

Message from the Director-General

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The Research Institute for Humanity and Nature (RIHN), located in Kyoto, Japan, was created by the Government of Japan in order “to promote integrated cooperative research toward the solution of global environmental problems”. From its origins, RIHN was envisioned as an advanced research institute that would transcend the common divisions between the humanities and the social and natural sciences, and combine rigorous empirical study with profound conceptual engagement into the interactions between humanity and nature.

While humankind has experienced environmental change throughout history, contemporary societies have humanized the biosphere to an unprecedented degree. In observing contemporary environments we quickly confront the question of what to do: how should human societies act to improve human wellbeing and ecological integrity? At RIHN we believe that humanity must bring the full range of its intelligence to this task.

As a national research institute—since 2004 RIHN has been one of five institutes that together form the National Institutes for the Humanities—RIHN solicits, hosts and funds integrative, cooperative research projects that advance one of five principal RIHN research domains. Research projects typically last six years, involve scholars from a wide range of academic disciplines, and are supported by cooperative agreements with universities and institutes at home and abroad. Project proposals are solicited publically and are subjected to rigorous review by an external committee of national and international experts. This fixed-term project structure and internationalist orientation gives RIHN the capacity to bring an uncommon range of specialists, methodologies and resources to bear on a particular research question, while also advancing the field of global environmental studies.

This prospectus introduces the conceptual approach, guiding principles, and structure of RIHN research. Each of the 14 Full Research and one Pre-Research projects and five Feasibility Studies currently underway, as well as the ten projects already concluded, is introduced according to the research domain to which it belongs. I hope the reader is impressed at the breadth and quality of RIHN research, and stimulated by RIHN’s approach to study of humanity and nature.

It is my pleasure to serve as Director-General of this innovative institute, to work alongside so many talented researchers, and to contribute to our understanding of the interactions between nature and humanity in this critical period of social and ecological change. I invite your warm understanding and support, as well as your critical assessments, of this prospectus and all RIHN activities.

Founding Mission, Goals and Philosophy

RIHN solicits, hosts and funds six-year research projects on key areas of interaction between humanity and nature. RIHN was established in April 2001 as an inter-university research institute by Japan's Ministry of Education, Culture, Sports, Science, and Technology (MEXT). It was incorporated as one of five member institutes of the National Institutes for the Humanities in 2004. It moved to its present location on the northern outskirts of Kyoto City in 2006. It is now the primary national research institute in Japan devoted to combined empirical and conceptual study of human-environmental interactions.

Contemporary environmental problems transcend academic disciplines just as they do individual places. Until recently, however, much environmental research has been undertaken by researchers operating largely within separate fields of natural science. RIHN's mission is to conduct integrative and cooperative research that examines and clarifies the interactions between human and biophysical systems, to identify the key aspects and processes of environmental change and to suggest how harmonious human-environmental relations can be established or enhanced.

At RIHN we believe that environmental problems concern humanity and all living organisms that inhabit the earth at present, or will do so in the future. We strive for *comprehensive* research: research that integrates academic disciplines so as to develop understanding of a phenomenon in its entirety.

To this end, RIHN research projects fall within one of five research domains—circulation, diversity, resources, ecohistory and ecosophy—each of which is described below. While specific research projects vary greatly, all projects use multiple theoretical approaches and methodologies in their investigations, and are framed by three principal interconnected dimensions of human-environmental interaction.



Villagers remove the thatch top of a dried brick granary before storing the new harvest of white sorghum. The Sahel, Burkina Faso. (Photo: ISHIYAMA Shun)

The first dimension of interaction between humanity and nature refers to the ways in which people understand and act in everyday environments; it involves humankind's immersion within, and experience of, the material and cultural flows that sustain daily life. Included in this dimension is the physical and perceptual experience of the human body in, as well as impacts of human lifestyles on, these flows.

A second dimension of human-environmental interaction has to do with environmental change that is of concern to whole societies, such as global warming, agricultural failure, loss of biodiversity, resource depletion or pollution. In such matters it is important to clarify the relevant social (political and economic) structures associated with specific human-environmental conditions or processes.

A third dimension of human-environmental interaction involves human understanding of the biogeochemical processes that constitute the biosphere. Modern societies depend on the formalized knowledge of the natural sciences, and the manner in which this knowledge is understood and communicated within a society also is of great significance to the first and second dimensions of human-environmental experience.

Taken together, the three dimensions constitute a field of studies that can be called global environmental studies. This is not a systematized discipline but a field of knowledge that should be defined and developed in relation to contemporary environmental and social change. The aim of this field of knowledge should be to enable humankind to better imagine and realize future social-ecological potential. Global environmental studies should thus provide the foundation for specific environmental sciences, as it is broadly addressed to the study of humanity in the midst of nature.



Yak graze on gentle slopes beneath the sacred peak Amne Machin (6282 m). Amdo, Qinghai, China. (Photo: KOSAKA Yasuyuki)

Features of RIHN

Integration

Integration entails the assimilation of multiple knowledge traditions into a single framework. Integration thus allows more accurate understanding of the true dynamism of earth phenomena; it implies that phenomena under examination are themselves multidimensional, and are best understood and described as such. RIHN research investigates global environmental problems such as climate warming, rising sea levels and loss of biodiversity at a regional scale—a scale at which it is possible to resolve both macro-scale and micro-scale processes. In order to synthesize broad trends, yet provide nuanced description that enables positive action, field surveys and data collection are undertaken within integrated research frameworks. Research into questions of human lifestyle and culture is naturally based in the methods and theories of the humanities and social sciences. The natural sciences improve human understanding of the biophysical world; humankind also improves its self-awareness through study of the natural world.

International Networking

Large-scale, multidimensional research projects depend on collaboration with local communities, experts and academics. Such collaboration promotes international scientific fellowship and contributes to improvements in overseas research facilities, enhanced public health campaigns, or increased public discussion of important human-ecological issues. The effect of international networking can also be gauged through the many multi-authored, international publications based on RIHN research collaborations. Foreign research fellows also enrich the RIHN research community by presenting their research in formal and informal settings while visiting our facilities, or by participating in international symposia.

Leadership

The overall RIHN research trajectory is outlined by the Director-General and Deputy Director-Generals in discussion with the Program Directors of the five research domains. In addition, the research projects are at the center of RIHN activity, and project leaders are deeply involved in determining the character of the institute: their critical assessment of proposed projects and institute structure are essential to RIHN's mission. The experience and suggestions of post-doctoral project researchers provides another perspective on the workings of the institute, as these researchers assume professorships they carry their RIHN experience with them and become part of the RIHN legacy.

Fluidity

In order to offer the opportunity for extended research of such broad scope, RIHN must operate at a slight remove from the normal academic setting and structure in Japan. All professors, associate professors and assistant professors therefore work through fixed-term appointments, as do project researchers (mostly post-doctoral scholars) and others involved in project support. In contrast to the typical pattern of academic advancement in Japan, in which an individual may spend an entire career at one institution, the RIHN structure encourages increased personal and intellectual exchange within Japanese academia.

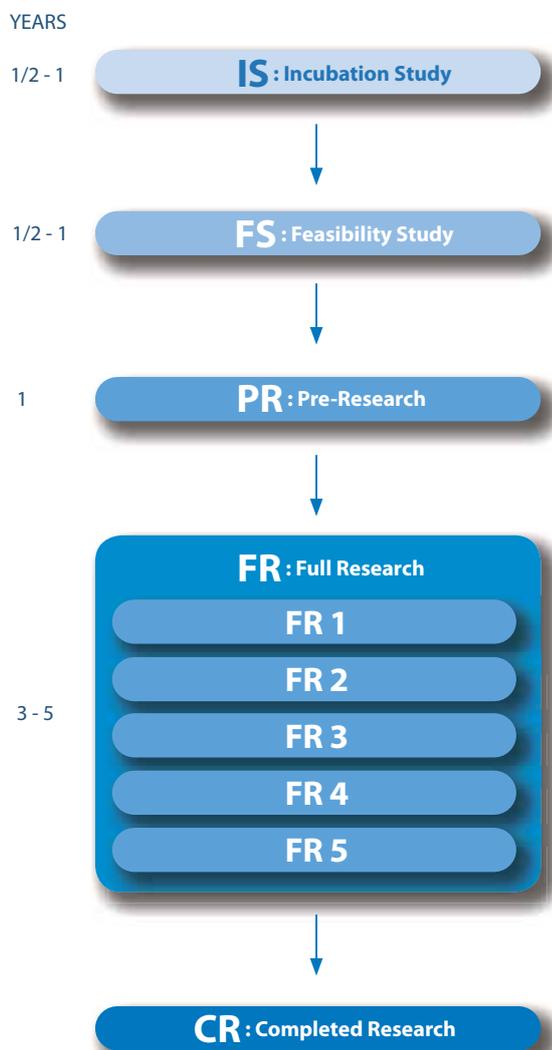
Research Project System

RIHN operates a system of fixed-term research projects. Projects proposals are solicited publicly. Initial evaluation of all proposed studies is undertaken by the Project Review Task Committee (PRT). Proposals at this point are largely exploratory; if a proposal is approved it is granted seed money and advances as an **Incubation Study (IS)**, a stage lasting from six months to one year, in which an applicant is invited to develop a full research proposal. If the IS proposal is approved by the PRT and interviews with institute staff, the project moves to the stage of **Feasibility Study (FS)**. At this stage the project leader undertakes preparatory research, and defines research sites and design in order to submit a fully developed research proposal. The full research proposal is then evaluated by the external Project Evaluation Committee (PEC) and, if approved by the PEC, confirmed by the RIHN

Board of Advisors. With the Board's approval, the project is allowed a transitional **Pre-Research (PR)** period of about one year, in which a project leader formally assembles the research team, establishes MoUs necessary for collaboration with other institutions, and makes other practical arrangements to enable **Full Research (FR)**.

Full Research, which typically involves a research team on site at RIHN and concurrent activity with collaborators overseas, several periods of field study, workshops and presentations, and outreach or communication to relevant communities, lasts from three to five years. FR projects are externally evaluated at several stages, including: on the completion of their second year; on the completion of their penultimate year; and on their conclusion.

When a project moves to **CR (Completed Research)** status, the contract with RIHN is concluded. Research teams disperse to university research, teaching, and other duties. Publications based on RIHN research may follow for several years after project completion; at RIHN, however, each project forms part of the institute's heritage.



Research Domains

Research at RIHN is organized through five research domains. Each of the first three domains is defined by a “root metaphor,” a metaphor already widely shared across disciplines, and therefore understood as a key area for conceptualization of human-environmental interactions. The latter two domains take up the same phenomena in an explicitly temporal or spatial context.

Circulation

Projects in this domain trace human impact on the global cycles of nutrients and water that create and define the biosphere. As these cycles are characterized by great complexity and dynamism, research projects in this domain typically entail several data surveys designed to indicate cause-and-effect linkages across spatial scales.

Diversity

Projects in this domain address global environmental problems arising from or associated with the loss of diversity, whether biological (including genetic diversity and availability of niches or habitats), or cultural (including diversity of languages, social structures, religions and world-views).

Resources

Projects in this domain investigate the features of the planet that humankind finds to be of immediate utility: those plants, animals, and materials that humankind uses to satisfy its material and cultural needs, and whose use in turn forms the cultural landscapes of a time and place.

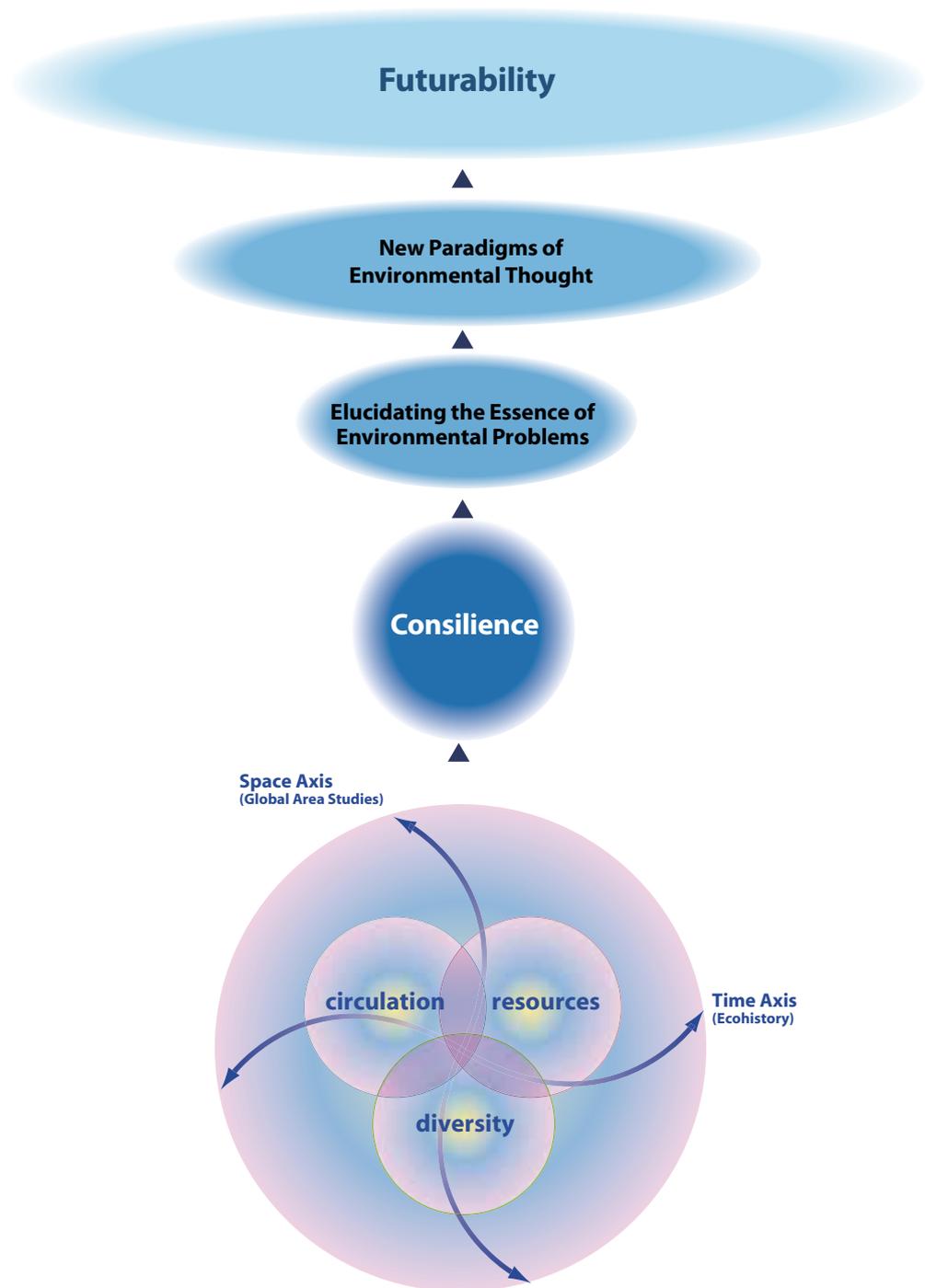
Ecohistory

Projects in this domain take a historical approach to circulation, diversity, or resource questions. There is particular emphasis on using new technologies to examine ecological dynamics involved in past civilizational rise and decline, and so to advance empirical and theoretical understanding of human-environmental dynamics throughout human history.

Ecosophy (Global Area Studies)

Projects in this domain examine the manner in which contemporary environmental problems both contribute to and result from global phenomena and processes. Description is focused on the specific social and environmental contexts in which environmental problems are found, their linkages to social and material phenomena in other places, and the conceptual models used to describe such interconnection.

Consilience and Futurability



If our problem is that of humanity in the midst of nature, empirical understandings of environmental change must be brought directly into dialogue with human experience as inhabitants of, and agents in, perpetually changing environments. *Consilience*, E.O. Wilson's term for a "jumping together of knowledge...across disciplines to create a common groundwork for explanation" can give greater insight into the sources of environmental problems and guide human attempts to address them.

At RIHN we seek transformations in the interactions between humanity and nature. Rather than sustainability, consilience can support *futurability*, a translation of a Japanese term that combines the ideographs for "future" and "potential," and so expresses a wider range of possibility in future development.

The Center for Coordination, Promotion and Communication

The Center for Coordination, Promotion and Communication (CCPC) was established on 1 April, 2008 in order to support RIHN's research projects, manage the institute's facilities and ensure the coherence of the institute's research trajectory. It has three divisions.

Division of Coordination

- Conducts analysis of relevant research fields in order to guide the long-term research trajectory of the institute;
- Facilitates collaborative research agreements nationally and internationally;
- Coordinates the RIHN project review process;
- Promotes professional advancement of RIHN researchers;
- Contributes to post-secondary Environmental Studies curriculum development.

Division of Promotion

- Manages and maintains the 18 laboratories;
- Manages and maintains the RIHN library and other archival facilities;
- Maintains protocols for fieldwork and equipment safety.

Division of Communication

- Works in multiple media to improve communication of institute events and project research to both specialist and general audiences;
- Organizes RIHN's annual international symposium;
- Develops collaboration between RIHN and national and international research institutes and communities;
- Manages periodical publications;
- Composes, edits, publishes RIHN documents and explanatory materials as needed.



Definition

The CCPC describes and establishes the field of global environmental studies. Through the CCPC, RIHN hosts lectures and seminars designed to elaborate the philosophical core of this new field. At the same time, the CCPC monitors progress of the traditional fields of environmental study and that of other integrative or multidisciplinary institutions in order to define RIHN's major research emphases. This dialogue between unique core research values and widely recognized research needs is intended to provide a stimulating institutional home for unusual synthetic research and enable incisive and flexible solutions to pressing social-environmental problems.

Networking

The CCPC promotes liaison and collaboration with research institutes and organizations at home and abroad. Much collaboration is project-based, and has established close relationships between scholars in Japan and those in numerous institutes and universities around the world (please see page 59). Additionally, as an inter-university institute, the CCPC is forming an electronic network intended to facilitate environmental research in Japan.

Communication

The CCPC publishes occasional research papers, reports, promotional materials and books. Currently in preparation is "The Encyclopedia of Earth Environments" (and its companion handbook), a comprehensive volume of contemporary global environmental conditions and change, the first such volume to be published in Japanese.

RIHN hosts a large number of fora and public seminars each year (please see pages 57-58) which are open to the interested public. In early 2010, RIHN will collaborate with the Kyoto City and Prefectural governments and the Kyoto Chamber of Commerce and Industry to observe the fifth anniversary of the Kyoto Protocol, the first international agreement to limit emissions of greenhouse gasses associated with contemporary climate change. The Earth Forum Kyoto will take place on 13-14 February, 2010.

Education

A further objective of the CCPC is to develop the field of environmental studies in Japanese secondary and post-secondary education. Aside from formal curriculum development and teacher training programs, primary and secondary school students are invited to tour our site and facilities.



RIHN Facility Tour by Kyoto City Ichiharano Elementary School (December, 2008)