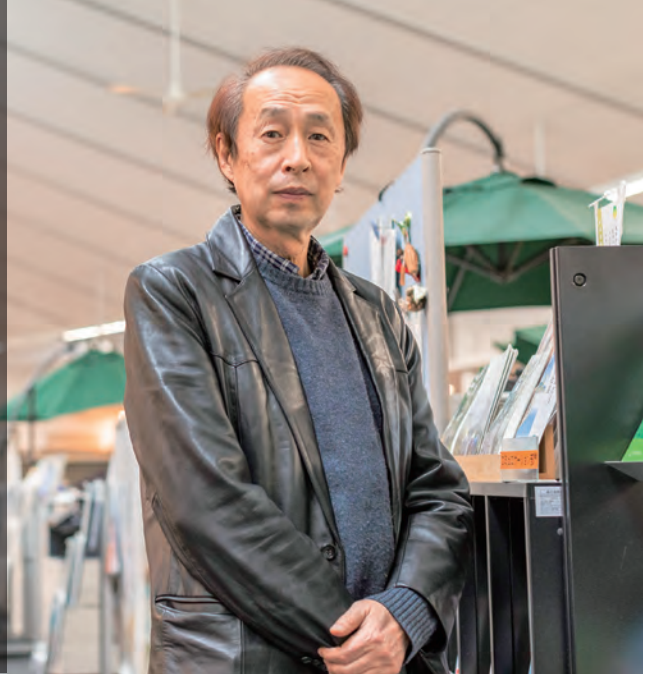




Research Program

Towards a Global Environmental Culture by Articulating Science with Indigenous Knowledge

Program Director
MATSUDA Motoji



Program outline

How should we deal with global environmental problems and what steps should we take to solve them? This program combines research that approaches this question from the perspective of changes in culture and values. We need to recognize what types of problems are emerging as global environmental issues. To achieve this goal, we need to analyze enormous amounts of complex data through collaborations in various fields of natural and social sciences to visualize actual crises. Through these studies, we can gain awareness of environmental crises and share our perceptions of them. Using science to visualize, become aware of and share information on crises, we can prepare to solve global environmental problems.

However, this is not the ultimate goal of this program. We need to identify how we as a society can change our behaviors

and values in response to this shared perception of global environmental crises.

We are exploring how the perspective of culture can be incorporated into the concept of global environmental issues to build a sustainable society. The cultural perspective should not be discussed in terms of global or national levels, but as something more familiar and relatable. This implies prioritizing the cohesiveness of the people who actually live together and emphasizing values of better living. The cultural perspective also includes values that differ from scientific knowledge. Rather than correcting, praising, or approving these values, we need to develop a convivial atmosphere (wherein different things are connected using each other's characteristics) and creative perspective that is mutually transformative. This program integrates research projects that create such perspectives.



Nairobi River in Kenya becoming a dumping ground.



Community forest in Northern Thailand reforested by local communities.

Program Director

MATSUDA Motoji
RIHN

Motoji MATSUDA is Professor of Sociology and Anthropology, Research Institute of Humanity and Nature, Japan. The regional focus of his research include Nairobi and Western Kenya, and his research topics are urbanization, migration and conflict resolution. His major works include *Urbanisa-*

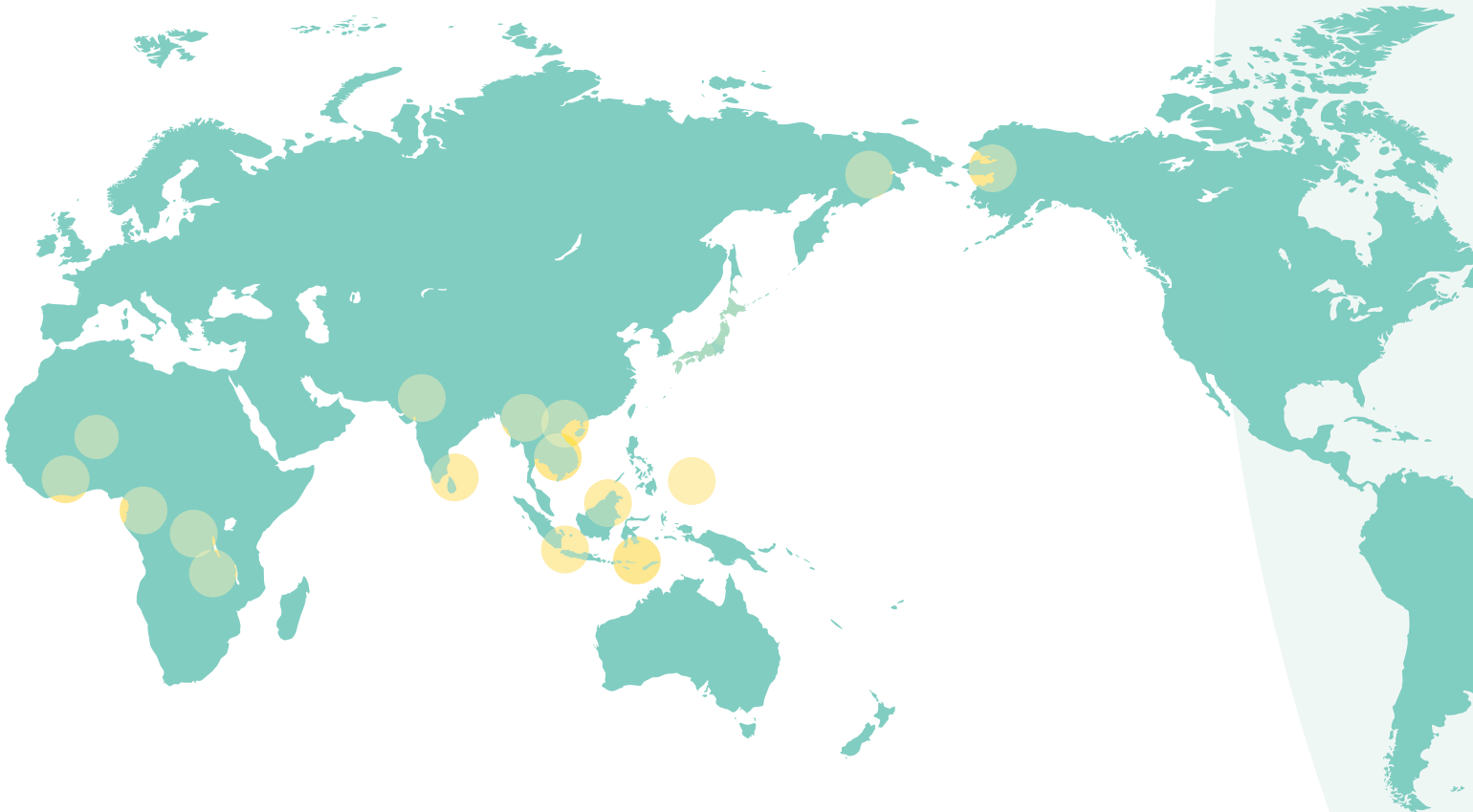
tion from Below (Kyoto: Kyoto University Press, 1998), *African Virtues in the Pursuit of Conviviality: Exploring Local Solutions in Light of Global Prescriptions* (co-edited with I. Ohta and Y. Gebre, Bamenda: Langaa RPCIG, 2017), *The Challenge of African Potentials: Conviviality, Informality and Futurity* (co-edited with Y. Ofosu-Kusi, Bamenda: Langaa RPCIG, 2020), and *AFRICAN POTENTIALS: Bricolage, Incompleteness and Lifeness* (co-edited with I. Ohta and F. Nyamnjoh, Bamenda: Langaa RPCIG, 2022).

Researchers at RIHN

KARATSU Fukiko

Research Associate

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Eco-DRR Project

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

Project Leader
YOSHIDA Takehito



Outline of the project

Globally, the rate of natural disaster occurrence has been increasing, partly due to contemporary climate change. Accordingly, adaptation to natural disaster risks is increasingly important to the sustainability of human societies. At the same time, many societies are experiencing shrinking populations. Ecosystem-based Disaster Risk Reduction (Eco-DRR) takes advantage of the multi-functionality of ecosystems and biodiversity, including their capacity to mitigate natural disasters while providing multiple ecosystem services. Population decline provides ample opportunity for implementing Eco-DRR. Our project will develop practical solutions for the implementation of Eco-DRR by visualizing natural disaster risks, evaluating the multi-functionality of Eco-DRR solutions, conducting transdisciplinary scenario analysis, examining traditional and local knowledge of disaster risk reduction, and collaborating with the insurance industry and other sectors.

Background and goals

Climate change impacts natural and human systems, and these impacts are projected to intensify in the future. Our project focuses on reducing risk and developing management strategies related to natural disasters. The risk of natural disasters results from the interaction between a climate-related hazard and the exposure and vulnerability of human activities (Fig. 1); therefore, adaptation to natural disaster risk can be realized by reducing exposure (e.g., by improving land use) and vulnerability to hazards. Hard engineering of natural disaster countermeasures has targeted safety levels below which natural

disasters can be prevented. Although these countermeasures are effective if the hazard level of the natural disaster is below the target safety level, societies increasingly face situations in which hazards exceed safety levels, resulting in devastating natural disasters. Eco-DRR approaches focus on lowering the exposure of human activities to natural hazards to reduce, if not prevent, associated losses and damages. Eco-DRR approaches take advantage of the multi-functionality of ecosystems, complementing conventional approaches to natural disaster management even though the effectiveness and multi-functionality of Eco-DRR are not yet clearly and quantitatively understood. The population of Japan increased substantially over the last century, increasing both the risk of and public exposure to natural disasters. Recently, however, the population is aging and shrinking, leading to the abandonment of farmlands and houses as well as decreases in other intensive land uses, a challenging circumstance that nevertheless provides an opportunity for improving land use. Evaluating past natural disaster risks in both expanding and shrinking population contexts therefore provides valuable information about adaptation strategies considered in Japan as well as in other countries. Given this background, the Eco-DRR project sets two main goals. First, it develops methodologies to evaluate Eco-DRR multi-functionality and assess Eco-DRR by comparing multi-functionality in the past, present and future. Secondly, the project supports Eco-DRR implementation through transdisciplinary collaborations with local communities, governments, insurance industry and other stakeholders.

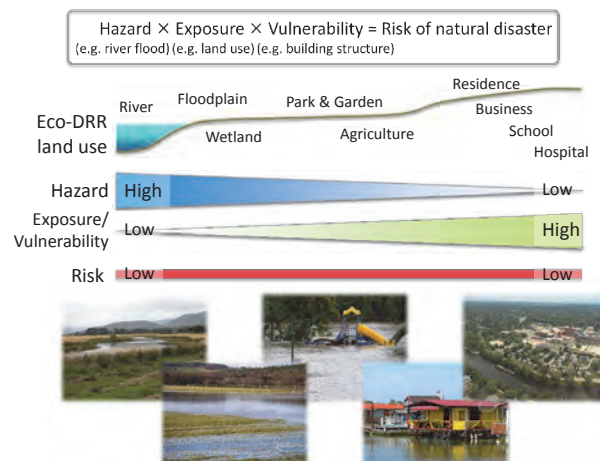


Fig. 1 Ecosystem-based disaster risk reduction not only lowers disaster risks but also enhances the benefits of ecosystem services by reducing the exposure of human activities in high-hazard locations and supporting human activities in low-hazard locations.



Photo 1 Mikatagoko area in Fukui Prefecture, one of the research sites.



Photo 2 Hira mountains and their base area in Shiga Prefecture, one of the research sites. Photo courtesy of MATSUI Kimiaki.

Research objectives

Three research components contribute to achieve the above two goals:

- (1) Visualizing risks of natural disasters in the present and past
Exposure and vulnerability to different natural disasters is analyzed, and societal risk is evaluated and visualized with risk maps of the present and past. Modeling risk for different exposure scenarios will contribute to future Eco-DRR assessments and plans.
- (2) Evaluating and modeling multi-functionality of Eco-DRR
Provisioning, regulating, and cultural ecosystem services will be evaluated, and their spatial distribution will be modeled in relation to population and land use. The model will be used to evaluate the ecosystem services associated with different land use scenarios.
- (3) Transdisciplinary approaches for implementing Eco-DRR in society

Together with local stakeholders, transdisciplinary platforms will be formed at each of the local research sites by taking advantage of existing platforms. Transdisciplinary platforms will deepen mutual understanding, promote discussion of future options, and build consensus regarding the use of Eco-DRR. Multifunctionality of Eco-DRR at each local site will be evaluated, and research outcomes will be shared with local stakeholders using our transdisciplinary platform. In addition, traditional and local knowledge of Eco-DRR will be inventoried and evaluated for multifunctionality so that the benefits of traditional and local knowledge can be shared with the general public. In collaboration with the insurance industry, a research forum will be formed to discuss the possibility and feasibility of insurance industry contributions to the economic incentives of Eco-DRR. Various laws and institutions in national and local governments related to disaster risk reduction and land use will be assessed in the research forum as well.

Recent results

We have launched a website to disseminate our research results of assessing land use in terms of disaster risks and ecosystem services. The website is named J-ADRES for short (j-adres.chikyu.ac.jp) and has been open to the public since the spring of 2022. We evaluated the role of land use for avoiding disasters as “safety from disasters” and various ecosystem services as “richness of nature”, and the results are used for J-ADRES to provide a basis for examining the current and future state of land use. Currently, only the results for disasters caused by flooding are shown. In the future, we plan to make the results for landslides and storm surges available as well.



Fig. 2 Image of J-ADRES, a website for disseminating the results of integrated assessments of land use.

Project Leader

YOSHIDA Takehito

RIHN/The University of Tokyo

Takehito Yoshida is an ecologist and limnologist who studies the diversity and complexity of organisms and ecosystems from the viewpoints of adaptation and system dynamics, and explores human-nature interactions and sustainability in local communities in Japan. Trained at Kyoto University (PhD) and Cornell University (postdoc), he was a member of the faculty at the University of Tokyo, Komaba Campus, before assuming joint appointments at RIHN and the University of Tokyo.

Sub Leader

AIBA Masahiro

Specially Appointed Assistant Professor

Researchers at RIHN

HUANG Wanhui

Researcher

NAKAI Minami

Research Associate

SENDA Masako

Research Associate

SHIMAUCHI Risa

Research Associate

Main Members

AKIYAMA Yuki

Tokyo City University

FUKAMACHI Katsue

Kyoto University

FURUTA Naoya

Taisho University / IUCN

HASHIMOTO Shizuka

University of Tokyo

ICHINOSE Tomohiro

Keio University

MIYOSHI Iwao

Kyoto Prefectural University

NISHIDA Takaaki

Kyoto Sangyo University

NISHIHIRO Jun

National Institute for Environmental Studies

SAITO Osamu

Institute for Global Environmental Strategies

SHIBASAKI Ryosuke

University of Tokyo

SHOUJI Tarou

Pacific Consultants Co., Ltd.

TAKI Kentaro

University of Shiga Prefecture

UEHARA Misato

Shinshu University

URASHIMA Hiroko

MS & AD Insurance Group Holdings, Inc.



http://www.chikyu.ac.jp/rihn_e/project/2018-01.html

Supply Chain Project

Mapping the Environmental Impact Footprint of Cities, Companies, and Households

Project Leader

KANEMOTO Keiichiro



Abstract:

A recent study in *Nature* showed that up to a third of biodiversity loss is driven by trade, and a body of other studies have identified the same pattern for greenhouse gas emissions, air pollution, and other environmental ills. Many environmental impacts worldwide are ultimately driven by consumption in developed countries. Considerations of remote responsibility, ecological footprint, and scope 3 emissions are now a standard part of the environmental policy discussion at many levels, from the UNFCCC to individual businesses and households.

Providing better information to buyers and decision-makers can be a powerful way to reduce environmental pressures worldwide. The life-cycle analysis and supply chain analysis tools (multi-regional input-output (MRIO) models) used to analyze these remote effects in detail have benefited from significant advances in the past years with improving models and, more recently, the link of economic models to spatial (GIS) maps that locate more precisely how global supply chains link to particular emissions and biodiversity hotspots.

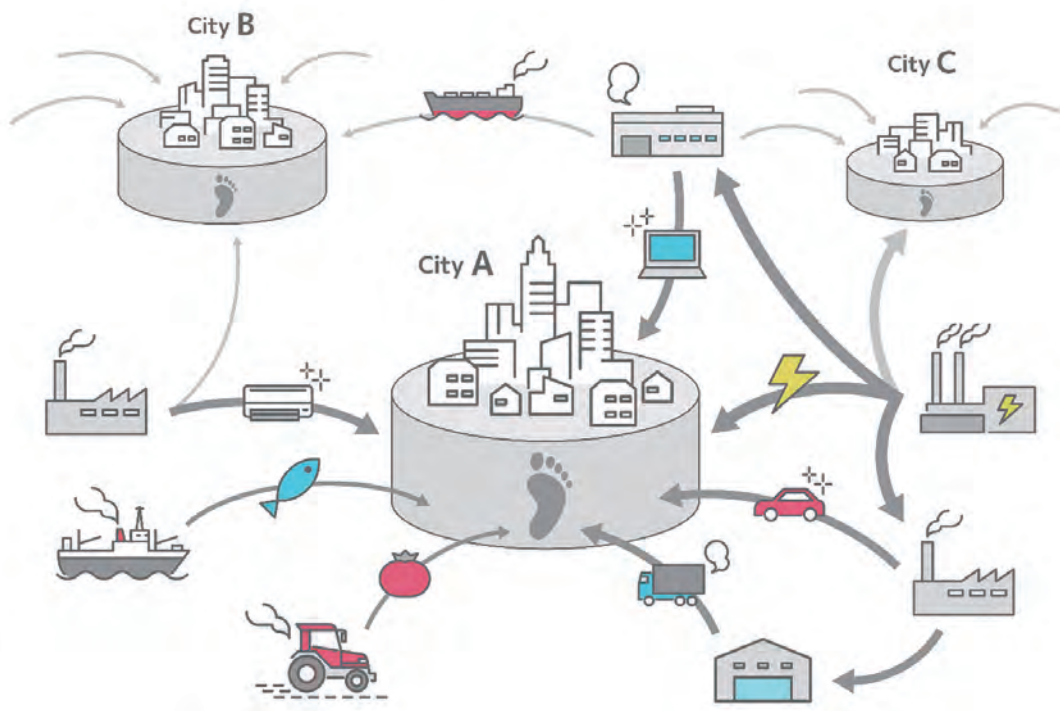
However, while existing work sketches out the broad picture, it still falls short of being detailed enough to help with many

specific decisions. Existing supply chain analyses operate at the resolution of countries and broad economic sectors. In practice decision-makers at these levels often only have limited effective economic and judicial power. Many individuals, businesses, and local governments are seeking to reduce their total environmental footprint, but existing models have either too coarse resolution to be truly useful or require expensive and time-consuming modifications to inform specific decisions.

Unlike most studies that focus on environmental emissions and international trade, this is the first study to clarify the effect of global supply chains on environmental impacts. Further, in addition to countries and regions, we will estimate the environmental footprint of cities, companies, and households. The proposed project will make a major contribution and is expected to be of high interest to businesses, policymakers, NGOs, sustainability consultants, and researchers around the world. The project team has deep experience in supply chain analysis and environmental impact assessment.

Results:

In 2018, we estimated the carbon footprint (CF) of 13,000 cities. Globally, we found CFs are highly concentrated in a



A conceptual figure of the environmental footprint of cities.

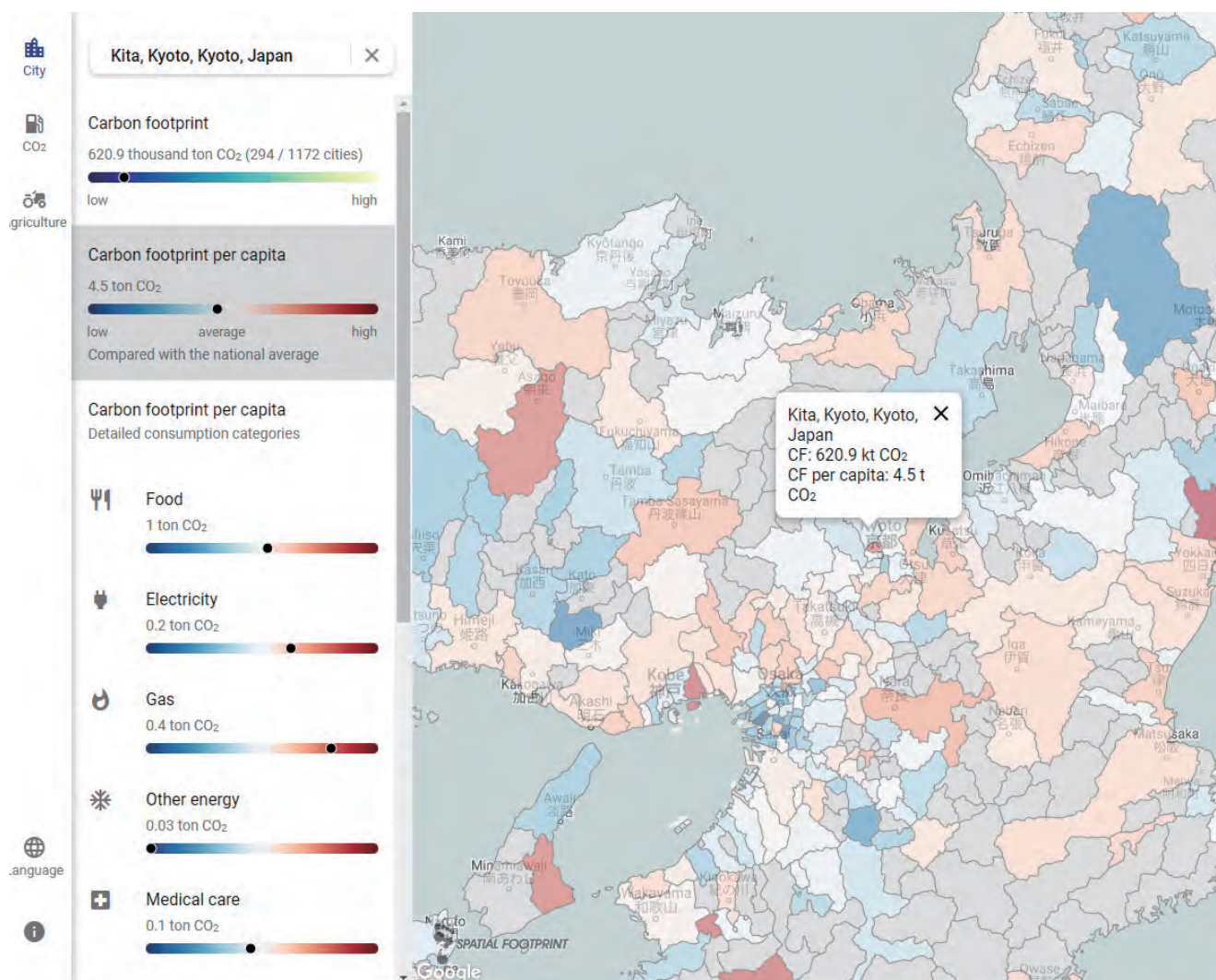
small number of dense, high-income cities and affluent suburbs. 100 cities drive 18% of global emissions.

In most countries (98 of 187 assessed), the top three urban areas are responsible for more than one-quarter of national emissions. In 2019, we identified five key results about Japanese food diet from the Japanese CF household study. First, differences in household demographics (age and sex) do not explain variation in household food CF. Second, regional differences in food-related CF exist, but these are not the main explanatory factor of household differences. Third, household income and savings are weakly correlated with food-related CF. Fourth, there is 1.9 times higher food CF between the mean household in the lowest and highest quartiles. Finally, meat consumption is almost identical across the four quartiles, and it is the consumption of fish, vegetables, confectionary, alcohol, and restaurants that differentiates high and low CF households.

In 2020, we estimated the CF of Japanese and Indian cities.

In the Indian study, we showed the eradication of extreme poverty does not conflict with ambitious climate change mitigation. However, our analysis suggests CF reduction policies within India need to target high-expenditure households, as they are responsible for nearly seven times more carbon emissions than low-expenditure households (living on \$1.9 consumption a day). In the Japanese study, we constructed household CF inventories for 1172 cities using detailed consumer expenditure data and a Japanese domestic MRIO model.

In 2021, using remote sensing data and a MRIO model, we quantified and mapped the spatiotemporal changes in global deforestation footprints over 15 years (2001–2015) at a 30-m resolution. In addition, we quantified the reduction in household CFs for 25 factors associated with individual lifestyle choices and socioeconomic characteristics.



A webpage screenshot of the carbon footprint of cities.

Project Leader

KANEMOTO Keiichiro
RIHN/Tohoku University

Keiichiro Kanemoto is an Associate Professor of the Research Institute for Humanity and Nature. Before that, he was a Lecturer at the Institute of Decision Science for a Sustainable Society, Kyushu University, and Faculty of Economics and Law, Shinshu University. From 2009 - 2011, he was a visiting research fellow at Integrated Sustainability Analysis, the University of Sydney. Dr. Kanemoto received his Ph.D. in 2014 from Tohoku University. In 2018, 2019, 2020, and 2021, he was named a Highly Cited Researcher in the field of Cross-Field by Clarivate Analytics.

Researchers at RIHN

NGUYEN Tien Hoang
LEE Jemyung
KATAFUCHI Yuya
FAHMI Muhamad
FARABI-ASL Hadi
Li Xinmeng

Specially Appointed Assistant Professor
Senior Researcher
Senior Researcher
Researcher
Researcher
Researcher

SRIREP Project

Co-creation of Sustainable Regional Innovation for Reducing Risk of High-impact Environmental Pollution



Project Leader
SAKAKIBARA Masayuki



Research Background

Mercury (Hg) is an extremely toxic metal for human embryonic cells and early childhood development. Recent investigations by the United Nations Environment Programme (UNEP) have highlighted the enormity of Hg pollution in developing countries. ASGM produces 15%–20% of the global gold market and is responsible for 37% of global Hg emissions because Hg amalgamation is a cost-effective and widely used method for extracting gold from its ores (Fig. 1). Although the Minamata Convention was established to protect human health and the environment from the adverse effects of Hg, ASGM activities are generally associated with poverty, and the associated problems with ASGM cannot be solved by the ratification of international treaties or non-governmental organization activities alone.

Research Objectives

The objectives of our project are to 1) understand the association between poverty reduction and environmental management in ASGM areas, 2) establish a process for constructing sustainable societies through regional innovations in ASGM areas, and 3) strengthen environmental governance in ASEAN countries.

Methodology and Research Process

We have been conducting transdisciplinary research and practice in collaboration with mining communities, the key stakeholders of public and private organizations, researchers of local universities, etc. (Fig. 2). This work includes the following:

- Case studies on the reduction of Hg pollution using a future scenario of ASGM in Indonesia and Myanmar.
- Study of the interregional networks aiming to generate Hg-free societies in Indonesia and Myanmar.
- Study of the improvements in environmental governance to address Hg pollution in ASEAN countries.
- Theoretical and practical studies on the design, practical use, and evaluation of transformative boundary objects (TBOs) and transdisciplinary communities of practice (TDCOPs) in study areas. The TDCOP is a COP conducting exchange knowledge, collaboration, and problem-solving, made up of various stakeholders including researchers. The TBO not only connect

people across the boundary of communities but also provide opportunities for transforming the perceptions and values.

Progress and Achievements

- Case studies in Indonesia and Myanmar: These case studies were categorized as basic and transdisciplinary practical research, as described below.
 - Gorontalo in Indonesia
 - Basic research by the Social Science group. The results of the basic research were utilized as TBOs during the formation of TDCOPs or as TBOs for the activation of existing TDCOPs. Some socioeconomic surveys were conducted at two ASGM sites: Motomboto and Mohutango in East Suwawa District and Bone Bolango Regency. The results are as follows:
 - Approximately 1,000 miners work at the ASGM sites, half of which come from outside the regency.
 - The villages near the ASGM experience socioeconomic problems, such as prostitution and poor child education.
 - The Bulawa area, where the residents can commute to the ASGM sites from their homes, includes a high proportion of local workers (40%–60%). Moreover, the Suwawa Timur area includes a low proportion of ASGM miners (ca. 20%) who stay in the camps.
 - A rural livelihoods investigation revealed that poverty is a major concern in this area.
 - A socioeconomic investigation was performed on the latent demand for new job opportunities in Gorontalo, which revealed that villagers prefer companies creating job opportunities for the society, are concerned with payment frequency, and are more conscious of a company's contribution to the local environmental quality than its reputation.
 - Basic research by the Natural Science group. We conducted surveys on natural resources and the environmental and health impacts of Hg pollution. The results revealed that the risk to the health of the residents of Gorontalo and its surrounding areas from heavy metal contamination is very high. We developed new environmental indicators using tree bark for accessing atmospheric Hg pollution. Moreover, we developed a method to quantitatively evaluate the



Fig. 1 Hg amalgamation process and pollution related to ASGM.

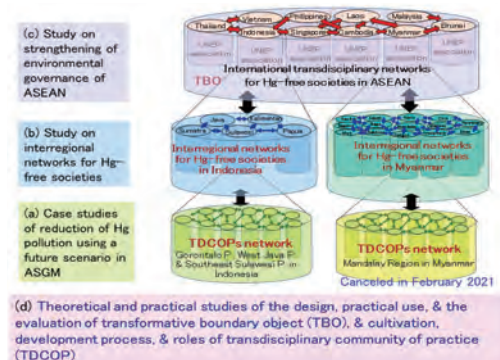


Fig. 2 Structure of the SRIREP project.

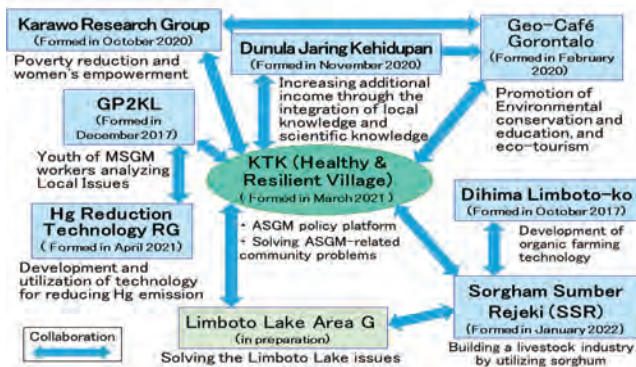


Fig. 3 Progress and collaboration of TDCOPs established in the case study of Gorontalo, Indonesia.

spatiotemporal transition of mining activities in ASGM areas using remote sensing technology. Further, we developed a device that suppresses the release of evaporated Hg into the atmosphere by incinerating Hg amalgam.

- ③ Transdisciplinary practical research: Formation and cultivation of TDCOPs in Gorontalo
We formed and cultivated six TDCOPs: the KTK (“Healthy and Resilient Village”), Karawo Research group, Natural Fiber Research group, Geo Cafe Gorontalo, Mercury Reduction Technical Research group, and Sorgham Research group. Moreover, we helped design transformative learning and practice with the cooperation of each TDCOP (Fig. 2).
- 2) Bunikasih village in West Java, Indonesia: In Bunikasih Village, in collaboration with the Institute of Bandung Technology (ITB), we conducted surveys on the environmental impact of Hg pollution, the health impact of Hg pollution on residents, socioeconomic conditions, tea plantation processes, and cultural history. We explained the risks of Hg pollution to the residents and village officials through a short film and provided related information. The residents then agreed to stop ASGM. Afterward, the Hg content of the tea leaves in the village was significantly reduced. We agreed to collaborate with the residents to co-create new industries and work together to solve the poverty issue as soon as possible.
- 3) Bombana area in Southeast Sulawesi, Indonesia: We conducted environmental assessments in addition to a social and cultural survey. We found that the Moronene tribe in this area has experience in protecting the environment from damage, whereas the Bombana people have a cultural heritage with the potential to be developed, thereby leading to alternative jobs for mining workers.
- 4) Pesawaran Regency in Lampung, Indonesia: In 2020, we started basic research in Lampung Province.
- 5) Mandalay region in Myanmar: In February 2020, environmental and health impact assessments of Hg pollution in

Date and Time: 29th June 2021 (TUE) 15:00–16:30
Topic: Minamata Disease
Attendees: General audience, researchers and stakeholders from Indonesia, Myanmar, Laos, Singapore, Cambodia, Vietnam, India, Thailand, Lesotho, Slovakia, Ecuador and Japan
Speaker: Professor Takashi Yorifuji
Department of Epidemiology
Graduate School of Medicine, Dentistry and Pharmaceutical Sciences,
Okayama University

• 380 attendees actively participated
• Questionnaire result indicates 61 persons want to join MFSN



Fig. 4 Flyer of the 6th Japan - ASEAN Medical Seminar on the Human Health Impact of Heavy Metals.

- the ASGM areas were conducted in the Thabeikkyin Township. The results showed that the miners have reduced lung capacity. Mild tremors and ataxia were further detected in three female ASGM miners. In January 2021, we conducted an environmental and health assessment study in the Yamethin Township, Mandalay Region, and developed a method to remotely survey the health of ASGM workers. However, we had to cancel this study because of the coup d'état in Myanmar.
- (b) Study on interregional networks: We held the 1st and 6th Japan–ASEAN Medical Seminar on the Human Health Impact of Heavy Metals (Fig. 4). MFSN (Mercury-free Society Network) activities officially started in April 2021 with the launch of their website. Our network was expanded to the planetGOLD Indonesia project in August 2021 and to the Indonesian Institute of Science in September 2021 by conducting initial dialogues on future collaborations for Hg usage reductions in the ASGM areas of Indonesia.
 - (c) Study on environmental governance: The 4th International Conference of Transdisciplinary Research on Environmental Problems in Southeast Asia (TREPSEA) was held as an online conference in September 2021, and approximately 600 people attended. On December 11, 2019, the 2nd ASEAN–Japan Meeting Point of Collaboration by Stakeholders and Researchers for Reducing Environmental Problems in ASEAN Countries (TRPNPEP) was held in Nay Pyi Taw. The total number of seminar attendees was approximately 280.
 - (d) Study on the TBO and TDCOP: The TBO and TDCOP research group discussed and presented the results of theoretical studies on the practice community. To solve serious environmental problems, pursuing a transdisciplinary approach, bringing together various stakeholders, including non-academic participants, and promoting the transformation of values are crucial. TBO is effective because it encourages people who are not interested in participating in transformational learning and increases their interests.

Project Leader

SAKAKIBARA Masayuki

RIHN/Ehime University

Professor Masayuki Sakakibara is an earth scientist with a multidisciplinary background in geology, petrology, astrobiology, geochemistry, medical geology, geoengineering, and remediation engineering. He is currently working at the Faculty of Collaborative Regional Innovation and Graduate School of Science and Engineering, Ehime University. His interest in environmental pollution has enabled him to conduct intensive fieldwork and activities to reduce mercury pollution and poverty problems in artisanal and small-scale gold mining (ASGM) areas in Indonesia and Myanmar. He has further participated in numerous international conferences and seminars, such as Transdisciplinary Research on Environmental Problems in Southeast Asia (TREPSEA) and Transdisciplinary Research and Practice for Reducing Environmental Problems (TRPNPEP).

Researchers at RIHN

WIN THIRI KYAW	Researcher
MEUTIA Ami Aminah	Researcher
METARAGAKUSUMA Andi Patiware	Researcher
KIMIJIMA Satomi	Researcher

MYO HAN HTUN TAKEHARA Mari

Research Associate
Research Associate

Main Members

KUSAGO Takayoshi
KASAMATSU Hiroki
MATSUMOTO Yuichi
KOMATSU Satoru
SHIMAGAMI Motoko
MATSUDA Hiroyuki
MIYAKITA Takashi
ISA Ishak
JAHJA Mohamad
ABDURRACHMAN Mirzam
KURNIAWAN A. Idham
ARIFIN Bustanul
ISOMONO Hanung
BASRI
BOBBY

Kansai University
Ehime University
Kwansei Gakuin University
Nagasaki University
Ehime University
Yokohama National University
Kumamoto Gakuen University
State University of Gorontalo
State University of Gorontalo
Institut Teknologi Bandung
Institut Teknologi Bandung
Lampung University
Lampung University
College of Health Sciences Makassar
Network Activities Groups

Aakash Project

An Interdisciplinary Study Toward Clean Air, Public Health and Sustainable Agriculture: The Case of Crop Residue Burning in North India

Project Leader

HAYASHIDA Sachiko



Problem

This study addresses air pollution caused by annual large-scale post-harvest burning of rice-straw in October and November in the states of Punjab and Haryana in Northwest India (Fig. 1). The burning causes severe air pollution in the surrounding areas, most notably in the Delhi-National Capital Region. Some evidence suggests that crop-residue burning negatively affects air quality over the entire Indo-Gangetic Plain (IGP), demonstrating the potential negative impact of changing agricultural practices on regional air quality on the health and well-being of hundreds of millions of people.

Background

Historically, the Indian Punjab region, a semi-arid zone with low precipitation, was not suitable for intensive cultivation. Traditional agriculture in the region consisted of a combination of cultivating wheat and raising livestock (cattle). The development of irrigation canals during the British colonial period transformed the region into a granary. In the 1960s, the area became the seat of the so-called “Green Revolution” and

played a central role in producing food for the populous nation. In the 1970s, most of the region adopted a double-cropping system of wheat and rice. However, this cultivation practice required farmers to sow wheat seeds immediately after the rice harvest. While traditional hand-harvest allowed the cropping of rice stalks near ground-level, the recent increased use by harvesters has left large quantities of stubble in the fields. Farmers are therefore forced to quickly burn this crop residue (stubble and stalk) in order to prepare for wheat seeding in the short period between late October and early November. Winds in this season shift to the northwest, often blowing smoke from stubble burning to Delhi-NCR, markedly affecting air quality there. Yet, the cause-and-effect relationship between stubble burning in the Punjab region and worsening air pollution in Delhi has not yet been established quantitatively. This lack of definitive quantitative evaluation is principally due to the poor state of the air pollution monitoring network in the region. Unfortunately, many farmers of the Punjab region are reluctant to acknowledge their own actions as the cause of air pollution in Delhi, and there is also some disagreement among academic researchers as well.



Photo A scene of burning rice straw captured in Ludhiana district, Punjab, on Nov. 2, 2018.

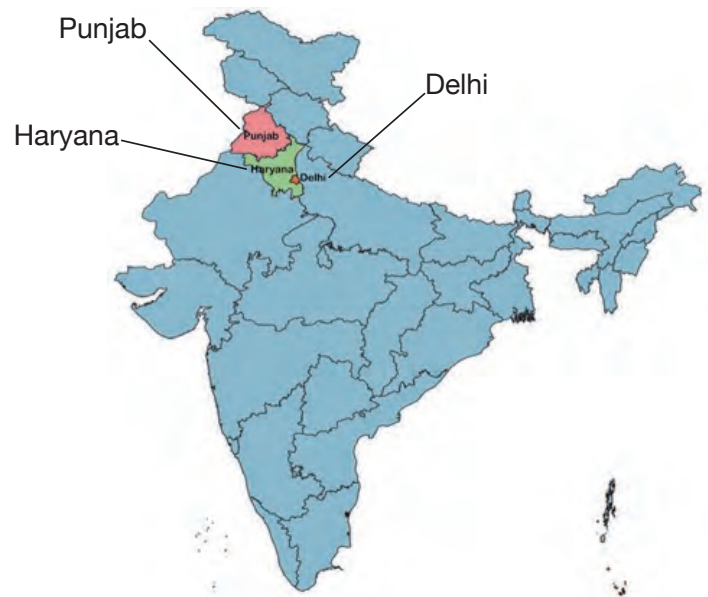


Fig. 1 Map of India showing the states of Punjab and Haryana.

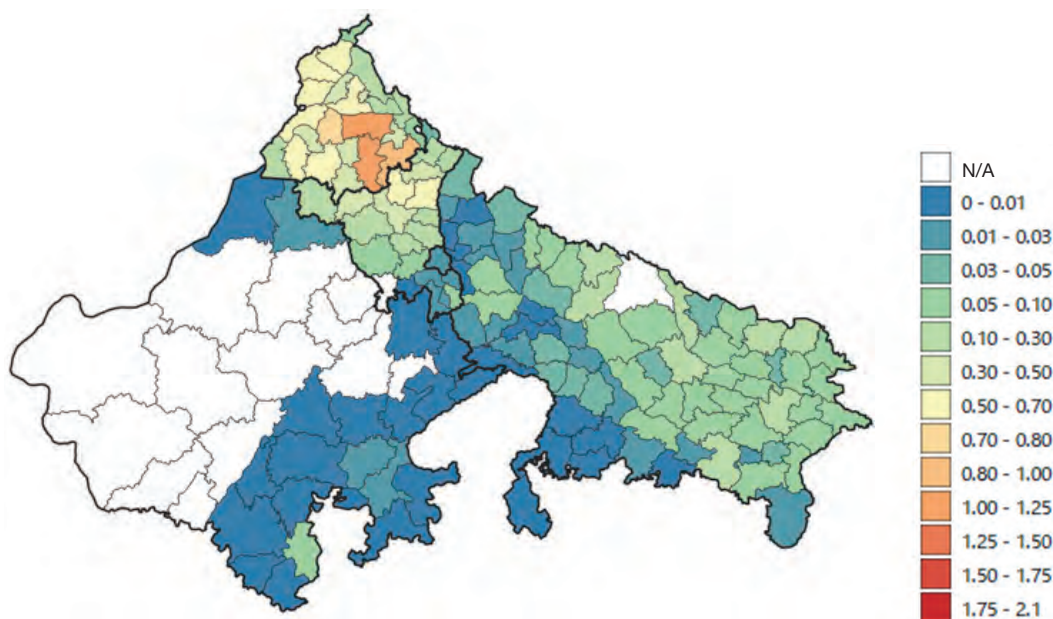


Fig. 2 District-wise activity data based on agricultural statistics and publications over the states of Punjab, Haryana, Rajasthan, and Uttar Pradesh. Unit is Tg(teragram).

Project structure & research plan

This project utilizes observational data and model simulations in order to provide a scientific examination of the connection between stubble burning in Punjab and severe air pollution in Delhi. Based on this scientific understanding, we will pursue a pathway of social transformation toward clean air, public health and sustainable agriculture. We will organize three working groups to approach stakeholders; all working groups will examine various measures to raise awareness regarding farmer/ community behavior relevant to air pollution as well as that of other stakeholders and government.

Questionnaire survey in all districts in the state of Punjab

We carried out a questionnaire survey in all 22 districts of the state of Punjab under a contract with the Center for International Projects Trust (CIPT), a non-profit organization in India. Two villages per district and 50 households per village

were selected, representing a total of 2,200 households. Surveys gathered information on household financial status, agricultural practices, health awareness, and so on. Even in the midst of the spread of COVID-19, the CIPT was able to carry out surveys of all 2,200 households in FY2020. The questionnaire also included information on rice stubble burning. Because individual farmers may fear punishment for certain agricultural practices, in order to gain further information, we also conducted direct interviews with village representatives and found difference between the northern part and the southern part of the Punjab state. In addition, an increase in the burnt area in the south part was found after the COVID-19 pandemic, suggesting its impact on labour availability and cultivation period.

Some simulations of air pollutants revealed that the emission inventories from straw burning developed in western countries are underestimated. To reduce pollutant emissions from straw burning, we developed bottom-up inventories. The optimal one is shown in Fig. 2 as the activity data (the amount of straw burnt in the fields).

Project Leader

HAYASHIDA Sachiko

RIHN/Nara Women's University

Dr. Sachiko Hayashida is an atmospheric scientist who has extensively studied ozone depletion, air pollution and greenhouse gases. She received the Horiuchi Award from the Japan Meteorological Society in 2002. From 2005-2008, she was a member of the Science Steering Group of the Stratospheric Processes And their Role in Climate (SPARC) within the World Climate Research Programme (WCRP). From 2010-2018, she was a committee member of the International Commission on Atmospheric Chemistry and Global Pollution (iCACGP), a special commission within the International Association of Meteorology and Atmospheric Sciences (IAMAS). She was president of the Remote Sensing Society of Japan (RSSJ) from June 2020 to May 2022.

Sub Leader

SUDO Shigeto

Institute for Agro-Environmental Sciences, The National Agriculture and Food Research Organization

Researchers at RIHN

YASUTOMI Natsuko

Assistant Professor

MURAO Rumiko

Researcher

SINGH Deepak

Researcher

SINGH Tanbir

Researcher

CHOUDHURY Begum Abida

Researcher

ARAKI Hikaru

Research Associate

Main Members

ASADA Haruhisa

Nara Women's University

UEDA Kayo


Hokkaido University

PATRA Prabir

Japan Agency for Marine-Earth Science and Technology

KAJINO Mizuo

Meteorological Research Institute

 <https://aakash-rihn.org/en/>

FairFrontiers Project

Fair for Whom? Politics, Power and Precarity in Transformations of Tropical Forest-agriculture Frontiers

Project Leader
Grace WONG



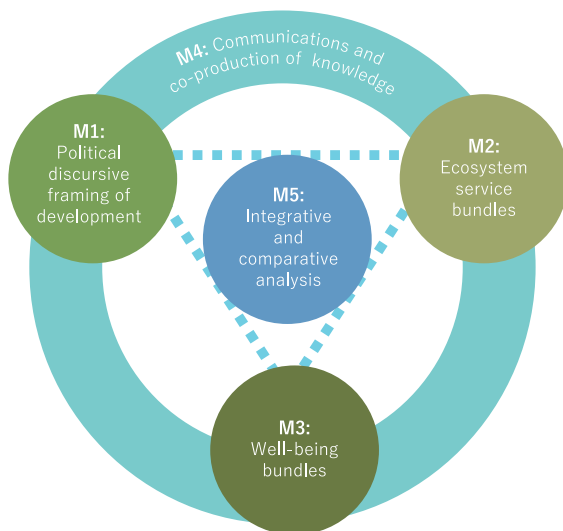
Research background

Throughout the tropics, forest-agriculture frontiers dominated by diverse swidden and smallholder practices are rapidly being converted to homogenous landscapes of commodity agriculture. These frontiers of agriculture, fallow and forest mosaics provide multiple ecosystem services, support social, cultural and livelihood needs, and are areas where farmers have traditional rights to land and resources. This is not a simple trajectory of change, however. Land use intensification – often pursued under the guise of sustainable development – has often not led to expected win-win social and ecological outcomes, and smallholders in these landscapes often benefit less than local elites and external investors, reflecting underlying politics and institutional and power structures around forests and land-use tenures. FairFrontiers applies inter- and transdisciplinary approaches to ask: *whose interests drive the transformations of forest-agriculture frontiers, who benefits and who is made precarious? What are possible policy options that can deliver ecologically sustainable and socially equitable outcomes?*

Project structure and research methods

To address these research questions, the project is organized into 5 interlinked research modules (see Project Structure) and will carry out research in the case study regions of Malaysian Borneo (Sabah, Sarawak), Mainland Southeast Asia (Myanmar,

Laos), and the Congo Basin (Cameroon, Democratic Republic of the Congo (DRC)). The first research module will delve into the historical (colonial) constructs of policies for forest and land and their contemporary pathways, and carry out critical discursive analyses of how policies frame and problematize development in forest-agriculture frontiers. The second and third modules will examine how ecosystem services and well-being bundles are changing in frontiers using a set of mixed methods and participatory approaches. The fourth module applies transdisciplinary approaches in the co-production of knowledge on and inclusion of diverse and local narratives of sustainable futures, and actively engages with actor groups who have been traditionally marginalized from decision-making processes. Last but not least, the fifth module will carry out integrative and comparative analyses across modules, scales and countries through structured qualitative and quantitative analyses to identify what conditions are enabling or hindering more equitable and sustainable development pathways. The case study regions provide unique contexts along different ecological, social and institutional gradients such as forest cover, fallow diversity, inequality and human well-being indices, institutional/political control, and democracy and civil society engagement in policy processes. Together, these approaches support the advancement of theory and methods for assessing equity, ecosystem services and well-being, and identification of the enabling and hindering conditions for more equitable and sustainable development pathways for the millions of people who still depend on these diverse landscapes for their well-being.



FairFrontiers project structure



Forest-agriculture frontier in Laos

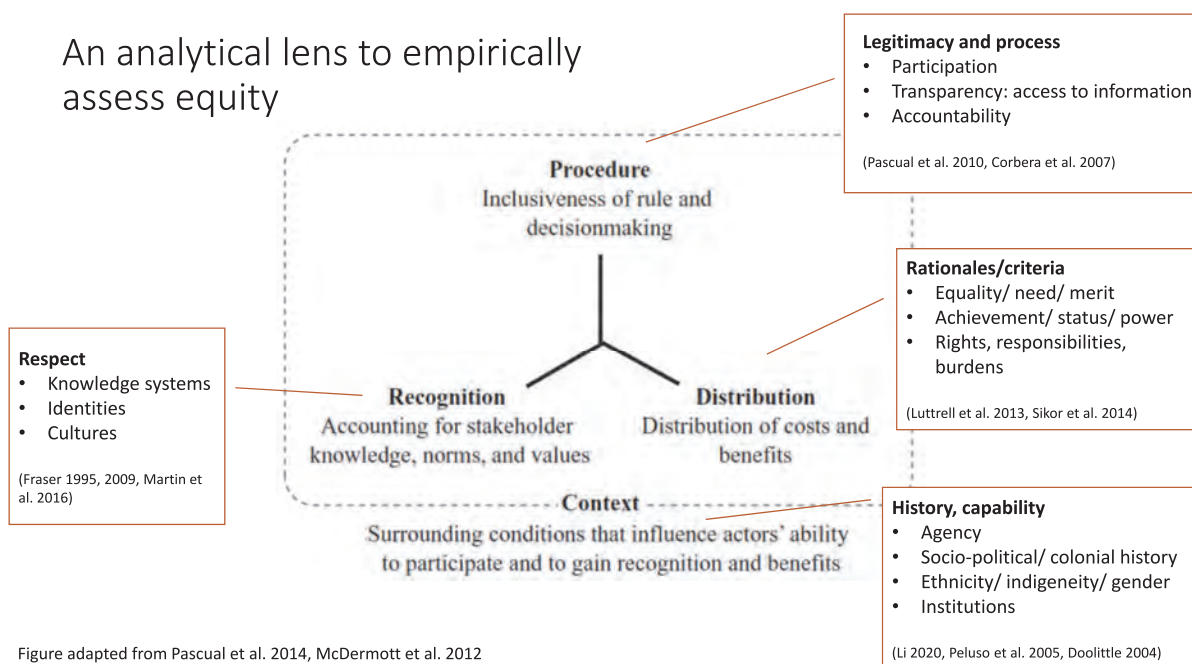
Early research findings

The project’s analytical framework is built on theories of power and everyday politics, social and environmental justice and ecosystem service science. Over the past year, we carried out in-depth background studies on the theoretical concepts and empirical methods for assessing the multiple dimensions of equity (see Equity Framework) and critical reviews on how forest frontiers and indigenous rights are represented in the scientific literature. Additionally, we carried out an extensive synthesis study building on over 25 years of collective research to examine climate policy outputs through a political-economy lens and transnational perspective to understand equity and sustainable implications (Brockhaus et al. 2021). Our findings

suggest that while climate change policies have built on promises of development and equity, they have largely failed to challenge the wider political and economic system governing forests and forest lands. We argue that by only focusing on symptoms and isolated solutions, climate policies risk maintaining and worsening social and environmental injustices of current practices in forest exploitation.

Brockhaus, M., Di Gregorio, M., Djoudi, H., Moeliono, M., Pham, T. T., & Wong, G.Y. (2021). The forest frontier in the Global South: Climate change policies and the promise of development and equity. *Ambio*, <https://doi.org/10.1007/s13280-021-01602-1>

An analytical lens to empirically assess equity



The figure highlights how the four dimensions of social equity (procedural, distributional, contextual and recognition) are interpreted and will be empirically assessed in the project.

Project Leader

Grace WONG

RIHN/Stockholm University

Grace Wong is a natural resource economist. Over the past two decades, her research has largely converged on assessing social, economic and ecological trade-offs in changing tropical environments at the interface of development and conservation processes. She has worked extensively throughout Southeast Asia and Latin America and more recently in Sub-Saharan Africa. Her current research is on the politics and governance of forest, climate and ecosystem services, with particular focus on issues of power, gender, intersectionality and equity.

Sub Leaders

Maria BROCKHAUS
Thilde Bech BRUUN
Ole MERTZ
Moira MOELIONO
Shoko SAKAI

University of Helsinki
 University of Copenhagen
 University of Copenhagen
 CIFOR
 Kyoto University

Researchers at RIHN

Samuel ASSEMBE-MVONDO Senior Researcher
BOON Kia Meng Researcher
Ahmad DHIAULHAQ Senior Researcher

Catherine HEPP
Ayami KAN

Researcher
 Research Associate

Main Members

Aristide CHACGOM
Nyein CHAN
Kelvin EGAY
Noboru ISHIKAWA
Mamoru KANZAKI
Daisuke NAITO
Blaise-Pascal NTIRUMENYERWA MIHIGO
Symphorien ONGOLO
Muhammad Alif K. SAHIDE
Odirilwe SELOMANE
Maria TENGÖ
Sithong THONGMANIVONG

Green Development Advocates
 National Institute for Environmental Studies (NIES)
 Universiti Malaysia Sarawak
 Kyoto University
 Kyoto University
 Kyoto University
 University of Kinshasa
 French National Research Institute for Sustainable Development
 Universitas Hasanuddin
 Stellenbosch University
 Stockholm University
 National University of Laos

LINKAGE Project

Adaptive Governance of Multiple Resources based on Land-Sea Linkages of the Water Cycle: Application to Coral Reef Island Systems

Project Leader

SHINJO Ryuichi



1. Background and objectives

Islands with rich coral reefs are widely distributed in the tropics and subtropics. Water is very precious on coral reef islands, and inhabitants have used limited water resources, such as groundwater and spring water, carefully and creatively since ancient times. While water is essential for daily life, it also circulates while changing form and functions to connect the land and the sea. On islands, the scale of the water cycle connecting the land and sea is small, and the coral reef ecosystem that nurtures marine resources is closely connected to the land through this water cycle. Such coral reef island systems have nurtured a diversity of organisms and cultures unique to the region. In recent years, however, land use and socioeconomic changes have led to the depletion of water resources and deterioration of water quality on the islands, resulting in the deterioration of coral reef ecosystems via the water cycle. Changes in precipitation patterns, sea levels, ocean acidification, and sea temperatures due to climate change have further contributed to this deterioration of conditions. For inhabitants of coral reef islands to sustainably use the limited natural resources, including highly vulnerable water resources, fishery resources, and forest resources, it is necessary to strengthen adaptive governance and the response to both climate change and socio-economic changes.

The project aims are as follows: 1) to understand and predict changes in multiple resources in response to climate change and socio-economic change by clarifying the connection between the land and sea via the water cycle using stable isotopes, environmental tracers, and metagenomic analyses, 2) to clarify the Biocultural Diversity and Community Capability, to elucidate the factors contributing to the maintenance of livelihoods in island communities with limited resources, 3) to clarify the transition and multilayered nature of individual attitudes and institutions that connect local and global governance through behavioral science and multi-level institutional analyses, and 4) to evaluate adaptive governance, which bridges scientific and local knowledge and attempts to create new values by integrating these sources of knowledge. These results are expected to contribute to the realization of a resilient natural symbiotic society able to cope with climate change and socioeconomic changes in coral reef island systems.

2. Project progress

- The Natural System unit conducted a comprehensive survey of river water, groundwater, submarine groundwater discharge, and coral reefs in the southern area of Okinawa Island, Tarama Island, Yoron Island, and Sekisei lagoon (Fig. 1).
- On the southern area of Okinawa Island, we have been conducting groundwater monitoring for more than one year. The issue in this area is the high concentration of nitrate nitrogen in groundwater. We analyzed the boron concentration and isotope composition of groundwater samples and possible pollutant sources. As demonstrated in Fig. 2, it appears possible to quantitatively evaluate pollution sources using a unique tracer of boron.
- As a preliminary survey, we conducted interviews and material research, mainly on Yoron Island, in cooperation with local NPOs, fishermen cooperatives, the Board of Education, and the local archives. As a result of these efforts, an interactive “Yunnu Old Photography Exhibition” was held in February 2022 at Yoron Island.
- We published the first book of the LINKAGE Booklet Series “Narratives on Islands 01: Yoron Island in the Ryukyu Arc”, which compiles this year’s research (Fig. 3).
- To identify connections between people who live in and people who visit island communities, the Governance unit focused on conducting online surveys designed for both populations. We used Qualtrics, a tool for creating survey forms, and Lucid Marketplace, an international tool for collecting samples online, to set up the research system. The Governance unit conducted online surveys on the World Heritage sites and on the compatibility between human mobility and infection control.
- To strengthen joint research, MoUs were signed between RIHN and Halu Oleo University, Indonesia, and the Institute for Marine and Island Cultures, Mokpo National University, South Korea.
- We acted as the local committee of the Japanese Association of Groundwater Hydrology (December 2021, Naha City). We also organized a symposium titled “Water Cycle in the Southern Islands: Linkage between Land and Sea” to develop new collaborative research.
- Since the groundwater is invisible, resident’s awareness of its potential as a resource tends to fade. For the purpose of awareness raising, a 3D simulation study of groundwater flow was conducted based on our research results (Fig. 4), which will be upgraded into 3D projection mapping.



Fig. 1 A comprehensive groundwater survey on Tarama Island

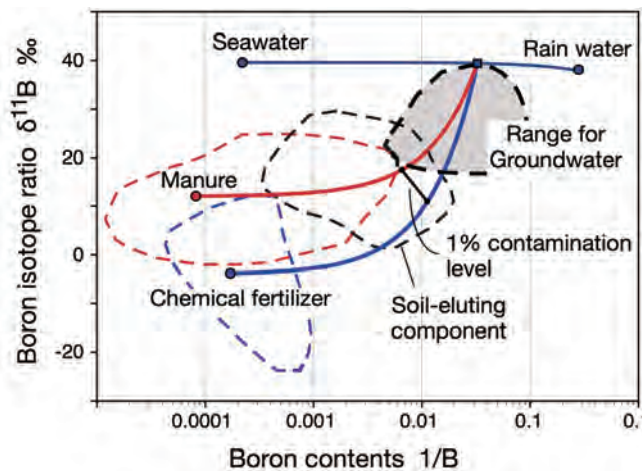


Fig. 2 Application of boron isotopes for the quantitative evaluation of groundwater pollution in the southern area of Okinawa Island



Fig. 3 The first volume of the LINKAGE Booklet Series: "Narratives on Islands 01: Yoron Island in the Ryukyu Arc"

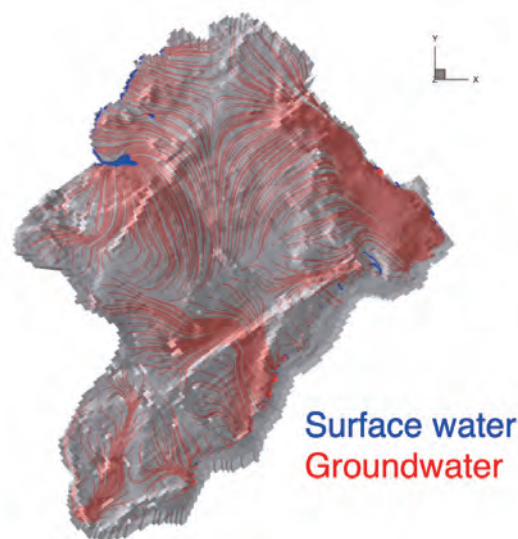


Fig. 4 Prototype of integrated 3D simulation for surface and groundwater flows at the southern Okinawa Island, Japan

Project Leader

SHINJO Ryuichi

RIHN/University of the Ryukyus

Ryuichi Shinjo took a research position at the Faculty of Science, University of the Ryukyus, in 1992, becoming a professor in 2007. His specialties are earth science, geology, petrology, and mineralogy. Fascinated by isotope geochemistry as powerful tool to explore dynamics occurring in earth system, he built a unique mass spectrometry laboratory including a laser ablation system and developed a technique for several isotope systematics (Sr, Nd, Pb, Hf, B, and Li) as tracers for the earth sciences. He has expanded the research subjects into submarine hydrothermal activity, hotspot and subduction zones magmatism at fields of the Okinawa Trough-Ryukyu Arc system, the African continent and the Himalayas.

Sub Leader

YASUMOTO Jun

University of the Ryukyus

Researchers at RIHN

TOMOJIRI Daiki
Chris LEONG

Researcher
 Researcher

Main Members

KUBO Yoshiaki
TAKAHASHI Soyo
Bam H.N. RAZAFINDRABE

Kwansei Gakuin University
 University of the Ryukyus
 University of the Ryukyus

NAKAMURA Takashi
FUJITA Kazuhiko
ASAMI Ryuji
YASUMOTO Ko
HOSONO Takahiro
CHIBA Tomoyo
OHNO Tomohiko
TANAKA Toshinori
MIYAZAKI Yuri
NAKAMOTO Atsushi
GOYA Junko
MUKAI Daisaku
LEE Choonja
GOTO Makoto
ANKEI Yuji
MORIGUCHI Mitsuru
HONG Sun-Kee

University of the Ryukyus
 University of the Ryukyus
 Tohoku University
 Kitasato University
 Kumamoto University
 Osaka Metropolitan University
 Kanazawa University
 Kyushu University
 Rikkyo University
 Okayama University of Science
 Okinawa Prefectural University of Arts
 Okinawa Prefectural University of Arts
 Kobe Women's University
 National Museum of Japanese History
 Yamaguchi Prefectural University
 Okinawa University
 Institution for Marine & Island Cultures, Mokpo National University
 Halu Oleo University
 Halu Oleo University

Sustai-N-able (SusN)

Towards Sustainable Nitrogen Use Connecting Human Society and Nature

Project Leader
HAYASHI Kentaro

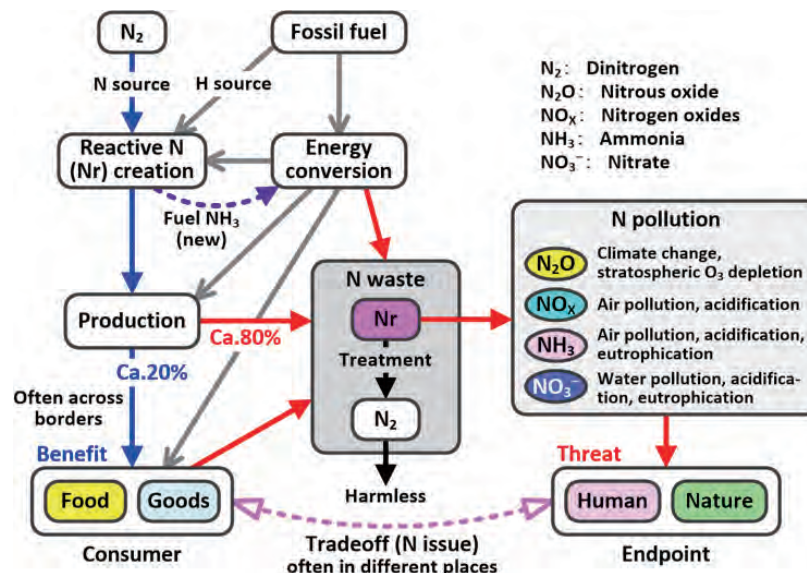


Nitrogen (N) provides great benefits to humanity as fertilizer for food production and materials for industrial production. However, the production and consumption of food, goods, and energy create a huge loss of reactive N (N compounds other than inert and harmless dinitrogen) to the environment that threatens human and ecosystem health via N pollution at an impact from local to global scales. We need to address this tradeoff, the N issue (Figure 1), to achieve sustainable N use.

The present knowledge of the N issue leaves much to be elucidated, e.g., ecosystem responses to human-induced N input and removal, N flows within human society and to the environment for each reactive N species, and physical and economic effects of policy, technology, and behavior on the N issue. A new N use is attracting attentions in Japan, i.e., ammonia as an energy source. Ammonia does not create carbon dioxide when combusted, and therefore the momentum of

decarbonization focuses on this property. However, using ammonia as a fuel may increase the emissions of nitrogen oxides. Thus, the N issue is closely connected with other environmental issues.

Our project will tackle the N issue covering all human N uses as fertilizers, materials, and fuels considering their links between natural and human systems. We aim to produce a tool to assess the benefits and dangers of N use to support policy decision making that addresses the N issue. We share interdisciplinary and transdisciplinary knowledge of N with domestic and international stakeholders and also introduce practices of Future Design to guide them towards sustainable N use for humanity and nature. Our goal, by 2050, is to achieve the “futurability” of N use resolving the N issue and to let future generations inherit the food equity and good health of human and ecosystems.



The nitrogen issue is a tradeoff between the benefits of nitrogen use and the threats due to nitrogen pollution.

Project Leader

HAYASHI Kentaro

RIHN/Institute for Agro-Environmental Sciences, National Agriculture and Food Research Organization (NARO)

Kentaro Hayashi is a biogeochemist interested in nitrogen cycling in a variety of terrestrial ecosystems from cropland to polar regions as well as holding comprehensive scientific knowledge for sustainable nitrogen use

involving food, industry, and energy production and consumption. Trained at Hokkaido University (M.Eng.) and Tokyo University of Agriculture and Technology (Ph.D.), he was a member of the Pacific Consultants Co., Ltd., National Institute of Advanced Science and Technology, and National Institute for Agro-Environmental Sciences, Japan before his current joint appointments at RIHN and NARO. He received the JSSSPN Award from the Japanese Society of Soil Science and Plant Nutrition in 2021.



Strategic Program

Co-creation Project

Methods and Tactics to Foster Knowledge
Co-creation: A Practical Framework for
Implementing Transdisciplinary Research

Project Leader
ONISHI Yuko



It is increasingly acknowledged that transdisciplinary (TD) research methods are useful in research projects on global environmental problems for which science alone cannot provide a definite solution. However, many researchers have pointed out that the theoretical concepts of ideal TD processes are extremely difficult to apply in practice. This project aims to identify a practical framework for TD research. The practical framework consists of methods and tactics for fostering knowledge co-creation, identified from current TD practices implemented throughout the world, as well as from knowledge and perspectives of experienced TD researchers and stakeholders. In order to make sure that the proposed framework is useful, the project uses the above results for capacity building and will revise our framework as necessary.

The project consists of the following three components:

- 1) TD Landscape (literature reviews, collection and analysis of case studies)
- 2) Lessons learned (researcher and stakeholder experiences)
- 3) Capacity/network building (lectures and website)

This project analyses the international research landscape surrounding TD research. It examines similar research approaches, such as a participatory approach and action research, and seeks to establish a new definition of TD research and project design (methods, tools and approaches) for fostering knowledge co-creation in relation to different types of environmental issues. In addition to this survey of international

TD literature, the project carries out in-depth studies with researchers and stakeholders in TD projects at RIHN and other institutes. We identify tips and tactics to enhance stakeholder engagement in TD research, from the interviews and workshops with the researchers undertaken TD projects. We also identify the effects of TD projects on stakeholders and communities, which are largely overlooked in current project evaluations. With this combination of global and focused investigations, the project seeks to synthesize experiences of co-creation for solving environmental issues and share the information widely to help implement various co-creation projects in Japan and worldwide.



TERRA School 2019 (TD School Co-organized by RIHN and Regional Centre for Future Earth in Asia)

Project Leader

ONISHI Yuko
RIHN

Yuko Onishi holds a Ph.D. in environmental science from the University of Oxford, UK. Before joining RIHN, she worked for the Food and Agricultural Organization of the United Nations (FAO) and later worked for the National Institute for Environmental Studies, Japan. She is a member of the Future Earth Global Secretariat Hub Japan.

Researchers at RIHN

KOO Bonjun
LAMBINO Ria

Researcher
Specially Appointed Associate
Professor

Main Members

KIKUCHI Naoki
OH Tomohiro
NISHIMURA Takeshi
RAMPISELA Agnes
GASPARATOS Alexandros
RIGOLOTT Cyril

BAARS Roger

Kanazawa University
Kyoto Sangyo University
Sanyo Gakuen University
Hasanuddin University
The University of Tokyo
French National Institute for
Agriculture, Food, and Environment
Kyoto University

 <https://cocreationproject.jp/en/>

Strategic Program

Future Design

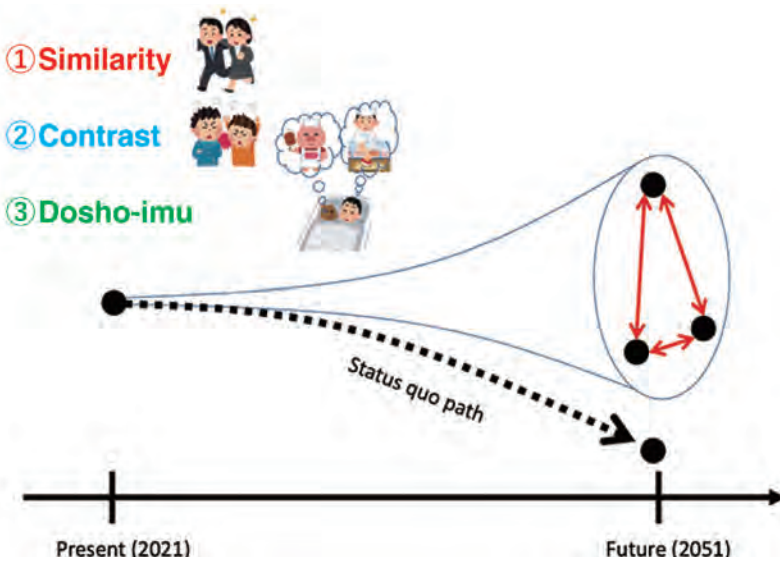
Development and Pluralistic Coexistence of Sustainability Visions Through Future Design

Project Leader
NAKAGAWA Yoshinori



This project investigates how different visions (i.e., desirable future states) generated by imaginary future generations using the methodology of Future Design can co-exist, in the sense that individuals with different visions can make a consensus using current options (i.e., what must be done by the present

generation). Our ultimate research goal is to realize a state where stakeholders create their own multi-level vision (ranging from the municipal to national), taking the perspective of future generations in different states by a means with which society as a whole progresses in a sustainable manner.



Individuals taking the perspective of future generations in specific future states for a make consensus using present options in at least three different scenarios: (1) similarity, (2) contrast, and (3) dosho-imu (literally “to dream different dreams in the same bed”). The idea to apply the concept of dosho-imu to public policy issues was first proposed by Kato et al. (2013). Kato, H., Shiroyama, H., and Nakagawa, Y. (2013). Public policy structuring incorporating reciprocal expectation analysis. *European Journal of Operational Research*, 233(1),171-183.

Project Leader

NAKAGAWA Yoshinori
 RIHN/Kochi University of Technology

Yoshinori Nakagawa has applied the methodology of life stories and qualitative research to understand and structure social issues such as the mobility of elderly people and the skill succession of different generations in construction. He has used his experience to help develop and implement Future Design methodology in collaboration with both municipalities and private companies.

Main Members

Hironori KATO
 Shunsaku KOMATSUZAKI
 Yukako INOUE

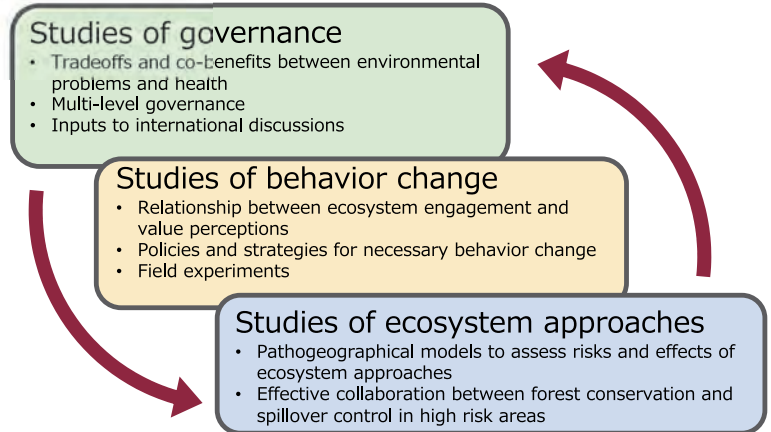
The University of Tokyo
 The University of Tokyo
 Kochi University of Technology

Sustainable Ecosystem Approach for the Healthy Society

Project Leader
OKABE Kimiko
 Forestry and Forest Products
 Research Institute



Biodiversity loss, land use change, and climate change are exposing societies to new pathogens. In order to reduce the risk of emerging zoonoses, it is necessary to take measures that are appropriate for the ecological and social factors of the region. In this study, we focus on the balance between ecosystem conservation, sustainable use and infectious disease control, and explore behavioral changes that can reduce the risk and effective governance to promote such behavioral change.

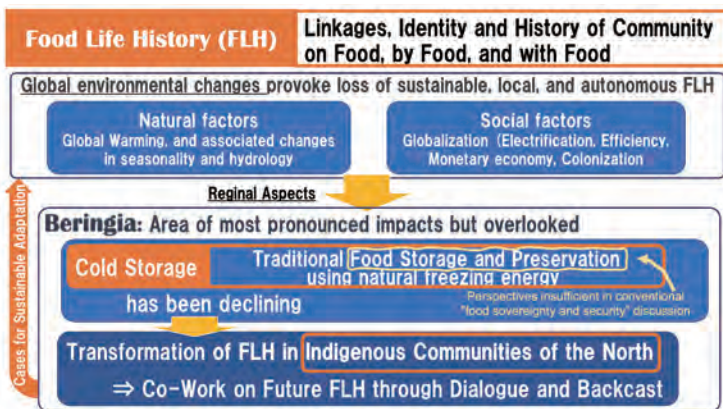


Area
 Japan and Cambodia

The goal of the ecosystem approach is to explore how societies can maintain appropriate relationships with natural ecosystems. It analyzes species interactions across ecosystems and provides insight on appropriate behavioral changes and effective governance to promote them.

Food Life History of Cold Storage of the North Using Natural Freezing Energy —History, Transformation, and Future Vision of Food Preservation Under the Influence of Global Shift—

Project Leader
SAITO Kazuyuki Japan Agency for Marine-Earth Science and Technology



Problem-setting scheme of the project

This project explores the “Food Life History”, or FLH, of cold storage practices used by communities in Siberia and Alaska to preserve foods and ice. In the past few decades, underground caches have been failing due to global-scale natural and societal changes. This project will combine objective investigations and community-based participatory collaborations to better understand the transformation of FLH associated with changes in traditional cold-storage environments, and to design and propose sustainable/desirable future practices.

Area
 USA (Alaska), Russia (Siberia),
 Japan (Hokkaido and Honshu)

Conversion from Traditional Knowledge to Future Collective Impact with the Fusion of Science and Arts: A Lesson from Resilient Communities with Global Environmental Changes

Project Leader

WATANABE Tsuyoshi Hokkaido University

Climate change has profoundly affected terrestrial and marine ecosystems, human migration, settlements, human lifestyles, and civilizations. Recent economic development, population growth, and globalization risk societal vulnerability, perhaps leading to simpler lifestyles. This research compares high-resolution coral records with archeological and historical records to re-evaluate the indigenous knowledge of humans and nature and create collective knowledge to obtain a sympathetic image of local societies using a method that combines the sciences and art.

Area

Kikaijima, Tokunoshima, Tanegashima, Hokkaido, East Timor



Performances of plays produced in this project by researchers, students, local governments and residents



The scheme of this project

Building up Biomass Circulation System among City and Rural Area: Improving Urban Sanitation and Restoring Rural Livelihood Base

Project Leader

OYAMA Shuichi Kyoto University

Based on the principle of returning what is gained from nature back to nature, this project aims to restore land and improve agricultural production by returning urban organic waste to degraded land and farmland through the establishment of urban-rural biomass circulation systems in Sub-Saharan Africa and Asia (Japan). In the Sahel region of West Africa, in cooperation with residents, city councils and governments, we have been using urban organic waste to green the land for more than 20 years and have contributed to improving the livelihoods of the residents.

Area

Sub-Saharan Africa and Asia (Japan)



"Cleaning the Cities, Greening the Land.": Pastureland created after eight years of urban waste application (Niger, September 2019)

Completed Research

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



Fiscal Year Completed	Leader	Research Project
2006	HAYASAKA Tadahiro	Emissions of Greenhouse Gases and Aerosols, and Human Activities in East Asia
	KANAE Shinjiro	Global Water Cycle Variation and the Current World Water Resources Issues and Their Perspectives
	WATANABE 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: With Reference to Environmental Changes Caused by the Use of Land and Water Resource
	TAKASO Tokushiro	Interactions between Natural Environment and Human Social Systems in Subtropical Islands
2009	SHIRAIWA Takayuki	Human Activities in Northeastern Asia and Their Impact on Biological Productivity in the North Pacific Ocean
2010	TANIGUCHI Makoto	Human Impacts on Urban Subsurface Environments
	YUMOTO Takakazu	A New Cultural and Historical Exploration into Human-Nature Relationships in the Japanese Archipelago
	SATO Yo-Ichiro	Agriculture and Environment Interactions in Eurasia: Past, Present and Future - A ten-thousand-year history
2011	KAWABATA Zen'ichiro	Effects of Environmental Change on the Interactions between Pathogens and Humans
	KUBOTA Jumpei	Historical Interactions between Multi-Cultural Societies and the Natural Environment in a Semi-Arid Region in Central Eurasia
	OSADA Toshiki	Environmental Change and the Indus Civilization
	UCHIYAMA Junzo	Neolithisation and Modernisation: Landscape History on East Asian Inland Seas
	UMETSU Chieko	Vulnerability and Resilience of Social-Ecological Systems
2012	OKUMIYA Kiyohito	Human Life, Aging and Disease in High-Altitude Environments: Physio-Medical, Ecological and Cultural Adaptation in "Highland Civilizations"
	SAKAI Shoko	Collapse and Restoration of Ecosystem Networks with Human Activity
	MOJI Kazuhiko	Environmental Change and Infectious Disease in Tropical Asia
2013	HIYAMA Tetsuya	Global Warming and the Human-Nature Dimension in Siberia: Social Adaptation to the Changes of the Terrestrial Ecosystem, with an Emphasis on Water Environments
	NAWATA Hiroshi	A Study of Human Subsistence Ecosystems in Arab Societies: To Combat Livelihood Degradation for the Post-oil Era
	KADA Ryohei	Managing Environmental Risks to Food and Health Security in Asian Watersheds
2014	MURAMATSU Shin	Megacities and the Global Environment
2015	KUBOTA Jumpei	Designing Local Frameworks for Integrated Water Resources Management
2016	HABU Junko	Long-term Sustainability through Place-Based, Small-Scale Economies: Approaches from Historical Ecology
	SATO Tetsu KIKUCHI Naoki	Creation and Sustainable Governance of New Commons through Formation of Integrated Local Environmental Knowledge
	ISHIKAWA Satoshi	Coastal Area-capability Enhancement in Southeast Asia
	TANAKA Ueru	Desertification and Livelihood in Semi-Arid Afro-Eurasia
2017	ENDO Aiko	Human-Environmental Security in Asia-Pacif Ring of Fire: Water-Energy-Food Nexus
2018	NAKATSUKA Takeshi	Societal Adaptation to Climate Change: Integrating Palaeoclimatological Data with Historical and Archaeological Evidences
2019	OKUDA Noboru	Biodiversity-driven Nutrient Cycling and Human Well-being in Social-Ecological Systems
	TAYASU Ichiro	Proposal and Verification of the Validity of Isotope Environmental Traceability Methodology in Environmental Studies
2020	Steven R. McGREEVY	Lifeworlds of Sustainable Food Consumption and Production: Agrifood Systems in Transition
	KONDO Yasuhisa	Information Asymmetry Reduction in Open Team Science for Socio-environmental Cases
2021	KOZAN Osamu	Toward the Regeneration of Tropical Peatland Societies: Building International Research Network on Paludiculture and Sustainable Peatland Management
	YAMAUCHI Taro	The Sanitation Value Chain: Designing Sanitation Systems as Eco-Community-Value System

Tropical Peatland Society Project

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



Project Leader
KOZAN Osamu
RIHN/Kyoto University

The Tropical Peat Societies Project has synthesized academic findings and lessons learned in the field to reach an important conclusion. The problems faced by tropical peatlands are caused by supply chains that transcend national and regional boundaries. Moreover, they result in air pollution and health hazards in Indonesia and neighboring countries as well as the global climate system. Both grassroots activities with local residents and international efforts are essential to solving problems in environmentally vulnerable areas associated with these global supply chains.

Main results from the Tropical Peat Societies Project

1. Practical activities for peat ecosystem restoration through rewetting and reforestation with native species were conducted. A water management and vegetation management plan for a village area of approximately 1,400 hectares, including a fire site in TL Village B, was developed, and 12 weirs were installed in collaboration with local companies and resident groups to establish a common water management system. Additionally, native trees were planted on 33.4 ha owned by the residents. These activities have been applied to other areas following the successful TL model of industry-government-academia cooperation.

2. We have shown that governance in peatlands can be improved by recognizing residents' customary land use. The trigger for peatland degradation has been the unregulated entry and development of corporations, while the customary land use rights of local residents have been ignored. As a result, peatland management by local residents has become ad hoc, leading to progressive degradation and an increase in abandoned land. We concluded that it is difficult for residents to gain "ownership" of state-owned peatlands, but it is possible to strengthen customary land-use rights. By creating video and cartographic materials that prove that residents have been using peatlands in a customary manner, we are helping residents to obtain customary land authorization from the Indonesian government.

In order to make the project results known in Japan, we are also disseminating information on the responsibility of Japanese consumers who import oil palm oil and pulp products.

The Tropical Peat Society Project will be continued in the future through a joint project between Kyoto University, JICA, the Indonesian Agency for Technology Application and Evaluation, the Peatland Mangrove Restoration Agency, Riau University, and others. To conserve tropical peat swamps with special and important characteristics, we will continue to develop cooperative relationships involving local stakeholders.



Mapping the residents' customary use of peatlands



Weir construction in collaboration with residents

Sanitation Project

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



Project Leader
YAMAUCHI Taro
RIHN/Hokkaido University

Project Summary

Establishing a sanitation system that renders human waste harmless and sustainable is a global challenge. This project sought to co-create sanitation with local stakeholders in four low- and middle-income countries with fragile sanitation systems and in Japan, which faces challenges in infrastructure maintenance and management due to its declining and aging population. The co-creation activities we aimed to implement are summarized as follows:

- 1) Promotion of the significance and use of toilets (Cameroon),
- 2) agricultural use of human waste in collaboration with a local NGO (Burkina Faso),
- 3) participatory action research (PAR) in a local children and youth's club to promote awareness and behavior change (Zambia),
- 4) development of a value chain model using existing local networks (Indonesia), and
- 5) building of an autonomous decentralized mechanism (Japan).

As methodologies for inter- and trans-disciplinary research, we developed and implemented various methods for visualization, including model diagrams of initiatives in the field, photovoice, and digital storytelling conducted in PAR. We also incorporated meta-research in which members themselves studied the ongoing research projects. The repeated cycle of visualization, field practice, and reflection enabled feedback to the projects.

In addition, the value and meaning of sanitation were reexamined and organized into three elements: health and wellbeing, material and economy, and society and culture. Furthermore, we realized the importance of the linkage between elements and constructed a new comprehensive theory, the Sanitation Triangle Model.

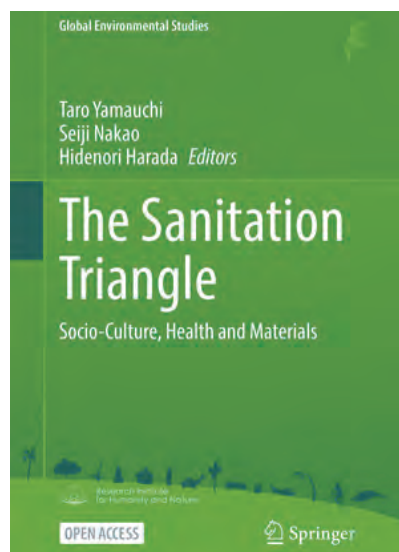
Global Environmental Studies and Sanitation

In order to achieve the United Nations Sustainable Development Pledge to “Leave no one behind,” it is important to create systems that are tailored to the context of each community and society rather than to spread a uniform standard across the globe. It is also important to co-create with stakeholders. In other words, it is important to co-create a tailored system rather than spread a general standard.

Sanitation issues span many domains, including culture, economy, technology, and health. It is necessary to change attitudes, transform behaviors, and make new habitual behaviors for the 700 million people worldwide who do not have access to toilets or know how to use them sustainably and appropriately. Sanitation is a system embedded in society and culture, and it can be said sanitation is culture itself.

Outcomes and Future Directions

An English language book titled “The Sanitation Triangle,” which summarizes the theory and practice developed in the project, was published by Springer. The world's first book series on sanitation, “Sanitation Studies Series,” will also be published by Hokkaido University Press. Furthermore, the project launched an international journal and published eight volumes. We will publish more volumes in the future. After completion of the project, an international academic society will be established with the project members as its initial patrons, and regular domestic/international symposiums will be held to maintain ties.



Knowledge Networks

RIHN maintains a wide national and international research network, and utilizes various modes of collaboration with national and international research institutions. In addition to establishing the MOUs necessary to facilitate research collaborations, RIHN also provides opportunity for overseas researchers to contribute directly to the RIHN research community as either Invited Scholar or Visiting Researcher.

Coordination



RIHN Invited Scholar Program & RIHN Visiting Research Fellow Program

Opportunities for Overseas Researchers to Spend Time at RIHN

RIHN has established two programs to enable overseas researchers to spend several months at the Institute, engaging in research and interacting with other RIHN researchers. The basic idea is that such visits benefit both the researcher and the Institute. The programs are open to researchers based outside of Japan (including those with Japanese nationality) and researchers based in Japan with a nationality other than Japanese. Candidates for both schemes are selected competitively.



- The **RIHN Invited Scholar Program** enables overseas researchers to spend between one and three months at RIHN and to contribute to the development of the Institute's intellectual foundations and strategic directions. Invited Scholars should be widely recognized in their fields and able to provide a strategic overview of the relevance of their disciplinary or interdisciplinary studies to RIHN's engagement in global environmental studies. Invited Scholars are selected based on nomination by RIHN faculty members who act as their host. Invited Scholars are employed by RIHN during their stay and receive a stipend.

- The **RIHN Visiting Research Fellow Program** brings overseas researchers to the Institute for periods of two to six months to engage in specific research in the context of one of the RIHN Programs, Projects or Units of RIHN Center and Strategic Planning and Management Department. Visiting Fellows are not employed by RIHN, but their travel, accommodation and daily expenses are covered by an allowance. Visiting Fellows are selected based on applications from the candidates themselves. RIHN faculty members act as hosts during the stay and candidates are required to identify and consult with potential hosts before applying.



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 2021 recipients of the Earth Hall of Fame Kyoto Award were TSUCHIYA Haruki (President of Kyoto Eco Energy Institute, President of Research Institute for Systems Technology), Manuel Pulgar Vidal (WWF Climate Energy Leader, Former Minister of the Environment for Peru, Chair of COP20), and Kristine Tompkins (Former CEO of Patagonia, Inc.). The 12th Earth Hall of Fame KYOTO Commendation Ceremony was held on Nov. 15th, 2021.



RIHN International Symposium

An annual symposium at RIHN exploring the key concepts of RIHN Research Programs.

Due to the global pandemic, RIHN 16th International Symposium was carried out online. With adjustments to the symposium schedule to accommodate different time zones, this shift to digital platforms allowed many more people to participate in the symposium as speakers, and expanded the international audience considerably.

THE ARTS OF LIVING WITH NATURE

7-11 March, 2022

Day 1 (7 March): Prelude

The Arts of Living with Nature

Dialogue: Earthly Garden

YAMAGIWA Juichi, Oussouby SACKO

Day 2 (8 March): Opening

Earthly Intelligence: The Planetary Vernacular

Academic Session: Christine E. WEBB,

Christoph RUPPRECHT, Damien KUNIK

Public Session: Augustin BERQUE, Tim INGOLD

Day 3 (9 March): Reception

Garden Planet: The Technodiversity of Life

Academic Session: HANAMURA Chikahiro,

KUMAZAWA Terukazu, YOSHIDA Takehito,

Maëlle CALANDRA

Public Session: Monica GAGLIANO, OGAWA Katsuaki,

Frédéric JOULIAN

Day 4 (10 March): Transformation

Nature's Arts

Academic Session: OTA Tomoko, HIROSE Kojiro,
David MAGGS

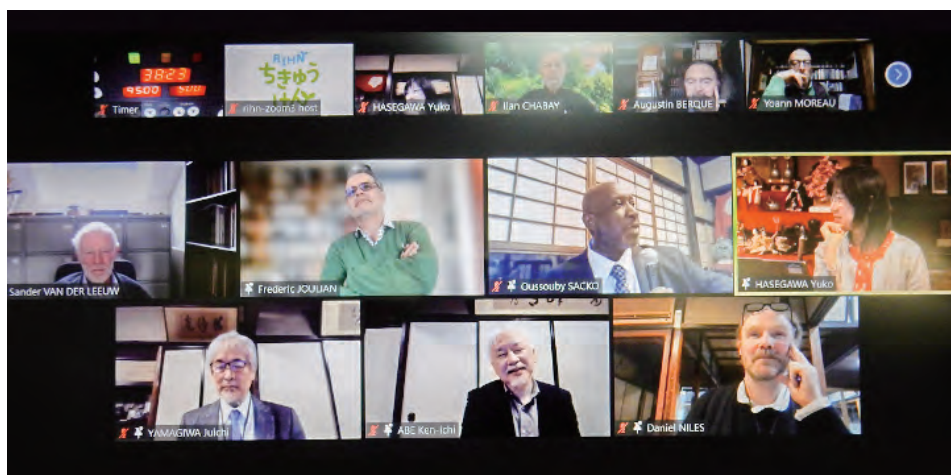
Public Session: ONO Shinryu, HASEGAWA Yuko,
Ilan CHABAY

Day 5 (11 March): Renewal

Staying on Earth

Academic Session: HONDA Eiko, Yoann MOREAU,
ONO Tadashi, Caroline DARROUX

Public Session: Sander VAN DER LEEUW,
Oussouby SACKO, HASEGAWA Yuko,
YAMAGIWA Juichi



RIHN Public Seminars

Public seminars are held throughout the year at RIHN or in the city center. Seminars in FY2021 included:

Global Warming and Local Issues in Tropical Peatlands. Remote Responsibility of Japanese Consumers

KOZAN Osamu, RIHN/Kyoto University
17 February, 2022

Co-creating Future Sanitation Systems with Children, Local Communities and Researchers

YAMAUCHI Taro, RIHN/Hokkaido University
11 January, 2022

RIHN Seminars

This seminar series is oriented towards researchers at RIHN, inviting a wide range of visiting scholars to present their most current research. Covid-19 which prevented RIHN from inviting visiting scholars to the institute made it impossible to hold RIHN seminars in FY2021.

RIHN Regional Community Seminars

RIHN Regional Community Seminars take place in, and address specific environmental issues pertaining to, a particular part of Japan. Due to Covid-19, in FY2021 it was impossible to hold any events for the general public.

Other Events

人新世を生きる 私たちと地球の未来可能性
2021年4月24日(土)
13:00-16:00

このセミナーは、環境問題や気候変動、SDGs、持続可能な開発目標など、地球の未来可能性について、専門家や研究者と対話する機会を提供します。

参加無料
要申込

申込先: 環境問題研究センター

6th Japan-ASEAN Medical Seminar on Human Health Impact of Heavy Metals
Minamata Disease

Topics / Speakers
2:00pm - 3:00pm: **Professor Masayuki Sakakibara**
3:00pm - 3:45pm: **Professor Takashi Yorifuji**

Minamata Disease - an Epidemiological Perspective
Q&A

June 29, 2021, Tuesday
14:00 - 18:30pm (Japan Time)
Zoom Video Webinar

The 4th International Conference of Transdisciplinary Research on Environmental Problems in Southeast Asia
TREPSEA 2021
ONLINE INTERNATIONAL CONFERENCE

16-18 September 2021
Hosted by University of Lampung (UNILA)

Managing Ecological Risks and Natural Disasters in Southeast Asia: Challenges for Food Security, Public Health, and Economic Welfare

Call for Papers and Posters

Environmental Issues and Public Health
Ecological Risks and Food Security
Disaster Risk Reduction (DRR) and Disaster Management (DM)
Sustainable Agriculture and Equitable Development
Resources Management and Global Value Chain
Legal Issues and Business Ethics in Resource Management
Heavy Metal Problems and Renewable Energy
Urban Management and Community Development
Sustainable Development Goals (SDGs)

International Symposium for Global Sanitation
The Sanitation Triangle: Socio-Culture, Health, Materials

October 14, 2021
13:00 - 17:00 (JST)
Online (Zoom)
Language: English

Keynote Speaker
Naoyuki FUNAMIZU (Institute of Technology)
Sanitation as a Value-Creating System

Co-moderators
Paul SHRIVASTAVA (The Pennsylvania State University, USA)
Tetsu SATO (RIHN, Kyoto)

7th International Forum on Sustainable Future in Asia / 7th NIES International Forum
Research for Societal Transformation with Future Earth

January 20-21, 2022
To be held online

Amidst global and regional environmental change, we need to develop transformations that can help us realize a sustainable planet. Researchers are invited to discuss and engage in international collaborations that serve as design processes for decision making at the 7th International Forum on Sustainable Future in Asia: Research for Societal Transformation with Future Earth.

Organizer
National Institute for Environmental Studies

Special Co-organizers
Research Institute for Humanity and Nature / Nagasaki University

Co-organizers
Institute for Future Initiatives, The University of Tokyo / Regional Resource Centre for Asia and the Pacific, AIST Institute of Technology

Supporter
Future Earth Global Secretariat Hub Japan

水のあふる風景
変化と流転、そして地球の未来可能性

Waterscape-Flux / Nature / Future

Environmental Isotope Study

As an inter-university research institute corporation, RIHN maintains state-of-the-art laboratories, with a central emphasis on stable-isotope analysis.

In 2012, RIHN established the “Environmental Isotope Study” cooperative research program. This program promotes the utility of stable isotope analysis in contemporary environmental studies and enables collaboration with researchers from other universities and research institutes. RIHN’s laboratories are widely used by external researchers and students, and more than one hundred universities and research institutes within and outside of Japan have utilized our up-to-date isotope research facilities so far. We hold annual training courses and held our latest annual symposium on environmental isotope studies in December in order to create national and international research networks and support environmental isotope studies around the world. From 2020, we have been conducting a designated research program on “applied research platform based on environmental traceability” to apply this methodology to environmental research, collaborating with various stakeholders.



The eleventh symposium was held online under the COVID-19 pandemic.

Future Earth

RIHN, in collaboration with the National Institute for Environmental Studies (NIES) and other organizations, forms part of the consortium that hosts the Future Earth Japan Global Secretariat Hub.

Future Earth is a global network of scientists, researchers and innovators collaborating for a more sustainable world. This global community is composed of experts from the natural sciences, humanities, and social sciences, as well as practitioners from various sectors of society who facilitate research, mobilize networks, and turn knowledge into action.

In August 2021, the Future Earth Asia Regional Center, which had been hosted by RIHN since 2014, and the Future Earth Japan Hub in Tokyo merged to form the Japan Hub of the Future Earth Global Secretariat. This new Japan Hub is responsible for the global operation of Future Earth, including coordinating and managing research projects, cross-thematic and cross-regional cooperation, and collaboration with key partners, as well as developing research networks and research plans at the international, regional (Asia focus) and domestic level.

International Engagement Unit at RIHN organizes capacity building development through the TERRA School (a training course on Transdisciplinarity for Early career Researchers in Asia), supports the Knowledge-Action Network on “Systems of Sustainable Consumption and Production” (<https://sscp.futureearth.org/>), and facilitates Science-Based Pathways for Sustainability initiatives in the Asian region.



Future Earth Asia Regional Center, which had been hosted by RIHN since 2014, merged with the former Japan Hub in August 2021 to form the new Japan Hub of the Future Earth Global Secretariat.

TERRA School participants went through lectures and interactive group works using Miro and other online platforms. On the last day of the program, each group presented a proposal for a transdisciplinary research project.



Environmental Education

This unit promotes environmental education for public school students from primary to secondary levels. It coordinates school tours to RIHN, where students visit laboratories and research project workspaces, and can speak directly with lab technicians and scientists of many different disciplines and specializations. It also conducts teacher-training activities in order to convey updated perspectives and methods in environmental science. The practice of environmental education also stimulates RIHN to revisit its own practices in global environmental science. Environmental education therefore plays an important part in RIHN's mission to work with different social actors—from individual students and teachers, to entire schools and school districts, and beyond—to develop knowledge that enhances public understanding of and engagement with the contemporary environment.



RIHN Open House

Each summer, RIHN holds an annual Open House in which RIHN research rooms and laboratories are open to the public. Staff prepare games and exercises for both children and adults in order to invite creative thought about contemporary environmental issues. The RIHN Open House has proven particularly attractive to families with young children, with up to 900 people from the surrounding community participating on average each year. In 2021, due to the Covid-19 pandemic, the 2021 Open House was held twice online and once on site. Though it was a challenge to reorganize the event for virtual platforms, RIHN has turned the pandemic into an opportunity to engage the community through new approaches.



Participants learned about the positive impact bees have on food.



High school students from Kyoto and Miyazaki presented their environmental studies and discussed them online.

The project promoted by National Institutes for the Humanities (NIHU)

Object-based Research of Nature-human Interactions up to the Anthropocene

Principal Investigator: TAYASU Ichiro
Research period: FY2022 - FY2027

This research will cross the temporal and spatial axes of human interactions with nature by analyzing the concentrations and isotopic ratios of elements in the body and materials. Based on this, we will clarify the transformation of human resource use patterns that lead to contemporary global environmental problems, as seen from the perspective of material culture. The isotopic distribution of elements in nature requires an understanding of geologic and ecological dynamics. The methods for analyzing the use and movement of resources include investigating light elements (carbon, nitrogen, sulfur, hydrogen, oxygen, etc.) in the body that symbolize food and water resources, and heavy elements (strontium, lead, neodymium, iron, magnesium, zinc, etc.) in the body and vessels that symbolize geologically derived resources. The isotopic information contained therein can be used to study interactions between nature and humans. In this research, based on the history of humans since the Holocene epoch, we will consider resource uses in the present day, which is called the Anthropocene epoch. Accordingly, we will construct a new platform for human culture research dealing with the interactions between nature and humans that are at the root of global environmental problems.

RIHN Center

The RIHN Center provides the foundations for the collaborative research and activities at RIHN. Its four units manage and operate the laboratories and the information systems of the institute and facilitate networking and capacity building. RIHN Center faculty also engage in research following the goals of the center. Collaboration is fundamental to the operation of the RIHN Center. The center works closely with the Strategic Program and Research Programs by providing services, tools, facilities and methods. It also collaborates with the wider academic community in support of RIHN's role as a joint-use inter-university research institute and engages a broad range of societal stakeholders in problem-solving research processes.

The RIHN Center's four units are as follows. The Laboratory and Analysis Unit develops and maintains the laboratory facilities necessary for research and fieldwork; the Information Development Unit maintains the RIHN information systems and develops the applications on the global environmental studies; the Collaboration Unit facilitates internal and external research networking; and the International Engagement Unit engages with the international Future Earth initiative and hosts the Future Earth Japan Global Hub as part of a consortium in Japan.

Strategic Planning and Management Department

Institutional Research Unit

Institutional Research (IR) is research and analysis conducted to support the decision-making and planning of an institution. It collects and analyzes various data from an institution to discover helpful information in response to national policy trends.

The RIHN's IR Unit helps the Director-General make decisions in management policies and research strategies by analyzing and visualizing the strengths, characteristics, and potentials of research and education at the institute based on verifiable data.

Since FY2022, the IR Unit has prioritized developing options for medium- to long-term strategies of the RIHN in collaboration with colleagues and partners.

Public Relations Unit

The Public Relations (PR) Unit supports the dissemination and sharing of RIHN research methods and results. In collaboration with RIHN researchers, it engages the general public in a range of public events, including the RIHN Open House. It also runs the RIHN website, social media, and RIHN YouTube channel, and promotes media relations by issuing press releases and organizing press conferences. Finally, the PR Unit also produces a range of publications, including the RIHN Prospectus, as well as two book series in Japanese for specialized and general public audiences. By fostering two-way communication between the research community and the general public, the PR Unit strives to contribute to the RIHN identity and to the maintenance of an open institute.

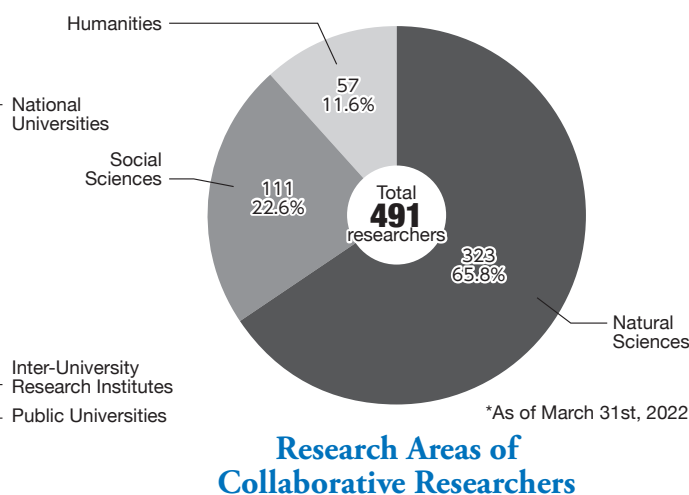
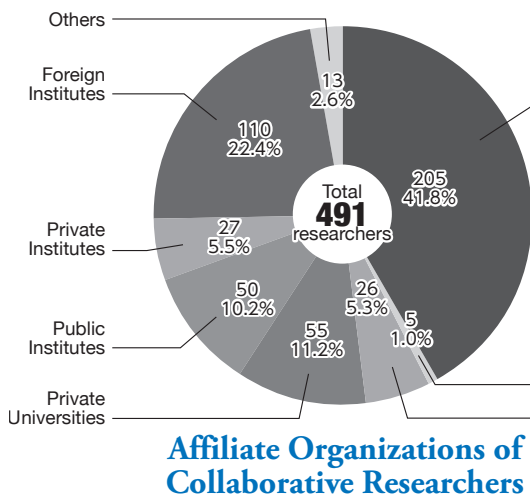
Communication Unit

Communication Unit supports RIHN by developing outstanding research strategies and presenting a powerful and attractive vision. Following the Globally Important Agricultural Heritage Systems (GIAHS) program of the Food and Agriculture Organization of the United Nations (FAO), we view agriculture as a co-creation of humanity and nature. Agriculture is our gateway into communication with local communities where we focus on knowledge networking. Locally, we connect to the next generation by exploring what the Earth's future should be with students. Internationally, we collaborate with the Knowledge, Learning and Societal Change Alliance (KLaSiCa), an environmental program promoting social change. In the spirit of the Kyoto Protocol, we worked with local government and stakeholders to establish The Earth Hall of Fame Kyoto, an award to honor the achievements of those who have contributed to conservation of the global environment.

International Publications Unit

The IPU promotes international publication of RIHN transdisciplinary research and its visibility in appropriate international fora. It manages existing contracts with publishers and explores innovative publishing partners, platforms, and research visualization strategies working across the humanities, social sciences, and natural sciences. Through communication with RIHN faculty and researchers and organization of events and workshops, the IPU contributes to the conceptualization, planning, and promotion of publications and platforms that advance RIHN's position within the field of contemporary environmental studies and stimulate inclusive public environmental discourse.

Collaboration



*As of March 31st, 2022

Collaboration in Japan *As of May 1st, 2022

Research Institutions

Graduate School of Environmental Studies, Nagoya University
 Doshisha University
 Nagasaki University
 Kyoto Sangyo University
 Tottori University of Environmental Studies
 Kyoto University
 Center for Environmental Remote Sensing, Chiba University
 Institute of Nature and Environmental Technology, Kanazawa University
 Graduate School of Arts and Sciences, The University of Tokyo
 Graduate School of Life Sciences, Tohoku University
 Faculty of Collaborative Regional Innovation, Ehime University
 Kyoto Seika University
 The Institute of Statistical Mathematics
 Nara Women's University
 University of the Ryukyus
 Hokkaido University
 Graduate School of Environmental Studies, Tohoku University

National Agriculture and Food Research Organization
 Kochi University of Technology

Municipal Governments and Other Agencies

Saijo City (Ehime Prefecture)
 Kyoto Municipal Science Center for Youth
 Food and Agricultural Materials Inspection Center (FAMIC)
 Ono City (Fukui Prefecture)
 Kameoka City (Kyoto Prefecture)
 Kyoto Prefectural Hokuryo Senior High School
 Kyoto Prefectural Rakuohoku Senior High School
 Miyazaki Prefecture
 Noshiro City (Akita Prefecture)
 Kyoto City, ICLEI Japan, Kyoto Environmental Activities Association
 Kyoto Institute, Library and Archives
 Oshino Village (Yamanashi Prefecture)
 Kyoto Prefecture, Kyoto City
 Asia Center for Air Pollution Research, Japan Environmental Sanitation Center

International Collaboration *As of May 1st, 2022

AUSTRIA

International Institute for Applied Systems Analysis

CAMEROON

Green Development Advocates

CHINA

Hainan Provincial Center for Disease Control and Prevention
 Hainan Provincial Preventive Medicine Association

GERMANY

Institute for Advanced Sustainability Studies

INDIA

Lovely Professional University

INDONESIA

Halu Oleo University
 Institut Teknologi Bandung
 Research Center for Biology, Indonesian Institute of Sciences
 The State University of Gorontalo
 University of Lampung

LAOS

Lao Tropical and Public Health Institute, Ministry of Health

MYANMAR

Ministry of Natural Resources and Environmental Conservation, Environmental Conservation Department
 Network Activities Group

NETHERLANDS

Copernicus Institute of Sustainable Development, Utrecht University

OMAN

Sultan Qaboos University

REPUBLIC of KOREA

Institution for Marine and Island Cultures, Mokpo National University

SWEDEN

Stockholm Resilience Centre at Stockholm University

UNITED STATES OF AMERICA

University of California, Berkeley



SENDA Masako, Playing in a river, Japan



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



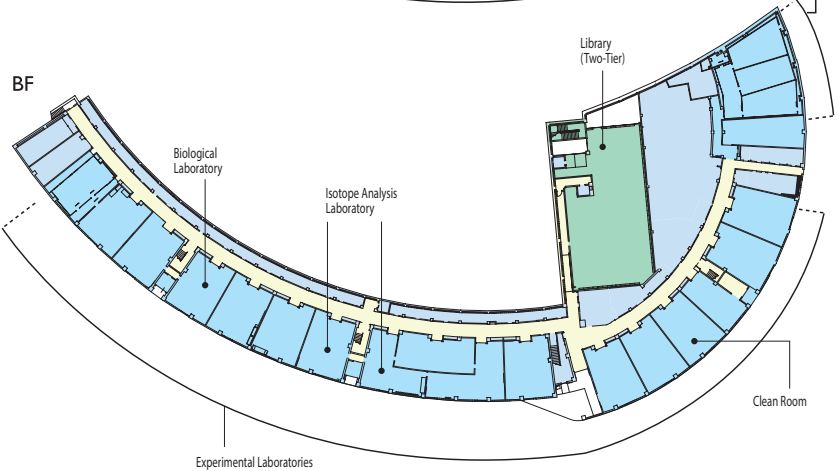
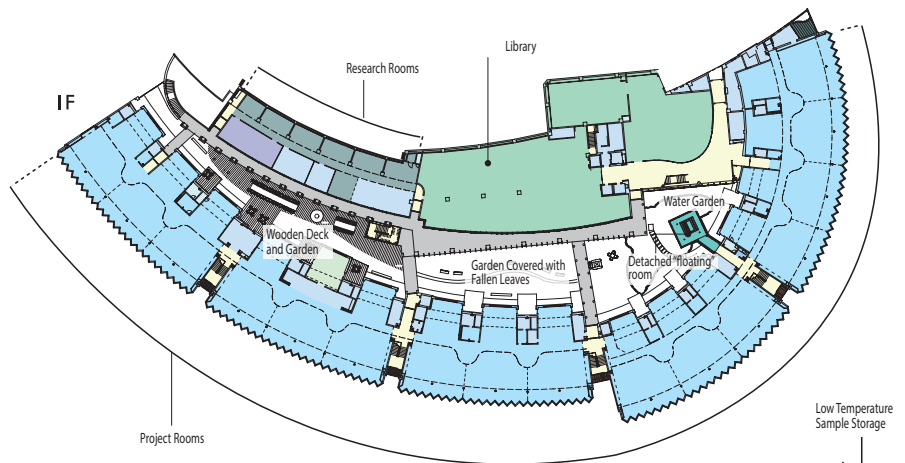
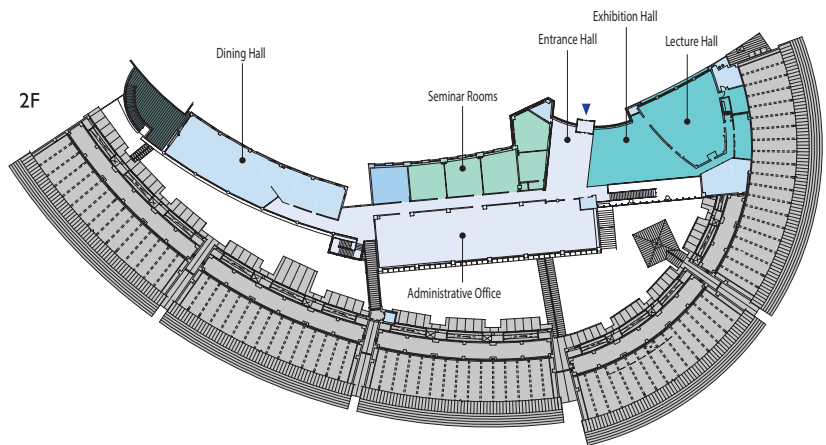
Main entrance hall



Laboratories



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



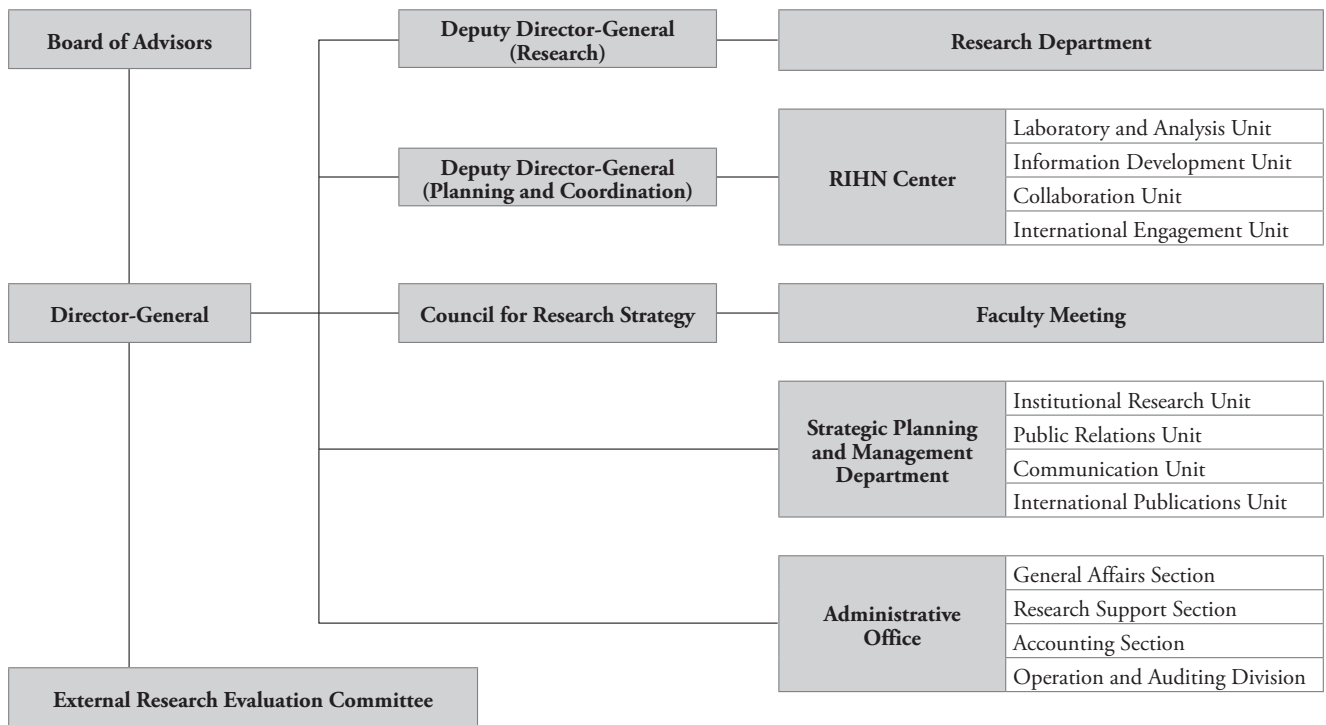
2F
Main Entrance Hall
Administration
Lecture Hall
Seminar Rooms
Dining Hall

1F
Employee Entrance
Research Project Rooms
RIHN Center
Library
Media Center

Basement
Laboratories
Book Repository
Field Research Equipment and Facilities
Cold Storage



Administrative Structure



YAMAGIWA Juichi Director-General

TANIGUCHI Makoto
TAYASU Ichiro

Deputy Director-General (Research)

Deputy Director-General (Planning and Coordination)

Financial Information

Budget

Income (Fiscal Year 2022)

Category	Amount (Yen in thousands)
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Subsidy for Operation	1,402,028
Self Revenue	17,971

Total Earnings	1,419,999
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External Sources of Funding

(Fiscal Year 2021)

Category	Amount (Yen in thousands)
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Fund for Promotion of Academic and Industrial Collaboration	60,196
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Grants-in-Aids for Scientific Research	87,880
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Donations for Research	12,301
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Boards and Committees

*as of June 1st, 2022

Board of Advisors Oversees personnel, planning, administration and operation of the institute

ASAOKA Mie	President, Kiko Network/ Lawyer	SHINODA Kenichi	Director General, National Museum of Nature and Science
KAMEYAMA Yasuko	Senior Principal Researcher, Social Systems Division, National Institute for Environmental Studies/ Professor, Sustainable Society Design Center, Graduate School of Frontier Sciences, The University of Tokyo	TAKENAKA Chisato	Emeritus Professor, Nagoya University
KOBAYASHI Izumi	Independent Outside Director, ANA Holdings Inc.	NAGAO Seiya	Director, Institute of Nature and Environmental Technology, Kanazawa University
KOBAYASHI Tadashi	Emeritus Professor, Osaka University/ Specially Appointed Professor, Osaka University/ Director-General, Research Institute of Science and Technology for Society, Japan Science and Technology Agency	TAYASU Ichiro	Deputy Director-General, RIHN
		TANIGUCHI Makoto	Deputy Director-General, RIHN
SATO Jin	Professor, Institute for Advanced Studies on Asia, The University of Tokyo	MATSUDA Motoji	Program Director, RIHN

Council for Research Strategy Oversees research strategy, personnel, project, and evaluation system

YAMAGIWA Juichi	Director-General	TANIGUCHI Makoto	Deputy Director-General	SHIMANE Toru	Administrative Director
TAYASU Ichiro	Deputy Director-General	MATSUDA Motoji	Program Director		

External Research Evaluation Committee External review of research project proposals

Domestic		SHRIVASTAVA, Paul	Professor of Management and Organization, Smeal College of Business, The Pennsylvania State University, U.S.A./ UNESCO Chair in Arts & Science for Implementing the SDGs, ICN Business School, Nancy, France
KONDO Akihiko	Professor, Center for Environmental Remote Sensing, Chiba University		
SUMI Akimasa	Project Professor, The University of Tokyo Institute for Future Initiatives (IFI)/ Emeritus Professor, The University of Tokyo/ Former President, National Institute for Environmental Studies	WONG, Roy Bin	Distinguished Professor of History, Department of History, University of California, Los Angeles, U.S.A.
YUMOTO Takakazu	Emeritus Professor, Kyoto University	CHABAY, Ilan	Head of Strategic Science Initiatives and Programs; Senior Investigator, the Real Deal EU project (2022-2024) at the Institute for Advanced Sustainability Studies e.V. (IASS) Potsdam, Germany/Adjunct Professor, School of Sustainability, Arizona State University, Washington DC Center, U.S.A.
HARUYAMA Shigeko	Emeritus Professor, Mie University		
MUTO Megumi	Vice President, Japan International Cooperation Agency (JICA)	NAGENDRA, Harini	Director, Research Centre, Professor of Sustainability, Azim Premji University, India
MOJI Kazuhiko	Dean, School of Global Humanities and Social Sciences, Nagasaki University	AILIKUN	Professor, Assistant Executive Director, Secretariat of the Alliance of International Science Organizations (ANSO), Beijing, China
YOSHIDA Naohiro	Professor Emeritus, Tokyo Institute of Technology/ Fellow, Earth-Life Science Institute (ELSI), Tokyo Institute of Technology/ Executive Researcher, National Institute of Information and Communications Technology (NICT)	DIAZ, Sandra	Professor, Universidad Nacional de Cordoba, Argentina
Overseas		JOULIAN, Frederic	Professor, EHESS, France
ROMERO-LANKAO, Patricia	Senior Research Scientist, Center for Integrated Mobility Sciences, National Renewable Energy Laboratory (NREL), U.S.A./ Institute Research Fellow, Mansueto Institute for Urban Innovation, University of Chicago, U.S.A.		

Senior Advisor · Honorary Fellow · Emeritus Professor

Senior Advisor	VAN DER LEEUW, Sander Ernst	KADA Ryohei	NAKANISHI Masami	SATO Tetsu
TACHIMOTO Narifumi		KAWABATA Zen'ichiro	NAKANO Takanori	SATO Yo-Ichiro
Emeritus Professor	AKIMICHI Tomoya	KUBOTA Jumpei	NAKASHIZUKA Tohru	TACHIMOTO Narifumi
Honorary Fellow	FUKUSHIMA Yoshihiro	MALLEE, Hein	NAKAWO Masayoshi	WADA Eitaro
SAIJO Tatsuyoshi		MOJI Kazuhiko	OSADA Toshiki	YASUNARI Tetsuzo
SUGIHARA Kaoru	HIDAKA Toshitaka			

RIHN Staff

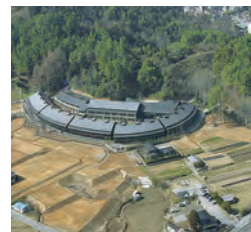
*as of June 1st, 2022

YAMAGIWA Juichi	Director-General, Director of Strategic Planning and Management Department	SHINJO Ryuichi	Professor (Research Department)
ABE Ken-ichi	Professor (Strategic Planning and Management Department), Head of Communication Unit	TANIGUCHI Makoto	Professor (RIHN Center), Deputy Director-General (Research), Director of Research Department
HAYASHI Kentaro	Professor (Research Department)	TAYASU Ichiro	Professor (RIHN Center), Deputy Director-General (Planning and Coordination), Director of RIHN Center, Head of Laboratory and Analysis Unit
HAYASHIDA Sachiko	Professor (Research Department)	MATSUDA Motoji	Specially Appointed Professor (Research Department)
NAKAGAWA Yoshinori	Professor (Research Department)	ISHII Reichiro	Associate Professor (RIHN Center), Head of Collaboration Unit
SAKAKIBARA Masayuki	Professor (Research Department)		

KANEMOTO Keiichiro	Associate Professor (Research Department)	SINGH, Tanbir	Researcher (Research Department)
KONDO Yasuhisa	Associate Professor (Strategic Planning and Management Department), Head of Institutional Research Unit	SODA Katsuya	Researcher (Strategic Planning and Management Department)
KUMAZAWA Terukazu	Associate Professor (RIHN Center), Head of Information Development Unit	TAKANO Shinya	Researcher (RIHN Center)
MATSUMOTO Tae	Associate Professor (RIHN Center)	TOMOJIRI Daiki	Researcher (Research Department)
NILES, Daniel	Associate Professor (Strategic Planning and Management Department), Head of International Publications Unit	WIN THIRI KYAW	Researcher (Research Department)
OKADA Saeko	Associate Professor (Strategic Planning and Management Department), Head of Public Relations Unit	BABA Kenshi	Visiting Professor, Tokyo City University
SHIN Ki-Cheol	Associate Professor (RIHN Center)	EMORI Seita	Visiting Professor, National Institute for Environmental Studies/ Tokyo University
WONG, Grace	Associate Professor (Research Department)	HABU Junko	Visiting Professor, University of California, Berkeley
YOSHIDA Takehito	Associate Professor (Research Department)	HAYASHI Hiroaki	Visiting Professor, Kunisaki Peninsula Usa GIAHS Promotion Association
LAMBINO, Ria	Specially Appointed Associate Professor (RIHN Center), Head of International Engagement Unit	KADA Yukiko	Visiting Professor, Member of the House of Councilors
ONISHI Yuko	Assistant Professor (RIHN Center), Assistant Professor (Research Department)	KANIE Norichika	Visiting Professor, Keio University
AIBA Masahiro	Specially Appointed Assistant Professor (Research Department)	KASUGA Fumiko	Visiting Professor, National Institute for Environmental Studies
KIM Satbyul	Specially Appointed Assistant Professor (RIHN Center), Specially Appointed Assistant Professor ((NIHU) Center for Innovative Research)	KONO Yasuyuki	Visiting Professor, Kyoto University
NGUYEN, Tien Hoang	Specially Appointed Assistant Professor (Research Department)	KUSAGO Takayoshi	Visiting Professor, Kansai University
WAKAMATSU Hisanori	Specially Appointed Assistant Professor (Strategic Planning and Management Department)	MALLEE, Hein	Visiting Professor, Kyoto Prefectural University
YASUTOMI Natsuko	Specially Appointed Assistant Professor (Research Department)	MATSUMI Yutaka	Visiting Professor
ASSEMBE MVONDO, Samuel	Senior Researcher (Research Department)	MIZUNO Kosuke	Visiting Professor, University of Indonesia
DHIAULHAQ, Ahmad	Senior Researcher (Research Department)	NIKAWA Tatsuro	Visiting Professor, Kyoto Municipal Center for Promotion of Environment Protection, Miyako Ecology Center/ Kyoto Environmental Activities Association
KATAFUUCHI Yuya	Senior Researcher (Research Department)	OKABE Kimiko	Visiting Professor, Forestry and Forest Products Research Institute
LEE Jemyung	Senior Researcher (Research Department)	OKUDA Noboru	Visiting Professor, Kobe University
YABUSAKI Shiho	Senior Researcher (RIHN Center)	OYAMA Shuichi	Visiting Professor, Kyoto University
YOSHIMIZU Chikage	Senior Researcher (RIHN Center)	SAIJO Tatsuyoshi	Visiting Professor, Kochi University of Technology
ARAI Hirokazu	Researcher (RIHN Center)	SAITO Kazuyuki	Visiting Professor, Japan Agency for Marine-Earth Science and Technology
BOON, Kia Meng	Researcher (Research Department)	SUGIHARA Kaoru	Visiting Professor
CHOUDHURY, Begum Abida	Researcher (Research Department)	TERADA Masahiro	Visiting Professor
FAHMI, Muhamad	Researcher (Research Department)	YAMANAKA Manabu	Visiting Professor
FARABI-ASL, Hadi	Researcher (Research Department)	YAMAUCHI Taro	Visiting Professor, Hokkaido University
HASEGAWA Emi	Researcher (RIHN Center)	YASUNARI Tetsuzo	Visiting Professor
HEPP, Catherine Maria	Researcher (Research Department)	KAWANO Motoko	Visiting Associate Professor
HUANG, Wan Hui	Researcher (Research Department)	KIHARA Hiroataka	Visiting Associate Professor, Kyoto Center for Climate Actions/ Tantan Energy Co. Ltd.
ICHIHARA Masako	Researcher (RIHN Center)	KOZAN Osamu	Visiting Associate Professor, Kyoto University
KIMIJIMA Satomi	Researcher (Research Department)	MASUHARA Naoki	Visiting Associate Professor, University of Hyogo
KOO Bonjun	Researcher (Research Department)	MC GREEVY, Steven Robert	Visiting Associate Professor, University of Twente
LEONG, Chris	Researcher (Research Department)	OTA Kazuhiko	Visiting Associate Professor, Nanzan University
LI Xinmeng	Researcher (Research Department)	SHIMIZU Takao	Visiting Associate Professor, Kyoto Seika University
METARAGAKUSUMA, Andi Patiwara	Researcher (Research Department)	WATANABE Tsuyoshi	Visiting Associate Professor, Hokkaido University
MEUTIA, Ami Aminah	Researcher (Research Department)	JIANG Hongwei	Visiting Assistant Professor, Osaka University
MIMURA Yutaka	Researcher (Strategic Planning and Management Department)	HARAGUCHI Masahiko	Visiting Researcher, JSPS Research Fellow
MURAO Rumiko	Researcher (Research Department)	KURONUMA Taichi	Visiting Researcher, JSPS Research Fellow
SHIMADA Nahoko	Researcher (Strategic Planning and Management Department)	HAYASHI Koji	Visiting Researcher
SINGH, Deepak	Researcher (Research Department)	IKEYA Tohru	Visiting Researcher
		LUO Xianping	Visiting Researcher
		OSAWA Takamasa	Visiting Researcher
		SHAHIRIER, Shibly	Visiting Researcher
		SHINKAI Rika	Visiting Researcher
		SHIRAI Yuko	Visiting Researcher

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
— 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
- 2021 — YAMAGIWA Juichi appointed as the fourth Director-General
— RIHN 20 year anniversary and symposium
— Kyoto Climate Change Adaptation Center established
- 2022 — Strategic Planning and Management Department established
— RIHN logo redesigned

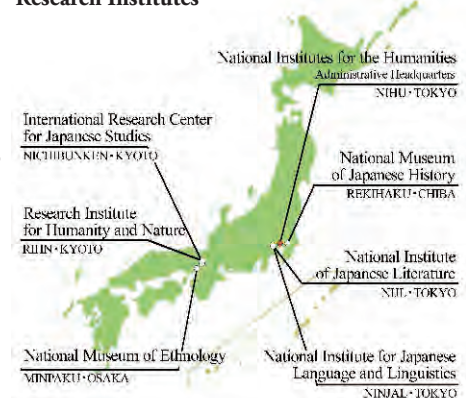


RIHN



The National Institutes for the Humanities (NIHU) consists of six inter-university research institutes that specialize in humanities research. Each institute is deeply involved in and serves as a domestic and international research hub for foundational research in their respective fields. The six institutes interact in a complementary fashion and carry out research that transcends the frameworks of traditional disciplines. Also, they cooperate with other research institutes domestically and internationally in their endeavors to elucidate and solve modern issues. They aspire to realize human life that is rich in the true sense by promoting research on human cultures and creating new values.

Locations of NIHU and Its Six Humanities Research Institutes



Contribution to Graduate Education

NIHU's four humanities research institutes offer courses at the Graduate University for Advanced Studies (SOKENDAI), and the five doctoral programs are designed to take advantage of institutional resources and provide an array of specialized training for scholars. All the six research institutes of NIHU accept graduate students from other universities, thereby contributing to the training of future leaders in their fields.

Courses offered at SOKENDAI

- Department of Regional Studies (Minpaku)
- Department of Comparative Studies (Minpaku)
- Department of Japanese Studies (Nichibunken)
- Department of Japanese History (Rekihaku)
- Department of Japanese Literature (NIJL)

Social Outreach, Providing Public Access to Research Results



39th NIHU Symposium



Joint symposium with the Japan Forum for the Cultivation of Insight from the Humanities



Joint Symposium with the Ajinomoto Foundation for Dietary Culture

Inter-university Research Institute Corporations

NIHU is one of Japan's four inter-university research institute corporations.

Inter-University Research and Education Alliance

Established on March 1, 2022, the Inter-University Research and Education Alliance (IU-REAL) has five members: the four inter-university research institute corporations (the National Institutes for the Humanities, the National Institutes of Natural Sciences, the High Energy Accelerator Research Organization, the Research Organization of Information and Systems) and the Graduate University for Advanced Studies (SOKENDAI).

IU-REAL aims at leading the further development of academic research in Japan by promoting collaborative projects for the five members to fully perform their respective functions through integrated research and educational activities.

Inter-University Research and Education Alliance (IU-REAL)



What is IU-Real?

On March 1, 2022 IU-Real was founded with its membership consisting of the four inter-university research institute corporations (NIHU, NINS, KEK, and ROIS) and SOKENDAI.

URL: <https://iu-real.jp>

Center for Innovative Research(CIR)

The Center for Innovative Research (CIR), set up under NIHU, promotes both the Transdisciplinary Projects and the Co-creation Research Initiatives. As a core of fundamental and interdisciplinary research, CIR seeks to spur development in three research orientations—a creative collaboration with society, digitalization in response to the new era, and advancement of international collaboration.

NIHU Transdisciplinary Projects

In boosting fundamental and interdisciplinary research on human cultures that forms the foundations of NIHU, we carry out eleven research projects of three types, thereby expanding networks of scholarship and creating new fields of research. This, we hope, will strengthen the functions of the six NIHU-member research institutes in fulfilling their missions as inter-university research institutes.

<p>Institute-based Projects</p> <p>Given the results of the evaluation of education and research activities of each inter-university research institute, projects of this type aim to facilitate deeper studies in research fields according to the institutes' respective missions.</p>	<ul style="list-style-type: none"> · Construction of Japanese Historical Knowledge and Open Science Research · Model Building in the Humanities through Data-Driven Problem Solving · Empirical and Applied Research on the Japanese Language Based on Open Language Resources · New Departures and Consortium for Global Japanese Studies: Pioneering and Cultivating Global Japanese Studies · Renewing modern civilization through nature-culture complex toward solving global environmental problems · Sustainable development humanities research based on the Info-Forum archives of human culture
<p>Multidisciplinary Collaborative Projects</p> <p>Through interdisciplinary and transdisciplinary projects, the NIHU-member institutes promote co-creative research through organic linkages with each other.</p>	<ul style="list-style-type: none"> · Interdisciplinary and integrated studies on local cultures: Aiming for the emergence of novel communities · Object-based research of nature-human interactions up to the Anthropocene · Expansion Studies of Synthetic Bibliology
<p>Network-based Projects</p> <p>Projects of this type aim to create attractive research hubs through networks with universities and other research and education institutions to tackle issues in various fields of research.</p>	<ul style="list-style-type: none"> · NIHU Area Studies · Inter-University Research Institute Network Project to Preserve and Succeed Historical and Cultural Resources

NIHU Co-creation Research Initiatives

Knowledge Co-creation Projects: These projects are to lead the way toward fulfillment of NIHU's missions and collaborative research that will strengthen the functions of its institutes through co-creation efforts of a wide variety of organizations and people in and out of NIHU. Efforts are focused in three research orientations—a creative collaboration with society, digitalization in response to the new era, and advancement of international collaboration.

- Establishing Science for Universal Communication (S_COM)
- Japan-related Documents and Artifacts Held Overseas: NIHU International Collaborative Research
 - 1) Early Diplomatic Japanese Collections Abroad: Contextualizing 19th Century Japanese Material Heritage in World History through On-site and Online Research and Use
 - 2) Study on the Construction of Archival Infrastructure for the History of Modern Japan-Vatican Relations
 - 3) Japan-related documents and artifacts in Hawai'i: historical and social survey interface
- Building Digital Library for Humanities

Co-creation Outreach Initiatives: This project accelerating the three orientations above will promote research advancement and creativity at NIHU's research institutes and other research institutes including universities.

—NIHU **Knowledge Co-creation Projects:** These projects have the following activities to promote societal co-creation in cooperation with NIHU's research institutes and other research institutes including universities: 1) visualizing cutting-edge research works in the humanities through museums and exhibits; 2) leading research promotion models that boost research through co-creation with academia and society; 3) organizing and advertising the NIHU symposiums on the humanities and other activities.

—NIHU **"Digital Humanities" (DH) Projects:** These projects are a new initiative for the humanities that will be opened up by accelerating digitalization and making a variety of research databases widely accessible.

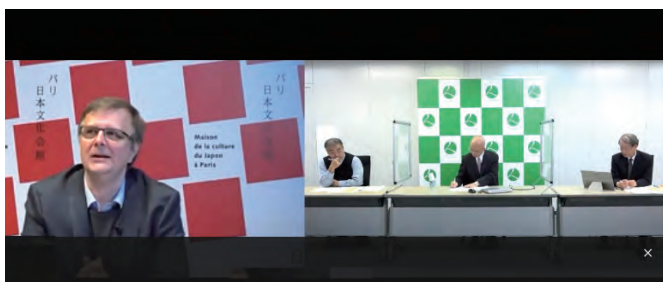
—NIHU **Global Partnership:** International interactive networks with overseas universities, research institutes, and outstanding scholars (such as recipients of the NIHU International Prize in Japanese Studies) will be newly built to invigorate research exchange including training for young scholars in humanities.



The Archives of Paris Foreign Missions Society



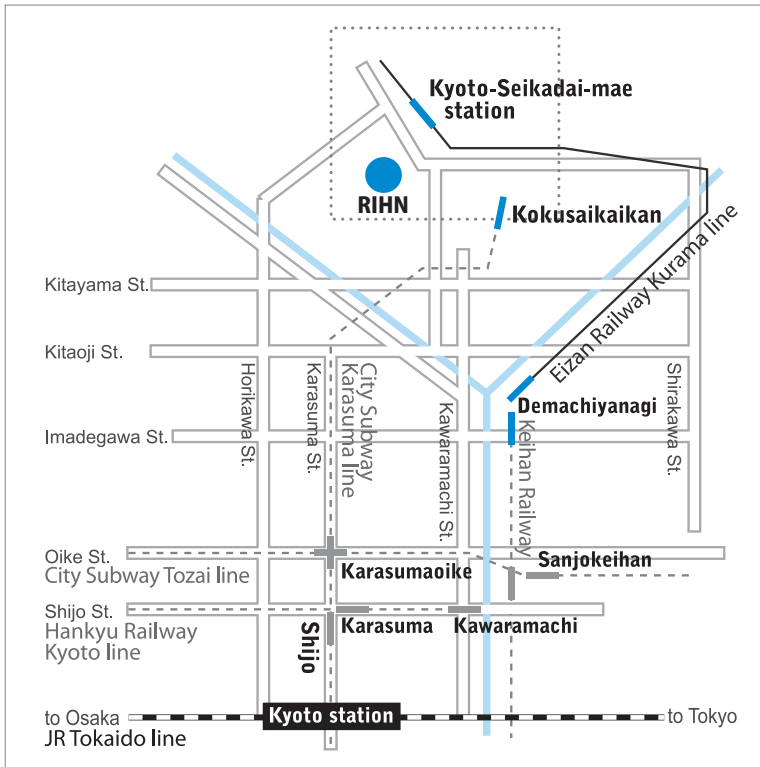
NIHU Program for Young Researcher Overseas Visits



Collaborative online lectures jointly organized by the Japan Cultural Institute in Paris and NIHU



Resource Sharing Promotion Project Committee, National Institutes for the Humanities



By City Subway

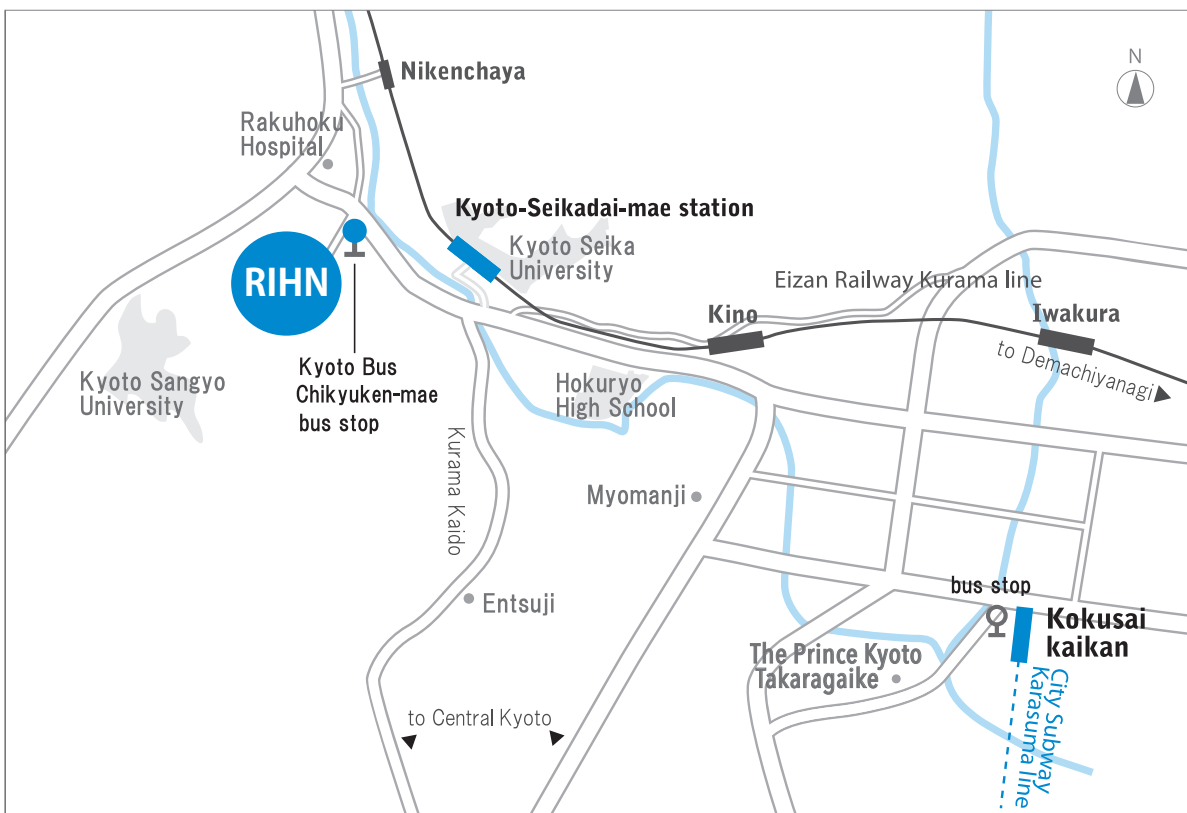
From Kyoto Station, take the Karasuma Line to Kokusaikaikan Station (the last station), and transfer to Kyoto Bus.

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.



RIHN Prospectus 2022-2023

Front Cover photo:

A little boy handling a traditional boat, Myanmar
Photo by KIMIJIMA Satomi

Back Cover photo:

I'm not a bee!, Japan (Kyoto)
Photo by SHIMAUCHI Risa



Research Institute for
Humanity and Nature
大学共同利用機関法人 総合地球環境学研究所
人間文化研究機構

457-4 Motoyama, Kamigamo, Kita-ku, Kyoto
603-8047, JAPAN

TEL. +81-75-707-2100 FAX. +81-75-707-2106
www.chikyu.ac.jp

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