RIHN Annual Report 2004

Inter-University Research Institute Corporation
National Institutes for the Humanities

Research Institute for Humanity and Nature (RIHN)

INDEX

Message from Director-General

The RIHN Annual Report for 2004 is ready. It comprises RIHN's activitiy from April 1st, 2004 through March 31, 2005.

The RIHN which was established in 2001 passed already 3 years, and is now fully working. Its Research Projects are steadily yielding important achievements.

In the year 2004, all the national universities were reorganized to corporations. Parallel to this, all the national Inter-University Research Institutes were also reorganized. RIHN became one of the member institutes of a new corporation called National Institutes for the Humanities, along with National Museum of Japanese History, National Institute of Japanese Literature, International Research Center for Japanese Studies, and National Museum of Ethnology.

Therefore, the formal naming of RIHN is now Inter-University Research Institutes Corporation, National Institute for the Humanities, Research Institute for Humanity and Nature. But simply RIHN, as before, is enough, because RIHN's objective is not changed.

Director-General
Toshitaka HIDAKA

History

Fiscal Year

1995 A proposal of Japan Science Council of Ministry of Education, Science, Sports and Culture: "On the promotion of the global environmental sciences" (April). "It is necessary to examine the founding of a central research organization that will promote integrated cooperative research toward the solution of global environmental problems".

1997 Investigation of the possible forms that the proposed research organization for the global environmental sciences may take. The Ministry of Education, Science, Sports and Culture established the Chosa-kyoryokusha-kaigi (Committee of Investigation Collaborators) for the establishment of a central research organization and made a budget for the concrete investigations.

The Ministerial Council for the global environmental conservation made an agreement on the "Provisional measure for global environmental conservation", in preparation for the UN General Assembly's Special Session on the Environment and Development (June). "The Council will investigate the means of possible adjustments necessary for the research organization to carry out integrated research in broad academic fields in addressing global environmental problems".

1998 Preparatory work for the establishment of the "Research Institute for the Global Environment Sciences" (tentative)

1999 The preparation Committee of the Institute compiled a report in March 2000 and proposed the foundation of the "Research Institute for the Global Environment Sciences" (tentative) for promoting integrated research projects, by amalgamating various broad disciplines from humanity and social sciences to natural sciences and using a network to be formed among workers in universities and research institutes within and outside the country.

2000 Investigation for the founding of the Research Institute for Humanity and Nature (tentative). Report "On the Fabric of the Research Institute for Humanity and Nature (tentative)" was completed in February.

2001 Foundation of the Research Institute for Humanity and Nature. Following the execution of the government ordinance (No. 151 of the year 2001) amending part of the ordinance on the law concerning the establishment of national schools (Kokuritsu-gakko-setchi-ho-shikorei), the Research Institute for Humanity and Nature was founded (Director-General: Professor Toshitaka Hidaka). The Institute commenced its research activity on the campus of Kyoto University.

2002 The Institute moved to the site of the old Kasuga Primary School of Kyoto City.

2004 Inter-University Research Institution Corporation, National Institutes for the Humanities (NIHU) was established on April 1st based on the National University Corporation Law. RIHN became one of the member institutes of the NIHU.

Introduction

Mission of RIHN

Research Institute for Humanity and Nature (RIHN) was founded in April 2001. This inter-university research institute, under the Japanese Ministry of Education, Culture, Sports, Science, and Technology, was established to carry out integrated research that innovates solutions to problems related to the global environment.

Environmental problems, such as global warming, loss of biodiversity, and depletion of water resources are said to be the consequences of humanity-nature interactions being manifested today in various parts of the world. It is fundamentally a problem of human life style or culture in the broadcast sense of the word.

One of the difficulties of assessing global environmental problems is that many of them have appeared across the vast regions of the earth in most unpredictable manner. A number of the problems before us caused by factors seemingly far removed from reality both in time and space. Moreover, recent studies show that not only "natural-scientific" but also "economics, politics, history, and philosophy etc." factors in the broadest sense are exerting strong influences.

The complexity of this work means that these multi-faced problems can not be solved by conventional thinking. In fact, the measures taken hitherto were based on the idea of controlling nature and which has yielded few solutions.

Our first and most fundamental posit is to define what is meant by problems in the global environment and to re-examine the conventional ways of thinking which developed during the 20th century.

Firstly we examine keenly how human interacts with nature, an intricately complex matter. It must be hard work. However this is our primary mission.

Secondly, based on such perspectives we need to consider how we can sustain the global environment that has all the future possibilities and what sorts of life style we must adopt in order to achieve it. To achieve these goals, a new academic approach is called for.

To embody the result, RIHN is tackling to a new trial stated in the message from Director-General of RIHN. And we intend to announce to the public how human can benefit from our research, while building academic "knowledge" to further contribute to resolving the problems now present in the environment.

Roles and Function of RIHN

[Integration]

In recent years many studies aimed at solving global environmental problems have been made in various ways in the world, but we now have reached a point where new directions are needed. We are faced with questions such as, what sorts of lifestyles will be acceptable in the future, and how large an area of tropical forest should be retained? To answer these simple but socially demanding questions, it is necessary to develop a new integrated approach, bringing together different disciplines from the natural sciences, social sciences, humanity studies, engineering, land and food sciences, medical sciences, and others.

[Fluidity]

It is extremely important to maintain high fluidity in the academic center to integrate research in cross-disciplinary fields. RIHN proposes a research organization with the highest possible fluidity operating under the requirements of the "project-based format".

[Globalization]

It is essential to build the research organization with international vision in order to realized a cross-disciplinary, integrated approach toward the solution of global environmental problems. RIHN will develop strong

links with international as well as national research organizations, actively well as national research organizations, actively promote research projects to be based overseas, and participate in the planning and operation of international research projects. It will also appoint many non-Japanese professors and researchers as integral members of its research staff.

[Leadership]

Strong leadership is necessary to carry out integrated research in such a fluid organization. RIHN will have its own professors to act as leaders in the planning and operation of multidisciplinary research projects to maintain its leading role in these studies.

■ Research Project System

RIHN will carry out cross-disciplinary, integrated studies according to the "project-based format" without dividing research activities into traditional disciplinary areas.

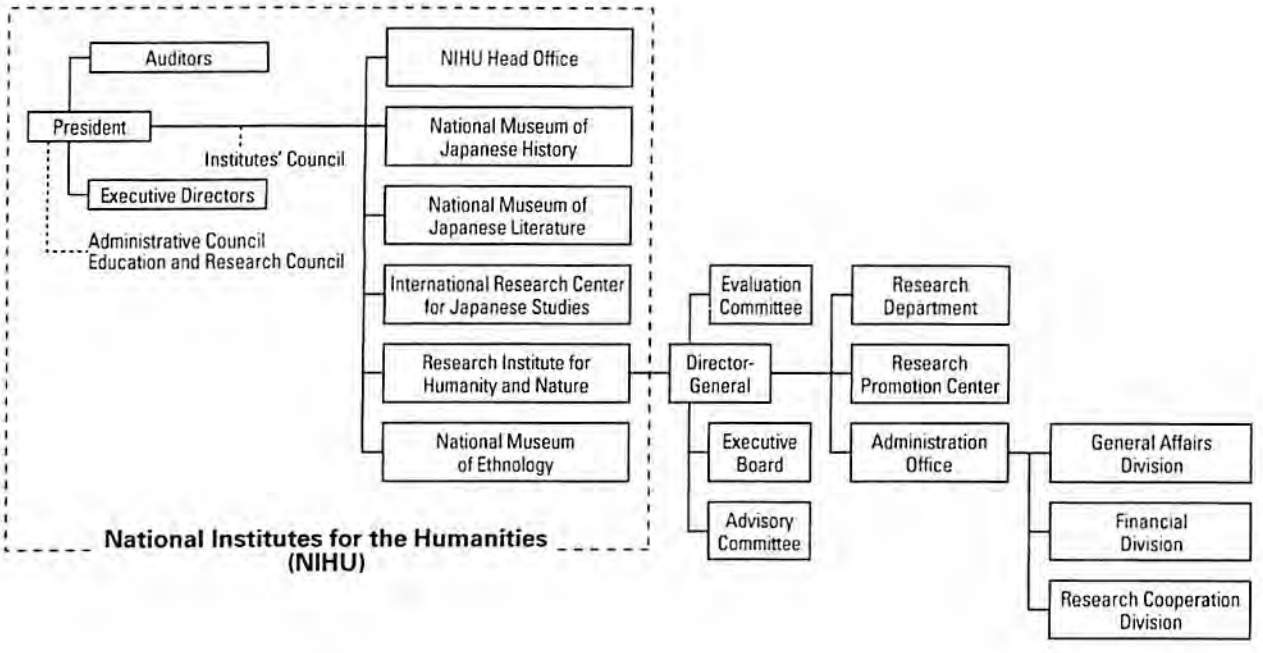
RIHN has not "Research Sections". It will carry out its research, not based on traditional research areas, but by establishing 5 research axes that represent integrated perspectives of the global environmental problems and identifying each research project along the direction of the appropriate axis.

Each project will be organized through the period of incubation (IS) and tested in the feasibility study (FS) of about one year. Then the result of the feasibility study will be evaluated and, if assessed as suitable, will proceed to the full-scale study of about 5 years. In this process the evaluation of the project is given by the Evaluation Committee and approval by the Advisory Committee.

■ National Institutes for the Humanities (NIHU)

Inter-University Research Institute Corporation **National Institutes for the Humanities (NIHU)** was established on April 1st., 2004 based on the National University Corporation Law. RIHN became one of member of the institutes of NIHU along with the following institutes, National Museum of Ethnology, International Research Center for Japanese Studies, National Museum of Japanese History, National Institute of Japanese Literature, which all are concerned with different viewpoints surrounding cultural problems. RIHN intends to contribute the solution of global environmental issues within this group, and construct an academic concept on which to base human culture.

Organization



Partner Organizations for Fluid Association (Fiscal Year 2004)

- Center for Ecological Research, Kyoto University (2001-)
- Hydrospheric-Atmospheric Research Center, Nagoya University (2001-)
- Arid Land Research Center, Tottori University (2001-)
- Institute of Industrial Sciences, University of Tokyo (2002-)
- National Museum of Ethnology, NIHU (2002-)
- Graduate School of Science, Tohoku University (2002-)
- Institute of Low Temperature Science, Hokkaido University (2003-)
- Tropical Biosphere Research Center, University of Ryukyus (2003-)

Boards and Committees (in alphabetical order)

Advisory Committee

Deliberates on important matters relative to personnel, planning, administration and operation of the institute.

FUJII, Yoshiyuki	Director, Arctic Environment Research Center, National Institute of Polar Research, Research Organization of Information and Systems
FURUSAWA, Iwao	Professor, Faculty of Life Science, Fukuyama University
NAKAMAKI, Hirochika	Professor, Department of Cultural Research, National Museum of Ethnology, NIHU
SHIRAHATA, Yozaburo	Senior Research Coordinator, Research Department, International Research Center for Japanese Studies, NIHU
TACHIMOTO, Narifumi	Dean, College of International Studies, Chubu University
TANAKA, Masayuki	Vice-President, Tohoku Institute of Technology
YAMAMURA, Norio	Professor, Center for Ecological Research, Kyoto University
AKIMICHI, Tomoya	Professor, Research Institute for Humanity and Nature, NIHU
FUKUSHIMA, Yoshihiro	Professor, Research Institute for Humanity and Nature, NIHU
HAYASAKA, Tadahiro	Professor, Research Institute for Humanity and Nature, NIHU
NAKAWO, Masayoshi	Professor, Research Institute for Humanity and Nature, NIHU
WADA, Eitaro	Professor, Research Institute for Humanity and Nature (-July 31, 2004), NIHU
SATO, Yo-Ichiro	Professor, Research Institute for Humanity and Nature (August 1, 2004-), NIHU
SAITO, Kiyoaki	Professor, Research Institute for Humanity and Nature, NIHU Director, Research Promotion Center, RIHN

Evaluation Committee

Undertakes eveluations of the feasibility studies and selects research projects to be forwrded to full-scale research; interim and post-evaluation of the research subjects under full-scale research.

APPANAH, Simmathiri	Senior Programme Advisor, Forestry Research Support, Programme for Asia and the Pacific (FAO), Thailand
EHLERS, Eckart	Professor, University of Bonn, Germany
FURUSAWA, Iwao	Professor, Faculty of Life Science, Fukuyama University
HEINTZENBERG, Jost	Director, Institute for Tropospheric Research, Germany
IWASA, Yo	Professor, Graduate School of Sciences, Kyushu University
KIKKAWA, Jiro	Professor Emeritus, The University of Queensland, Australia
LEGENDRE, Louis	CNRS Research Professor, Director, Villefranche Oceanography Laboratory, France
MORISHIMA, Akio	Chair of the Board of Directors, Institute for Global Environmental Strategies
MURAKAMI, Yoichiro	Professor, International Christian University
NIWA, Masako	Professor Emeritus, Nara Women's University
SAWA, Takamitsu	Director, Institute of Economic Research, Kyoto University
SUN, Honglie	Professor, Institute of Geographical Science and Natural Resources Research, Chinese Academy of Science, P. R. China
TACHIMOTO, Narifumi	Dean, College of International Studies, Chubu University
TANAKA, Masayuki	Vice-President, Tohoku Institute of Technology
WATANABE, Okitsugu	Director-General, National Institute of Polar Research, Research Organization of Information and Systems
YASUNARI, Tetsuzo	Professor, Hydrospheric-Atmospheric Research Center, Nagoya University

Executive Board

Discusses important matters of the institute.

AKIMICHI, Tomoya	Program Director, Research Institute for Humanity and Nature, NIHU
FUKUSHIMA, Yoshihiro	Program Director, Research Institute for Humanity and Nature, NIHU
HAYASAKA, Tadahiro	Program Director, Research Institute for Humanity and Nature, NIHU
HIDAKA, Toshitaka	Director-General, Research Institute for Humanity and Nature, NIHU
NAKAWO, Masayoshi	Program Director, Research Institute for Humanity and Nature, NIHU
SAITO, Kiyoaki	Director, Research Promotion Center, Research Institute for Humanity and Nature, NIHU
WADA, Eitaro	Program Director, Research Institute for Humanity and Nature (-July 31, 2004), NIHU
SATO, Yo-Ichiro	Program Director, Research Institute for Humanity and Nature, NIHU (August 1, 2004-)
OKAZAKI, Shoji	Director, Administration Office, Research Institute for Humanity and Nature, NIHU

RIHN organizes other committees, if necessary, for smooth operation.

Staff Members

Director-General HIDAKA, Toshitaka

Research Department

Program Directors
AKIMICHI, Tomoya FUKUSHIMA, Yoshihiro HAYASAKA, Tadahiro
NAKAWO, Masayoshi SATO, Yo-Ichiro (Oct. 1, 2004-)
WADA, Eitaro (-July 31, 2004)

Emeritus Professors
NAKANISHI, Masami WADA, Eitaro (Aug. 1, 2004)

Professors
AKIMICHI, Tomoya FUKUSHIMA, Yoshihiro HAYASAKA, Tadahiro
KINOSHITA, Tetsuya NAKANO, Takanori NAKASHIZUKA, Tohru
NAKAWO Masayoshi OSADA, Toshiki SATO, Yo-Ichiro
TAKASO, Tokushiro WADA, Eitaro (-July 31, 2004)
WATANABE, Tsugihiro YUMOTO, Takakazu

Visiting Professors
WAN, Genxu
(Apr. 1, 2004 - Dec. 15, 2004)
Professor, Cold and Arid Regions Environmental and Engineering Research Institute, Chinese Academy of Science, P. R. China

INOUE, Takashi
Executive Producer, NHK Special TV Program Center

HANNAN, Md. Abdul
(Apr. 1, 2004 - Mar. 31, 2005)
Research Fellow, Center for Natural Resource Studies, Bangladesh

KANBER, Rıza
(July 1, 2004 - Sep. 30, 2004)
Professor, Cukurova University, Turkey

KHARAKWAL, Jeewan Singh
(May 10, 2004 - May 9, 2005)
Assisant Professor, Department of Archaeology, Institute of Rajasthan tudies, Rajasthan Vidyapeeth University, India

SUGIMOTO, Takashige
Professor, Tokai University

TAKAHASHI, Hiroshi
The Institute of Cultural Communications, Ltd., Adviser

Invited Research Fellows
CHEN, Jenjao
(September 24, 2004 - December 24, 2004)
Professor, Chunsan University, China P. R.

CHITRAKON, Songkran
(Oct. 1, 2004 - January 31. 2005)
Vice-Director, Biotechnology Research and Development Office

HILL, David Anthony
(July 15, 2004 - February 28, 2005)
Lecturer, Sussex University, UK

QI, Wuyun
(January 17, 2005 - June 16, 2005)
Associate Professor, Institute of Archaeology Chinese Academy of Social Sciences, China P. R.

	SHEN, Weirong (January 17, 2005 - December 20, 2005) Visiting Professor, Institute for Asian and African Studies, Humboldt University, Germany		
Associate Professors	ICHIKAWA, Masahiro	KANAE, Shinjiro	KUBOTA, Jumpei
	NARITA, Hideki	NONAKA, Kenichi	OKUMIYA, Kiyohito
	TANIGUCHI, Makoto	UCHIYAMA, Junzo	UMETSU, Chieko
	YACHI, Shigeo	YOSHIOKA, Takahito	ZHENG, Yuejun
Assistant Professors	ABE, Hiroshi	ENDO, Takahiro	KATO, Yuzo
	KAWAMOTO, Kazuaki	SAEKI, Tazu	TAKEUCHI, Nozomu
	YATAGAI, Akiyo		
Research Fellows	FUJITA, Wataru	IMAMURA, Akio	INOUE, Mitsuyuki
	ISHII, Reiichiro	KATAGIRI, Shuichiro	KIMOTO, Yukitoshi
	KUME, Takashi	MURATA, Fumie	NISHIMURA, Yuichiro
	TAKAHASHI, Atsuhiro	TATENO, Ryunosuke	
Research Fellows	MIYAKE, Takayuki		
(RR)	HOSHIKAWA, Keisuke	MIYAKE, Takayuki	MATSUOKA, Masayuki
	SATO, Yoshinobu	CHENG, Zhi	
(JSPS)	HARROLD, Timothy Ives	HYODO, Fujio	NAGANO, Takanori
	NAKAGAWA, Michiko	ONISHI, Hideyuki	
Clerks	HARADA, Atsuko	HASE, Noriko	ICHIDA, Koichiro
	IWATA, Atsuko	KAWAMURA, Mika	KITAMURA, Ayako
	NAGAOKA, Kumiko	NAGASAKA, Junko	NAKAMURA, Yumiko
	NINOMIYA, Mayu	OKITA, Hiroko	ONAKA, Yoriko
	SASAKI, Noriko	SHIMIZU, Hiromi	TAKINO, Kayoko
	UENO, Aki		
Technicians	AKEDO, Masako	FUJIMAKI, Reiji	HIRATA, Masahiro
	IGETA, Akitake	IMADA, Miho	KASHIWO, Tamaki
	KUDO, Aiko	OGAWA, Akiko	OGURA, Asayo
	OISHI, Taro	MIYAJIMA, Toshiaki	MIYAWAKI, Chie
	NAKANISHI, Nozomi	SHIMIZU, Ikuro	TAGUCHI, Rie
	TAKEZAWA, Fumika	TANAKA, Takuya	UEDA, Atsushi
	USHIMARU, Atsushi		

Research Promotion Center

Director, Professor	SAITO, Kiyoaki		
Associate Professors	MOMOKI, Akiko	SEKINO, Tatsuki	YOSHIMURA, Mitsunori
Assistant Professor	KOHMATSU, Yukihiro		
Technicians	IGI, Setsuko	TAKI, Chiharu	TANAHASHI, Toshiyuki

Administration Office

Director	YOSHINO, Masami (- June 30, 2004)
	OKAZAKI, Shoji (July 1, 2004-)
General Affairs Division	
Head	INOUE, Akio

Deputy Head	NAKANISHI, Masahiko		
General Affairs Section			
Head	MURATA, Satoshi		
Clerks	UEMURA, Saeko	OTSUKA, Miki	
Secretary	OMORI, Mami	MURATA, Chiyo	
Personnel Section			
Head	MINATO, Hideto		
Chief	NAKANISHI, Seiji		
Clerical Assistant	IWASAKI, Rie		

Accounting Division

Head	KANOMATA, Nirou (- June 30, 2004)		
Head	MORI, Takashi (July 1, 2004-)		
Deputy Head	HAMASAKI, Yasuhiro		
Budgeting Section			
Head	KOMAMURA, Masaaki		
Clerks	ENOMOTO, Isao	MORIKAWA, Akiko	
Accounting Section			
Head	TANAKA, Yoshiro		
Clerks	SETA, Yoriko	HOSOGUCHI, Miyo	
Supply Section			
Head	MIYAZAKI, Sadahito		
Chief	YAMADA, Tetsuya		
Clerks	KIMURA, Minako	TAMEISHI, Miki	
Janitor	ONISHI, Kazuma		
Facilities Section			
Head	OOE, Nobuhiro		
Clerk	SINTANI, Tomohiro		

Research Cooperation Division

Head	MATSUDA, Mitsunori		
Deputy Head	KOSEKI, Kenichi		
Research Cooperation Section			
Head	YOSHIDA, Ren		
Clerks	MATANO, Makiko	IMAI, Masatoshi	ARAKI, Keiko
	SODEOKA, Sachiko	HIROSE, Kumi	
Team Research Section			
Head	OKAZAKI, Akihiko		
Clerk	OMAE, Yoko		
Technicians	FUJITA, Masanobu	KANEMATSU, Takako	SUEZAWA, Reiko
International Affairs Section			
Head	SUMIKURA, Mariko		
Clerks	KAJI, Sachiko	OHMOTO, Emi	

Research Activities

Research Axes and Research Projects

Each project will be organized through the period of incubation study (IS) and tested in the feasibility study (FS) of about one year. Then the result of the feasibility study will be evaluated and, if assessed as suitable, will proceed to the full-research (FR) of about 5 years. In this process the evaluation of the project is given by the Evaluation Committee and approval by the Advisory Committee.

AXIS 1: Environmental Change Impact Assessment

To study possible changes in natural environment and their impacts on human system.

- 1-1FR Impact of climate changes on agricultural production system in arid areas
- 1-2FR Recent rapid change of water circulation in the Yellow River and its effects for environment

AXIS 2: Human Activity Impact Assessment

To study impacts on natural systems of human industrial and economic activities and their changes that are induced by reforms and replacement of political and ideological domains.

- 2-1FR Emissions of greenhouse gases and aerosols, and human activities in Eastern Asia
- 2-2FR Sustainability and biodiversity assessment on forest utilization options
- 2-3PR Human activities in Northeastern Asia and their impact to the biological productivity in North Pacific Ocean
- 2-4FS Human activity impacts on urban subsurface environments
- 2-5FS Erosion of genetic diversity as a social, ecological and environmental problem

AXIS 3: Spatial Scale

To clarify the whole interactions between human and nature in a given region, and explore for constructing sustainable society.

- 3-1FR Multidisciplinary research for understanding interactions between humans and nature in the Lake Biwa-Yodo River watershed
- 3-2FR Interactions between natural environment and human social systems in subtropical islands
- 3-3FS Environmental change and the decline of Indus Civilization

AXIS 4: History and Time Scale

To demonstrate sustainability and transformation by examining historical and temporal processes of interactions between global environmental changes and human activity.

- 4-1FR Historical evolution of the adaptability in an oasis region to water resource changes
- 4-2FR A trans-disciplinary study on the regional eco-history in tropical monsoon Asia: 1945-2005
- 4-3FS The growth of artificial environments in Eurasia and changes in world view

AXIS 5: Conceptual Framework for Global Environmental Issues

Theoretical and empirical analysis for building conceptual framework of global environmental issues

- 5-1FR Global water cycle variation and the current world water resources issues and their perspectives
- 5-2FR Interactions between the environmental quality of a watershed and the environmental consciousness: With reference to environmental changes caused by the human use of land and water resources
- 5-3FS A new cultural and historical exploration into human-nature relationships in the Japanese Archipelago

Incubation Studies

1. A comparative study between the Dominican Republic and Malaysia on the influence of European origin logic and systems on the natural resource uses (ICHIKAWA, Masahiro)
2. Integrated studies depending on national policy during the inter-war period (KATO, Yuzo)
3. What is the limit of human impacts on sustainability in the environment? A case study in arid regions in China (KUBOTA, Jumpei)
4. Creation of environmental traceability science (NAKANO, Takanori)
5. The study of food – A cross point of human and nature – (NONAKA, Kenichi)
6. Global environment and infectious diseases (MOMOKI, Akiko)
7. Study of nature (SAITO, Kiyoaki)
8. Long-term dynamics of the prehistoric socio-economic structures in the Holocene from resource use perspectives (UCHIYAMA, Junzo)
9. Towards resilience of social-ecological systems for environmental variability (UMETSU, Chieko)
10. Nature of archaeologically-hydrologically synthetic flood (NOAH'S Flood) (YATAGAI, Akiyo)
11. Construction of harmonious society for cross-national environmental issues based on integrated evaluation on environment in East Asia (ZHENG, Yuejun)

Research Projects

Full-Research

Research axis: Environmental change impact assessment
Project number: 1-1FR
Project name: Impact of climate changes on agricultural production system in arid areas
Project leader: WATANABE, Tsugihiro (RIHN)
Core members: see Table 1 attached at the end
HP: http://www.chikyu.ac.jp/iccap/English/ENGtop.htm/

1. Research objectives and topics

Research Objectives

a) To examine and diagnose the structure of land and water management in agricultural production system in arid areas, especially to evaluate quantitatively the relationship between cropping system and hydrological cycle and water balance in farmland and region.

b) To develop the methodology or model for integrated assessment on impacts of climate change and adaptations for it, mainly on the aspect of the land and water management.

c) To assist the development and improvement of the Regional Climate Model (RCM) for more certain prediction with higher resolution of future changes in regional climate.

d) To assess the vulnerability of agricultural production system and to suggest possible and effective measures for enhancing sustainability of agriculture, through integrated impact and adaptation assessment of climate changes.

Topics and Methodology

a) This project selects two case study areas, the Mediterranean region of Turkey and Nile Valley and Delta in Egypt, in the east Mediterranean region, which is one of the most sensitive areas in agriculture to predicted future climate change.

b) Focusing land use and cropping pattern, and soil and water condition, its interrelationship with regional climate, basin hydrology, plant and crop production, irrigation system, agricultural economics, etc. is to be modeled with which the vulnerability of agricultural production system is assessed.

c) Based on some scenarios for future climate change generated by the improved RCM, mechanisms of the impact and adaptation processes in agricultural production system are identified.

d) With feedbacks and interactions clarified in analyzing the process of assessing climate change impacts and adaptations, the key factors and parameters for improvement of the sustainability of agriculture are to be identified.

2. Relation with research program

The on-going "Research Program" in the Research Axis of Natural Changes Impact Assessment is aiming at identification and prediction of drastic changes of natural system and its impacts on eco-system and human society. The main objective of the program is defined as to clarify the actual situation and mechanism of impacts of various aspects of natural changes like climate change on a regional eco-system and human society as well as consequential environmental problems, and to predict future of these relationships for establishment of effective measures and mitigations. The subjects of this research project are directly and explicitly corresponding to the objectives of the program, focusing on vulnerable agro-ecosystem and agricultural production system in arid region.

3. Project leader and collaborators: see the table attached at the end.

4. Progress of the Project

4.1 Outline of the progresses from April 2004 to March 2005

Since the commencement of the project in April 2002, considerable efforts and time have been needed to establish research plan and collaboration system for implementing the project in Turkey. Data acquisition from the governmental authorities also needs considerable official procedures. On the other hand, however, these efforts and procedures provided the project members with good opportunities for better understandings and collaborations.

In parallel with these research infrastructure preparations, on-site measurement, interviews, collection of statistics and references, model development and laboratory experiments were carried out, in Japan and Turkey as well as in Israel.

In the Japanese fiscal year 2004-2005, based on the research progress and results in the past years, we have continued the works in plan, including method development, model development, observation and measurement and data analysis. The innovated method for assessing the impact of global climate changes on agriculture has been tackled. One of the remarkable progresses is that the Regional Climate Model has been improved and generated future climate scenario with pseud global warming experiments. This output of RCM, called the First Run, is now available for all sub-groups and will be the trigger for progress of each sub-group and integration of them, in coming period.

4.2 Modifications on the original research plan

There has been no major modification in the project during implementation stages from February 2001. According to development of the research environment, some practical modifications are executed on the research area and the way to implement in Turkey, as below.

1) At the initial stage, the Nile Delta in Egypt was planed to be a case study area of this project, and there some preliminary researches and organization of the research team were initiated. However, establishment of the research organization has not been accomplished yet and exact research activity has not been commenced. Because it seems difficult to complete the preparation and organization for this project soon, at present only collection of information about the research development on the topic of climate change impact on agriculture is being planed.
2) In Turkey, TÜBİTAK (The Scientific and Technical Research Council of Turkey) has joined RIHN for implementation of this project with a larger amount of financial support, since it recognizes this project very important where younger researcher should be involved and educated. With these expectations in Turkey, this project is being implemented with long-term vision so as to be a base for future joint research projects on global environmental problems.

4.3 Main activities and research meetings

Main activities of the project can be summarized as below.

4.3.1 International Workshop

1) Ürgüp Workshop, Turkey. November 21-23, 2004
   a. Participants: 51 (Japanese: 17, Turkish: 31, Israeli: 2, FAO: 1)
   b. Invited lecture: 2, Research paper presentation: 29. Proceedings published.
2) Kyoto Workshop, Japan. February 17-18, 2005
   a. Participants: 44 (Japanese: 31, Turkish: 10, Israeli: 2)
   b. Research paper presentation: 20. Proceedings published.

4.3.2 Project Research Meeting

Five times; May, June, September, December 2004, and March 2005

4.3.3 Sub-Group Research Meeting

Many (properly)

4.3.4 Field study in Turkey

1) Research method and organization (Project Leader; Five times, total 65 days)
2) Climate Sub-group (Three persons, total 27 days)
3) Hydrology and Irrigation Sub-group (Nine persons, total 120 days)
4) Crop Productivity Sub-group (Nine persons, total 120 days)
5) Vegetation (Three persons, total 60days)
6) Socio-economics (Nine persons, total 200 days)

4.3.5 Invitation of foreign collaborators

Turkish researchers and engineers. Ten persons, total 150 days

4.3.6 Report Publication

1) Progress Report (edited in March 2004, and published in May 2005)
2) Proceedings of the Workshops (January and March 2005)
3) The First Interim Report of the Socio-economic Sub-group

4.3.7 Related Field Study in Foreign Country

(Yellow River Basin in China, Zambia, and USA)

5. Outcomes (2004)

5.1 Major outcomes of the project

Major outcomes of the project until the end of the fiscal year 2003-2004 are summarizes as follows.

5.1.1 Progress of the whole project

1) Improvement of the research organization and basic data collection in Turkey has been carried out continuously. Collection of topography, geology and soil maps for the Syhan River Basin was fundamentally completed, and the historical records of meteorology and hydrology were also finished. Now, they are under processing in Japan and Turkey.
2) On-site measurements and observations as well as interviews have been executed and their results have been analyzed. In Japan, model development and laboratory experiments are going well satisfactory.
3) To project the future climate condition, the Regional Climate Model is being modified continuously and has generated a future climate scenario in the case study basin with global warming experiments.
4) The scope and method for assessing the climate change impacts on various aspects or phase s of the agriculture in the case study area were discussed. Then, finally and as a hypothesis for integration, one framework for assessment was established with diagram of the elements that could be affected by climate change and their relationship. This means it could represent the mechanism of climate change impacts in agricultural production system.
5) In the scope of ICCAP, there are some lacks are to be recognized like changes in pest and diseases, urbanization, population growth, etc. Taking the limitation of resources and time for ICCAP and characteristics of the case study area into account, three sob-topics were added in the scope of the projects; livestock farming, soil salinty in farmland, and women's role in land and water management.

5.1.2 Progresses of sub-groups

i) Climate sub-group

a. The daily precipitation data produced by the MRI-CGCM ensemble runs under SRES-A scenario were analyzed. A decrease in precipitation around the Mediterranean region was significant.
b. Analyze of the precipitation data of Turkey (1977-2000) shows the following trends; i) decrease of precipitation in the western region in January, ii) increase of precipitation for whole Turkey in April with a few exceptions, and

iii) increase of precipitation in whole Turkey in October except the southern region.

c. By analyzing grid precipitation data and objective reanalysis data (ECMWF), an increasing trend in evapo-transpiration over Turkey was apparent in July.

d. Regional climate model (TERC-RAMS and MM5) was test-run, nested with MRI-GCM output (resolution of 280km.) Monthly rainfall distribution in the 2070s was estimated. The model still cannot simulate year-to-year variation of monthly precipitation. Appropriate nesting grid size and region for better resolution were examined.

e. A dataset of the RCM pseudo warming run version 2 was distributed to all the member of the project. This dataset includes the simulation run of RCM using NCEP/NCAR boundary conditions and the pseud warming run (in 1999 + 80). The dataset includes three hourly precipitation, temperature, wind velocity and downward short wave radiation (insolation) at the observation stations in the entire Turkey (537 stations).

ii) Hydrology and water resource sub-group

a. The distributed hydrological model (Hydro-BEAM), was developed and modified, and then applied to the Seyhan River Basin.

b. Field survey showed that irrigation feeds groundwater in the Seyhan River Delta and the groundwater flows out into the Ceyhan River Delta.

c. The groundwater level of the Lower Seyhan River Delta already comes up to the ground surface in the area, where altitude is lower than about 5 m above the sea level. Even the irrigated farmland extends over the area in the higher land above 5 m from the sea surface, the areas, where groundwater level is 1 m below surface, increase in the irrigation period in the upper to middle basin.

d. Simulation model for salt-water intrusion with expected raised sea-level was developed.

e. Laboratory experiments were carried out to investigate the impact of sea-level rise and validation of this model was conducted.

iii) Crop productivity sub-group:

a. Under glass house condition, and suffered elevated temperature and CO_2 concentration in growth cabinet after one week naturalization, transpiration rate decreased with decrease in soil water contents and there was a curve liner relationship between relative transpiration rate (soil desiccated/irrigated control) and fraction transpirable soil water.

b. A simplified process model to simulate wheat growth and yield under Mediterranean environments (sometimes drought-prone and with a possibility of frost damage) was developed.

c. The model includes 4 processes; phenology, leaf area development, dry matter production and yield formation process considering the frost damage on spikes, and phenology model could be well explained the days to flowering of Adana99 grown under various environmental conditions.

d. Maize productively with temperature raise was simulated by the SWAP model using the predicted climate data of MRI model, as a result, average dry matter weight of first and second crop maize in 2040-2060 decreased by 11.7% and by 14.9% as compared with those in 1981-2010, respectively.

iv) Vegetation sub-group:

a. Impact of global warming and climate change on species composition and productivity of the natural vegetation is being assessed in the Seyhan Basin and the neighboring Ceyhan Basin.

b. In the seven permanent investigation plots in the three typical stands (maquis, *P.brutia* and *Abies/Cedrus*), stand structure and productivity was investigated in those plots. For the vegetation map of the case study basin, geographical vegetation in the eastern Mediterranean region is being analyzed by satellite images.

c. The annual growth of trees was observed to analyze the influence of climate changes on tree growth. Elongation growth of trees in the semi arid area of this region is restricted when annual rainfall amount is less than 1000mm.

d. The vegetation map of the eastern Mediterranean region and the study basins, and in the present, it must depend satellite images. The relationship between present and past vegetation and environment aspects is being analyzed in terms of temperature, precipitation and topography.

e. To clarify present merits of livestock keeping in settled small-scale agro-stock keeping households in the transition phase from transhumance to settled agro-stock keeping in Turkey, the general situation was investigated on the following points; 1) income rate from livestock production in the whole income, 2) breakdown of income from livestock production, 3) expenditure rate for livestock keeping in the whole expenditure, 4) the balance of income and expenditure, and 5) present situation of subsistence, in settled small-scale agro-stock keeping households.

e) Irrigation and drainage sub-group:

a. Data was collected from State Hydraulic Works, which coordinates irrigation projects in the region.

b. Actual water use conditions at two tertiary canals in the project area were monitored. Irrigation intake amounted to nearly three times the actual field application. Irrigation tail water (which was never used) amounted to 25% of the irrigation intakes.

c. Irrigation Management Performance Assessment Model was developed.

d. Broad field survey was carried out to assess salinity problem in the lower part of delta plain. Various conditions of damage were found depending on topography, soil and condition of irrigation.

e. Water Users Associations, which took over irrigation management services from the government, are now suffering from management difficulties due to their small sizes. Improvement of operation efficiency by merging was analyzed. Better efficiency could only be achieved by reduction of the number of staff and by reduction of delayed water fee payment.

f) Socio-economic sub-group:

a. Input-output Model was used to analyze the impact of agricultural crop production in Turkish economy. In the next stage, regional econometric model provided forecasts the impact of climate variability on crop production. In Adana region, temperature had positive impact on yield while in Konya temperature had negative impact on yield and the effect of the precipitation was not significant.

b. The wheat yield in Adana was negatively affected by April rain and positively affected by the December rain in the previous year.

c. Based on the household survey of 184 farmers in 2004, six villages were selected of household survey. The average farm size in rainfed and irrigated agricultural areas was 8.4ha and 15.5ha respectively. The farm income in irrigated areas was US$20,000 per household and four times of that of rainfed areas.

d. Farms in irrigated area employ more agricultural labors, about 2.5 times, compared to rainfed areas. Reliance on female labors in irrigated areas is about one fourth of that in rainfed areas. Also more tenants are found in irrigated areas.

f. Legal institution of land ownership for pasture was studied so as to identify the issues for sustainable management of government, common and private land. Illegal occupation and rehabilitation of government pasture will be analyzed further.

5.2 Major publications

5.2.1 Scientific Paper (only papers written in English)

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Other Countries

Project Member

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(in alphabetical order of family name)

Full-Research

Research axis: Environmental change impact assessment
Project number: 1-2FR
Project name: Recent rapid change of water circulation in the Yellow River and its effects for environment
Project leader: FUKUSHIMA, Yoshihiro (RIHN)
HP: http://www.chikyu.ac.jp/rihn/project/1-2.htm

1. Research objectives and topics

1. Research Objectives

Environmental problems related to the water resources and managements have been occurred all over the world. Since 1990's, the drying-up frequency has rapidly increased due to uptake of river water to irrigation midstream in the Yellow River. In the lower reaches area of the Yellow River, living people suffers water shortage for irrigation, industrial and drinking water. The objectives of this research projects are; (1) to evaluate both effects of global warming and land cover/use changes on water cycle in the Yellow River Basin, (2) to establish management tactics, and (3) to estimate and analyze the future impacts. Japanese and Chinese research teams work together for (1). Chinese team mainly deals with (2), and Japanese team mainly works for (3). As Chinese research team is carrying out the integrated research on hydro-meteorological observations and analyses in the Yellow River Basin, the Japanese research team of this project focus on the following two subjects; (1) Processes of water and heat exchanges and precipitation at land-atmosphere boundary in the middle reach of the Yellow River of semi arid region, and (2) Water and material exchanges between surface water - groundwater - seawater in the lower reach of the Yellow River, and it's effects on the marine biological system in the Bohai Sea. This project are going to evaluate the water cycle and water uses in the Yellow River Basin with a high resolution model on hydrology and water resources, as well as the observation results from (1) and (2) with newly established observation systems. Socio economical analyses by uses of statistical data and field observations data will be made through relationship between economical development and changes in water demands since 1950's. Finally, this project evaluates the changes in water uses due to natural environmental change including climate changes and human activities.

2. Research Content

Five sub-teams are established for the project and Sub-team (5) is to synthesize the results derived from other sub-teams in the final year;

(1) Observation and Analysis of Atmospheric Boundary Layer structure in Loess Plateau
(2) Observation and Analysis of groundwater and sea water in the mouth of the Yellow River
(3) Observation and Analysis on Variability of Marine Biology in Bohai Sea
(4) Statistical analysis between economical development and water resources
(5) Analysis of both water cycle and water resources by the establishment of a high-resolution hydrological model

2. Relation with research program

This project belongs to Axis 1 "Environmental change impact assessment", however, the project consists of

both Axis 1 and Axis 2 "Human activity impact assessment". This is because the increase in air temperature may be caused by increase in energy consumption and increased aerosol. In addition to this, changes in land-atmosphere interaction due to land cover/use changes by irrigation may alter the water vapor transports from the ocean to the land due to the changes in land-ocean interaction. Regarding to Axis 3 "Spatial scale", data sets with the spatial resolution of 0.1 degree grid (about 10 km x 10km) will be used in sub-regions in terms of social economy, environmental issues and sedimentation. Policy decision and management to the changes of river discharge during 1950 ~ 2000 is related to Axis 4 "History and time scale" This project will also address the concept of "impact zoon" of the Yellow River, because the concept of "natural basin" does not work for the hydrology with the human activities, particularly in the lower reach of the Yellow River. Therefore this project will also concern the Axsis 5 "Conceptual framework for global environmental issues."

3. Project member (Affiliation · Position · Role)

◎ FUKUSHIMA, Yoshihiro RIHN, Professor Analysis of both water cycle and water resources by the establishment of a High-resolution Hydrological Model (HHM)

ISHITOBI, Tomotoshi Nara University of Education student GSI

* IMURA, Hidefumi Nagoya University, Professor Statistical analysis between Economical development and Water resources (SEW)

OKUDA, Takaaki Nagoya University, Associate Professor SEW

ONISI, Akio Nagoya University, Student SEW

ONODERA, Shin-ichi Hiroshima University, Associate Professor GSI

Xinyu Guo Ehime University, Associate Professor MBB

KANEKO, Shinji Hiroshima University, Associate professor SEW

KIMURA, Fujio Tsukuba University, Professor HHM

Guoqing Cui Kyushu University, Student MBB

SATO, Yoshinobu RIHN, Research fellow HHM

SHIGEEDA, Toyomi Hiroshima University, Student GSI

SHINODA, Taro HyARC, Nagoya University, Assistant Professor ABL

Jianqing Xu FRCGC, Research Scientist HHW

TAKAHASHI, Atsuhiro RIHN, Research fellow ABL

* TANIGUCHI, Makoto RIHN, Associate Professor Observation and Analysis of Groundwater and Sea water Interaction in the mouth of the Yellow River (GSI)

TOKUNAGA, Tomochika University of Tokyo, Associate Professor GSI

NISHIKAWA, Masanori Nagoya University, Student ABL

HAYASHI, Mitsuru Kobe University, Associate Professor MBB

HIGUCHI, Atsushi HyARC, Nagoya University, Assistant Professor ABL

* HIYAMA, Tetsuya HyARC, Nagoya University, Associate Professor Observation and Analysis of Atmospheric Boundary Layer structure in Loess Plateau (ABL)

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Xieyao Ma FRCGC, Research Scientist HHM

MATSUOKA, Masayuki RIHN, Research fellow HHM

MINE, Takaki Hiroshima University, Student GSI

MIYAOKA, Kunihide Mie University, Associate Professor GSI

YATAGAI, Akiyo RIHN, Assistant Professor HHM

* YANAGI, Tetsuo Research Institute for Applied Mechanics, Kyushu University, Professor Observation and Analysis on Variability of Marine Biology in Bohai Sea

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Yuanbo Liu	Nagoya University, Research fellow ABL
WATANABE, Tsuguhiro	RIHN, Professor HHM
Burnett William	Florida State University, Professor GSI
Huiwang Gao	Ocean University of China, Professor MBB
Pingping Xie	NOAA, USA, Principal Scientist HHM
Jun Xia	Institute of Geographical Sciences and Natural Resources Research, CAS, Professor HHM
Jianyao Chen	Zhongshan University, Professor HHM
Tiezhu Mi	Ocean University of China, Associate Professor GSI
Rui Li	Institute of Soil and Water Conservation, CAS, Director ABL
Guanqun Li	Ocean University of China, Professor GSI
Jinshi Liu	Institute of Tibetan Plateau Research, CAS, Professor HHM
Changming Liu	Institute of Geographical Sciences and Natural Resources Research, CAS, Professor HHM
Wenzhao Liu	Institute of Soil and Water Conservation, CAS, Professor ABL

(◎: Project leader, ＊: Core members)

4. Outcomes (2004)

1) Land-atmosphere interaction
   ①WPR (Wind Profiler Rader), FROS (Flux & Radiation Observation System) and 30m height observation tower were installed in Agro-Ecological Experiment Station on the Loess Plateau on May 2004, and continuous observations have been made.
   ②Director General of RIHN (Prof. Hidaka) and the President of Northwest University of Science and technology on Agriculture and Forestry agreed the collaboration of the research on September, 2004.
2) Groundwater:
   Continuous monitoring of groundwater in boreholes which were installed in 2003, and observations of groundwater-seawater interactions in the coastal zone of Bohai sea had been made in September 2003.
3) Bohai sea:
   Development of ecological model using a box model have been started since 2003. in Bohai sea
4) Social economy:
   Collections of socio statistic data in China have been made since 2003. Members visited Beijing Normal University and Tsinguha University to collect the data and discuss the future field works at Taiyuan, Shanxi Province.
5) Model of hydrology and water resources
   ①Collections of hydormeteorological data and preliminary analyses using model have started.
   ②Members visited Weisan irrigation district on July, 2005, and visitied Hetao irrigation district on August 2004.

5. Progress of the project

1. Outline of result

Members of project are working together with the other project "Development of simulation models for Hydrology and Water Resources" which is a subject No.6 of "Coexistence of People, Nature and the Earth (RR2002)", the Revolutionary Research Project of MEXT. This RIHN project 1-2 mainly focus on the field observations and analyses, on the other hand, The RR2002 project mainly focus on the establishment of the hydro-meteorological data sets (including high resolution of precipitation and radiation data set), evaluation of land

use/cover changes from satellite data, and analyses of water managements in irrigation areas. The outcomes of the project 1-2 are as follows;

Sub-team (1): Observation and Analysis of Atmospheric Boundary Layer structure in Loess Plateau

10km2 - scale surface fluxes of momentum, sensible heat, latent heat, and carbon dioxide have been successfully obtaining using FROS (Flux & Radiation Observation System). Especially, FROS revealed vertical differences of surface fluxes within the surface layer, mainly due to spatial distributions of surface heterogeneity caused by human (agricultural) activity. WPR (Wind Profiler Rader) revealed different diurnal variations of ABL (Atmospheric Boundary Layer) developments affected by different upwind topography. This difference was represented as distinctive TKE (Turbulent Kinetic Energy) in upper part of ABL at mid-daytime. An "air collision model" applicable for atmospheric turbulence within the surface layer was developed (Takahashi and Hiyama, 2004). A few modifications were applied to the "air collision model" to represent atmospheric turbulence within the mixed layer. The "modified air collision model" can basically represent atmospheric turbulence within the ABL, which develops over different kinds of upwind topography. Seasonal variation in spatial distribution of surface wetness was revealed using 10-days composite satellite remote sensing data (NOAA/AVHRR) over eastern part of Eurasia (Higuchi et al., 2005). This surface wetness index was based on the spatial relationships between normalized difference vegetation index (NDVI) and surface temperature (Ts).

Sub-team (2): Observation and Analysis of groundwater and sea water in the mouth of the Yellow River

Directions of the water movements both from the Yellow River to the groundwater in the delta, and from the groundwater to the Bohai Sea have been evaluated from hydrological measurements. Material transports including nutrients from delta to the Bohai Sea have also been evaluated from the chemical analyses of groundwater and pore water in the coastal zone. Chemical analyses of the adsorbed cation component of the sediment in the Yellow River delta show that the pore water have been rinsed by the fresh groundwater after sedimentation in the marine environment at front of the delta. The signals of the Yellow River Cut-off were also found in the chemical components of the pore water in the delta. Direct groundwater discharge rates and material transports by groundwater into the Bohai Sea were evaluated using automated seepage meters in the coastal zone. Three dimensional distributions of saltwater-freshwater relationships are also evaluated using resistivity measurements. Hydraulic impact zone of the Yellow River on the groundwater in the Delta was evaluated by statistical analyses of the relationship between discharge rates of the Yellow River and groundwater potential data in the Yellow River delta. The areas of the impact zone are estimated to be about 20 km in wide each side from the river in the delta.

Sub-team (3): Observation and Analysis on Variability of Marine Biology in Bohai Sea

The final goal of this project is to clarify the effect of variability of the Yellow River discharge on the physical, chemical and biological characteristics of the Bohai Sea. In 2004, we carried out the box model analysis of the southern part of the Bohai Sea using the historical observed data in 1982 when the Yellow River discharge was rather high, and in 1992 when the Yellow River discharge was rather low. The satellite data analyses show that the phase lags of surface temperature at near shore were larger than the of the middle of Bohai sea, which indicates the importance of the water exchanges between Bohai-sea and the Yellow Sea. As a result of the box model analysis it was revealed that the estuarine circulation in the Bohai Sea had been weakened from 1982 to 1992 due to the decrease of the Yellow River discharge. The average residence time of fresh water had become longer in 1992. DIN (Dissolved Inorganic Nitrogen) concentration increased but DIP (Dissolved Inorganic Phosphorus) concentration decreased from 1982 to 1992 in the Bohai Sea. Primary production was regulated mainly by water temperature and DIN concentration in 1982 but it was regulated mainly by DIP concentration in 1992. Primary production was larger than decomposition plus bottom release, and nitrogen fixation was larger than denitrification in 1982. However,

decomposition plus bottom release was larger than primary production, and denitrification was larger than nitrogen fixation in 1992 in the Bohai Sea.

Sub-team (4): Statistical analysis between economical development and water resources

In order to assess the relationship between water resources demand and supply change and socioeconomic change, firstly, we have collected statistical data, country, province and major city levels, mainly from the yearbooks. Then, water resources supply and demand structure considering sectors, local distinction and seasonal changes were grasped. Especially, agricultural water demand that is approximately 70% of total used in Yellow River basin were analyzed among local basins (upper stream, midstream, and down stream) based on published statistical data. Industrial and domestic water uses in both Taiyuan of Shanxi Province and Xian of Shaanxi Province were analyzed based on case studies. We have collected scientific documents and data relating to Xian city in order to understand expansion of domestic water by maintaining of new water service and decline of subsurface by drawing industrial water. We have also analyzed effect of Wanjazhai Water Transport Project on water resources of Fen He River. Moreover, the effectiveness of sewage system to treat the drain water from urban life and industrial use and its cost were examined in both above cities.

Sub-team (5): Analysis of both water cycle and water resources by the establishment of a high-resolution hydrological model

A high-resolution model on hydrology and water resources in the study area and validation of the model are developed from upstream to downstream of the entire Yellow River Basin (750,000 kn^2). The processes of river water discharge in Tibetan Plateau were elucidated by the model which had already developed by the project members for the water cycle in Siberia. The river water discharge was evaluated at Lanzhou where the major dams were built and many irrigation area exists. The model can evaluate the changes in river discharge by uses of the water management data including dam operation, and water consumption for the irrigation.

2. Bibliography

Sub-theme (1)

Journal papers with review;

Takahashi, A. and Hiyama, T. (2004): A momentum exchange model for the surface layer over bare soil and canopy-covered surfaces. *Journal of Applied Meteorology*, 43(10), 1460-1476.

Sub-theme (2)

Journal papers with review

Chen JY, Tang CY, Sakura S, Kondoh A, Yu JJ, Shimada J, Tanaka T, 2004. Spatial geochemical and isotopic characteristics associated with groundwater flow in the North China Plain, *Hydrological Processes* 18: 3133-3146.

Chen JY, Tang CY, Sakura S, Kondoh A, Shen YJ and Song XF, 2004. Measurement and analysis of redistribution of soil moisture and salute in a maize field in the lower reach of the Yellow River, *Hydrological Processes* 18: 2263-2273.

Proceedings and others

Makoto Taniguchi (2004) Global Water System and Integrated Hydrological Projects in Asia, 41st CCOP, Tsukuba, Nov. 2004.

Makoto Taniguchi, Shin-ichi Onodera, Kunihide Miyaoka, Tomochika Tokunaga, Jianyao Chen, and Guanqun Liu (2004): Interactions between seawater, groundwater and river water in the Yellow River Delta, WPGM, Hawaii, USA.

Shin-ichi Onodera, Makoto Taniguchi, and Yoshihiro Fukushima (2004): Cation transport with displacement of seawater to groundwater in developing delta of the Yellow River, Asian Oceania Geoscience Society Meeting, Singapore, (poster presentation)

Chen JY, Taniguchi M, Miyaoka K, Onodera S, Tokunaga T, Liu GQ, Fukushima Y. Nitrate pollution of groundwater in the delta of the Yellow River, July, 2004. AOGS &APHW conference, Singapore.

Chen JY, Fukushima Y, Tang CY, Taniguchi M. Hydro-environmental responses to human activities, case studies in the North China Plain, Oct., 2004. Annual meeting of geo-hydrological committee, Society of Chinese Geography, Beijing.

Chen JY, Tang CY, Sakura Y, Fukushima Y, Taniguchi, M. Environmental problems associated with groundwater flow system in the North China Plain (NCP), Dec., 2004. AGU conference, USA.

Sub-theme (3)

Journal papers with review

Hayashi, M., T. Yanagi and X. Guo (2004) Difference of nutrients budgets in the Bohai Sea between 1982 and 1992 related to the decrease of the Yellow River discharge. J. Korean Soc. Oceanogr., 39, 14-19.

Proceedings and others

Hayashi, M., T. Yanagi and X. Guo (2004) Difference of Water and Nutrients Budgets in the Bohai Sea between 1982 and 1992 related to the Decrease of the Yellow River Discharge. 2004 Western Pacific Geophysics meeting, Hawaii, August.

Hayashi, M., T. Yanagi and X. Guo (2004) Water and Nutrients Budgets of the Estuary of the Yellow River in 1982 and 1992. International Symposium "Long-term Variations in the Coastal Environments and Ecosystems", Matsuyama, September, 2004.

Hayashi, M., T. Yanagi and X. Guo (2004) Difference of Water and Nutrients Budgets in Estuary of the Yellow River between 80's and 90's. OCEANS'04/ TECHNO- OCEAN'04, Kobe, Nov. 15-16.

Cui G. and T. Yanagi (2004) Tide, tidal current in the Bohai Sea. 2nd international symposium on PEACE (Program of the East Asian Cooperative Experiments), RIAM, Kyushu University, Nov., 2004.

Sub-theme (4)

Journal papers with review

Hatano, T. and Okuda, T. (2004) Virtual water analysis using provincial level multi-regional input-output tables in China - Focus on the Yellow River Basin -, Selected Papers of Environmental Systems Research, Vol. 32, pp. 1-pp. 9

Shinji Kaneko, Katsuya Tanaka, Tomoyo Toyota and Shunsuke Managi (2004): Water efficiency of agricultural production in China: regional comparison from 1999 to 2002, International Jurnal of Agricultural Resources, Governance and Ecology, in press

Proceedings and others

Akio ONISHI, Ryosuke OZAWA, Masafumi MORISUGI, Takaaki OKUDA, Hidefumi IMURA (2004): A Study of Water Resource Supply and Demand Forecast in Xian City, Proceedings of the 12th Symposium of Global Environment, pp. 87-pp. 93

Okuda, T. and Hatano, T. (2004) A CGE analysis on water allocations in the Yellow River Basin in China, Proceedings of 29th Conference of Infrastructure Planning CD-ROM

Okuda, T. and Hatano, T. (2004) Regional structure analysis of SOx emission in China -using China multi-regional input-output tables, Proceedings of 30th Conference of Infrastructure Planning CD-ROM

Hatano, T. and Okuda, T. (2004) Estimation of environmental loads in regional levels using China multi-regional input-output tables, Proceedings of the 12th symposium of global environment, Vol. 12, pp. 191-pp. 196

Hatano, T. and Okuda, T. (2004) Virtual water analysis using China MRIO tables, Proceedings of the 59th annual conference of the Japan Society of Civil Engineers CD-ROM

Sub-theme (5)

Journal papers with review

Chen, J., C. Tang, Y. Sakura, J. Yu and Y. Fukushima (2004): Nitrate pollution due to agricultural practice in different hydrogeological zones of the regional groundwater flow system within the North China Plain. Hydrogeology Journal (in press).

Proceedings and others

Ma, X., Y. Fukushima, C. Liu and X. Wu (2003): A hydrological model application to the small tributary basin of the Yellow River. In EGS - AGU - EUG Joint Assembly, Nice, France.

Ma, X., Y. Fukushima and T. Yasunari, (2003): Research of the hydrological modeling in northern region. In XXIII General Assembly of the Internation Union of Geodesy and Geophysics, Sapporo, Japan.

Fukushima, Y., M. Taniguchi, C. Liu (2003): The Yellow River Studies - An Integrations of Hydrological sciences on Atmosphere-Land-Ocean Interactions under the Climate Changes and Human Activities. Global Water System Project Open Science Conference. Portsmouth, USA

Hayasaka, T., Y. Fukushima, T. Watanabe and T. Oki (2003): Yellow River Research Project: A study on the relationship between water cycle and human activities, The 10th U.S.-Japan Workshop on Global Climate Change, January 15-17, 2003, The Beckman Center, Irvine, USA

Chen, J., C. Tang, Y. Fukushima and M. Taniguchi (2003): Water environmental problems associated with natural processes and human activities in the lower reach of the Yellow River. Proc. The 1st Inter'l Yellow River Forum on River Basin Management, Vol. 5, 263-274, Zhengzhou. China.

Chen J., C. Tang, Y. Sakura, Y. Shen (2003): Nitrate pollution in groundwater in the lower reach of the Yellow River, case study in Shandong Province, China. In Groundwater Engineering- Recent Advances, Kono, Nishigaki & Komatsu (eds). Swets & Zeitlinger, Lisse. 279-283.

Chen, J., C. Tang, Y. Shen, Y. Sakura and Y. Fukushima (2004): Nitrate pollution of groundwater in a wastewater irrigated field of Hebei Province, China. IAHS 285 (in press).

Ma, X., Y. Fukushima, C. Liu and X. Wu (2003): A hydrological model application to the small tributary basin of the Yellow River. In EGS - AGU - EUG Joint Assembly, Nice, France.

Ma, X., Y. Fukushima and T. Yasunari, T. (2003): Research of the hydrological modeling in northern region. In XXIII General Assembly of the International Union of Geodesy and Geophysics, Sapporo, Japan.

Matsuoka, M., T. Hayasaka, Y. Fukushima and Y. Honda (2003): Land Cover Analysis over Yellow River Basin using Satellites Data in RR2002 Project, ISPRS WG VII/6 International Workshop on Monitoring and Modeling of Global Environmental Change.

Matsuoka, M., T. Hayasaka, Y. Fukushima and Y. Honda (2003): Land Cover Classification over Yellow River Basin using Terra/MODIS in RR2002 Project, Asian Conference on Remote Sensing.

Watanabe, T, Y. Fukushima, T. Hayasaka and T. Oki (Oct. 2003): Perspective and Framework of An Innovative Research Project on the Hydrological Water Cycle and Water Resources management in the Yellow River Basin - The inter'l integrated Yellow River research project of RIHN -. Proc. The 1st Yellow River Forum on River Basin Management, Vol. 2. 23-29, Zhengzhou, China.

3. Workshop list

(1) YRiS (Yellow River Studies) international workshop

2nd International Workshop on Yellow River Studies

(November 8-10, 2004. Niijima-kaikan)

Proceedings (Published on January 15, 2005. 172 pages)

(2) Evaluation for YRiS

Date: November 12, 2004, 9:30-12:30, Place: RIHN

Evaluators: KABAT, Pavel: SC-IGBP, the Netherlands

YASUNARI, Tetsuzo: WCRP-JSC, Japan

Companied person: LIU, Changming: Chief Scientist, The 973 Project, Chinese National Key Project, China

(3) Publications of News Letter on web

Vol. 1: September 1, 2003. 17pages

Vol. 2: March 1, 2004. 28pages

Vol. 3: October 1, 2004. 20pages

4. Expenditure

	Facility/ Equipment	Supplies	Domestic Travel	Travel Abroad	Personnel	Others	Total
FY2003	72,545	25,847	3,330	1,628	0	4,598	107,948
FY2004	35,425	36,231	2,500	15,850	0	11,618	101,624
FY2005	19,100	50,194	9,725	18,306	0	10,000	107,325
FY2006	5,000	37,000	9,000	18,000	0	3,000	72,000
FY2007	5,000	14,000	7,000	10,000	17,000	1,000	54,000

Special research equipments with high price more than 1,000,000 Yen are written below;

FY 2003

Wind Profiler Rader 47,775,000 Yen

Fiber Optic Temperature Laser Rader 13,650,000 Yen

FY 2004

Micro-Wave Radiometer 34,125,000 Yen

Full-Research

Research axis: Human activitiy impact assessment
Project number: 2-1FR
Project name: Emissions of greenhouse gases and aerosols, and human activities in Eastern Asia
Project leader: HAYASAKA, Tadahiro (RIHN)
Core members: IWAMI, Toru (The University of Tokyo)
KAWAMOTO, Kazuaki (RIHN)
SAEKI, Tazu (RIHN)
NAKAZAWA, Takakiyo (Tohoku University)
NAKAJIMA, Teruyuki (The University of Tokyo)
HAYASHIDA, Sachiko (Nara Women's University)
SHI, Guangyu (Institute of Atmospheric Physics, CAS, China)

1. Background and Objectives

Most of human activities have been based essentially on the individual climate, culture, and social economic system, but recently they are being changed drastically by the influences of the globalization and developing market of economy and global-scale climate change. The human activities affected by the various global phenomena give rise to various environmental issues and emissions of greenhouse gases and aerosols, which again bring about many problems in large area or over the world. In this research project, the atmospheric constituent is studied, taking account of global warming issues. Therefore, it is not a mere local air pollution study, but the study on the relationship between human activities and climate change through emissions of greenhouse gases and aerosols.

The recent growth of economy in East Asian region is being watched with keen interest. The relationship between human activities and emissions of greenhouse gases and aerosols in this region are studied with collaboration of socioeconomic analysts and atmospheric scientists. This research project consists of macro-analysis of economy, development of emission inventory, analysis of atmospheric transport by using model and satellite data, and ground-based observation around Japan and China.

The objectives of the present research project are to investigate

1) the relationship between changes in economy, industry, social system under the globalization and changes in anthropogenic emissions of greenhouse gases and aerosols, and
2) influences of these greenhouse gases and aerosols emitted in Asian region on the global-scale atmospheric environment and climate change.

2. Strategy

While most of studies similar to this research project are mainly carried out by atmospheric scientists, viewpoints from human activities are emphasized in this study.

1) Socioeconomic analyses on the anthropogenic emissions are carried out. Changes in land use, consumption, quality, and transport process of energy for the past 20 years in Asia are analyzed.
2) Regional emissions of greenhouse gases and aerosols due to human activities are estimated through the analysis of observed data with atmospheric transport model.
3) The effects of greenhouse gases and aerosols emitted by human activities in Asia are evaluated synthetically.

3. Relation with the research program

In the past few decades, socioeconomic situations in Eastern Asia have been changing largely. It is consistent with the purpose of research axis 2 to study the relationship between those changes and emissions of greenhouse gases and aerosols, which are major anthropogenic factors in recent climate changes.

4. Outcomes (2004)

- Economic and energy data in individual province of China were collected for analysis of socio-economic change in China and for improving the emission inventory.
- It is suggested from economic and energy use analysis that the decrease in coal energy consumption after 1996 in China is doubtful.
- Emission inventories of CO_2, SO_2, NOx, BC and OC in Asian region were developed for 1980-2000.
- Atmospheric transport models were developed and improved for the analysis of greenhouse gases and aerosols. It is shown that the spatial resolution is quite important for the consistency with observed data.
- Surface shortwave radiation in China for the past few decades was analyzed by using pyranometer data, satellite data and parameterized data with meteorological data. All these data show an decrease trend in surface shortwave radiation in this region. Cloud amount decreased while aerosols increased. It is deduced that both direct and indirect effects of aerosols gave rise to the decrease in shortwave radiation.
- C02 and CH4 measurements in Long Feng Shan, Shang Dian Zi, Lin An in China were obtained. These are the first measurements in China except for Wali Guan which is WMO/Gaw station. The observed data shows that average concentration and seasonal variation of CO2 are larger than that observed in Japan.

5. Publication list in 2004

Toru Iwami

2004 Development and the Environment: The Political Economy of the Relationship, University of Tokyo Press, 2004.

2004 "Is the Globalization an Enemy, or an Ally of the Poor?" *Keizaigaku = Kenkyu* (Journal of Political Economy), Vol. 70-4/5, January 2004.

2004 "Global Sustainability of Population and Food," *The International Economy*, No. 55 September 2004.

2004 "Economic Development and/or Environmental Quality: Emissions of CO_2 and SO_2 in East Asia," *Seoul Journal of Economics*, 17-1, 2004, 55-83.

Fujitani,Y., N. Murao, S. Ohta, S. Yamagata

2004 Atmospheric aerosols over the Western Pacific Pcean during the R/V Mirai in 2002, *Journal of the Meteorological society of Japan*, 82: 1417-1434.

Hayasaka, T., K. Kawamoto, J. Xu

2004 Seasonal variations of clouds, aerosols and shortwave radiation over China. *Proc. 14th International Conference on Clouds and Precipitation, 19-23 July 2004, Bologna, Italy*, 387-388.

Hayasaka, T., T. Nakajima, T. Takamura, B. J. Sohn

2005 Radiation and aerosol measurements in ABC project. *Proc. Forth ADEC Workshop, 26-28 January 2005, Nagasaki, Japan*, 45-48.

Hayasaka, T., K. Kawamoto, J. Xu, G. Y. Shi

2005 Seasonal and long-term variations of shortwave radiation in China. *Proc. The CEReS International Symposium on Radiation Budget and Atmospheric Parameters Studied by Satellite and Ground Observation Data, 17-18 February, 2005, Chiba University, Japan*, 132-135.

Kato, T., T. Nakazawa, S. Aoki, S. Sugawara and M. Ishizawa

2004 Seasonal variation of the oxygen isotopic ratio of atmospheric carbon_dioxide in a temperate forest, Japan, *Global Biogeochemical Cycle*, 18, GB2020, doi: 10.1029/2003GB002173.

Kawamoto, K., T. Hayasaka, T. Nakajima, D. Streets, J. Woo

2004 Cloud properties derived from satellite remote sensing andtheir relationships with other factors in East Asia. *Atmos. Res.*, 72, 353-363.

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Kito, H.

2004 Demography and Living Standards, with A. Hayami, in A. Hayami, O. Saito and R. Toby (eds.), *Emergence of Economic Society in Japan 1600-1859*, Oxford University Press, 2004: 213-246.

Mukai, M., T. Nakajima, and T. Takemura

2004 A study of the long-term trend of mineral dust aerosol distributions in Asia using a general circulation model. J. Geophys. Res., 109, D19204, doi: 10.1029/2003JD004270.

Murao, N., S. Ohta, S. Yamagata. et al.

2004 Aerosol chemical species and volatile organic compounds at Barrow, Alaska, *Journal of Global Environment Engineering*, 10: 11-26.

Satake, S., et al.

2004 Characteristics of Asian aerosol transport simulated with a regional-scale chemical transport model during the ACE-Asia observation, J. Geophys. Res., 109, D19S22, doi: 10.1029/2003JD003997.

Yamagata, S., N. Murao, S. Ohta. et al.

2004 Mineral particles in cloud droplets produced in an artificial cloud experimental system (ACES), *Aerosol Science and Technology*, 38: 293-299.

Yamaji K., T. Ohara, H. Akimoto

2004 Regional-specific emission inventory for NH3, N2O, and CH4 via animal farming in South, Southeast, and East Asia, *Atmospheric Environment*, 38, 7111-7121.

Full-Research

Research axis: Human activitiy impact assessment
Project number: 2-2FR
Project name: Sustainability and biodiversity assessment on forest utilization options
Project leader: NAKASHIZUKA, Tohru (RIHN)
Core members: see No. 3
HP: http://www.chikyu.ac.jp/shin-rin/

1. Research objectives and topics

In this project, we try to evaluate the sustainability of forest utilization in various aspects, with particular emphasis on biodiversity aspects. The goods and ecosystem services that may be lost with decreasing biodiversity should be identified. Also the evaluations from the aspects of socio- and environmental economy will be assessed for various forest utilization systems including the traditional, and so-called sustainable systems in the region. The driving forces and incentives to cause the recent change in forest utilization system are also to be studied. Finally we try to present new criteria or ways of thinking to evaluate the forest utilization systems. The target research sites are, 1) Tropical rainforest area around Lambir Hills National Park, Sarawak, Malaysia, 2) Tropical forest areas in Sabah, Malaysia, 3) Temperate evergreen forest area in Yaku Island, Japan and 4) Temperate deciduous forest area in Abkuma Mts., Japan. Research items below are to be studied in all the sites above and compared; 1) The historical change in forest utilization and its drivers are to be studied by socio-economical analyses, 2) Effects of forest change on biological diversity is to be studied, 3) The ecological services critically associated with biodiversity ate to be studied, and 4) Models for forest utilization change and biodiversity will be developed.

2. Relation with research program

The anthropogenic factors caused by socio-economic, and/or political change have been greatly affected forest change. This project will elucidate the socio-economic drivers caused such changes in ecosystems and biodiversity, as well as the evluating ecological services which are provided by biodiversity. This approache meets the direction of the Program-2 of the RIHN.

3. Project members (◎: Project leader, ＊: Core member)

◎NAKASHIZUKA, Tohru (RIHN)
＊MOMOSE, Kuniyasu (Ehime University): Researches in Lambir, Sarawak
＊ICHIKAWA, Masahiro (RIHN): Researches in Lambir, Sarawak
YOSHIMURA, Mitsunori (RIHN)
MIGUCHI, Hideo (Niigata University)
YAMANE, Masaki (Kagoshima University)
MIYASHITA, Tadashi (The University of Tokyo)
INUI, Yoko (Osaka Kyoiku University)
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SAKAI, Shoko (Kyoto University)
KANAZAWA, Kentaro (Kobe College)
ICHIOKA, Takao (Kyoto University)
HARISON, Rhett (Kyoto University)
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MURASE, Kaori (The University of Tokyo)
RAHMAN, Johan Bin (Forest Research Center, Sarawak)

ICHIE, Tomoaki (Center for Tropical Forest Science)
TANAKA, Kenta (Hokkaido University)
NAGAMAITSU, Teruyoshi (Forestry and Forest Research Institute)
KAGA, Michi (Kyoto University)
NOMURA, Masahiro (Hokkaido University)
MATSUMOTO, Takashi (Kyoto University)
NAKAGAWA, Michiko (RIHN)
KUROKAWA, Hiroko (Kyoto University)
MOROOKA, Toshiyuki (The University of Tokyo)
SAMEJIMA, Hiromitsu (Kyoto University)
TAKEUCHI, Yayoi (Kyoto University)
TSUJI, Shoko (Kyoto University)
KISHIMOTO, Keiko (Kyoto University)
TANAKA, Hiroshi (Nagoya University)
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KOIZUMI, Miyako (Kyoto University)
KATO, Yumi (Kyoto University)
KAMIYA, Koichi (Kyushu University)
TSUCHIYA, Taizo (Kyushu University)
KUMANO, Yuko (Kyoto Institute of Technology)
TANAKA, Kenzo (Ehime University)
NAGATA, Kazuyuki (The University of Tokyo)
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ITO, Masamichi (Yokohama National University)
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TAKAMIYA, Masayuki (Kumamoto University)
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SPRAGUE, David (Institute for Agricultural Environment)
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IMAMURA, Akio (RIHN)
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TOBO, Kozue (Kumamoto University)
YOSHIYAMA, Kayo (Kumamoto University)
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OHKOCHI, Isamu (Forestry and Forest Products Research Institute)
YOSHIMARU, Hiroshi (Forestry and Forest Products Research Institute)
TOJO, Hitoshi (Forestry and Forest Products Research Institute)
KIKUCHI, Satoshi (Forestry and Forest Products Research Institute)
ISAGI, Yuji (Hiroshima University)
MAETO, Kaoru (Kobe University)
KITABATAKE, Shun (Kobe University)
ISONO, Masahiro (Forestry and Forest Products Research Institute)
IEHARA, Toshiro (Forestry and Forest Products Research Institute)
MAKINO, Shun-ichi (Forestry and Forest Products Research Institute)
TANAKA, Hiroshi (Forestry and Forest Products Research Institute)
TANAKA, Nobuhiko (Forestry and Forest Products Research Institute)
OKABE, Kimiko (Forestry and Forest Products Research Institute)
HAMAGUCHI, Kyoko (Forestry and Forest Products Research Institute)
SHIBATA, Mitsue (Forestry and Forest Products Research Institute)

INOUE, Taisei (Forestry and Forest Products Research Institute)
KAGAYA, Etsuko (Forestry and Forest Products Research Institute)
GOTO, Hideaki (Forestry and Forest Products Research Institute)
MIYAMOTO, Asako (Forestry and Forest Products Research Institute)
YAGIYHASHI, Tsutomu (Forestry and Forest Products Research Institute)
YASUDA, Masatoshi (Forestry and Forest Products Research Institute)
NAGAIKE, Takuo (Forest Reseach Institute, Yamanashi Prefecture)
USHIMARU, Atsushi (RIHN)
KONDO, Toshiaki (Hiroshima University)
TATENO, Ryunosuke (RIHN)
FUJIMORI, Naomi (Yamanashi Prefectural Forest)

*SATO, Jin (The University of Tokyo): Sociological analyses on forest utilization
ABE, Rhuichiro (The University of Tokyo)
IZUMI, Keiko (Nihon Viterinary and Animal Science University)
YAMASHITA, Izumi (The University of Tokyo)
HIRANO, Yuichiro (The University of Tokyo)
IWASAKI, Aki (The University of Tokyo)
ASAO, Mariko (The University of Tokyo)
OH, Tomohiro (The University of Tokyo)
BABA, Takeshi (Kyoto University)

*AKAO, Ken-ichi (Waseda University): Ecological and economic model of forest use
SATAKE, Akiko (Kyoto University)
OMURA, Ayumi (Keio University)

4. Research schedule

Apr. 2002 – Mar. 2003 (Feasibility study)
- Collect the information on each study site
- Screen the utilization options
- Screen the target organisms for biodiversity studies
- Establish the protocol methods of the studies

Apr. 2003 – Mar. 2004 (First year)
- Establish GIS in each site
- Evaluate biodiversity in the target utilization options
- Study the mechanisms to maintain biodiversity
- Study the relationships between taxonomic groups and their roles in the ecosystem
- Retrospective study on the past utilization of forests

Apr. 2004 – Mar. 2005 (2nd year)
- Evaluate biodiversity in the target utilization options
- Study the mechanisms to maintain biodiversity
- Study the relationships between taxonomic groups and their roles in the ecosystem
- Retrospective study on the past utilization of forests

Apr. 2005 – Mar. 2006 (3rd year)
- Study the mechanisms to maintain biodiversity
- Study the relationships between taxonomic groups and their roles in the ecosystem
- Detect the driving forces and incentives to cause utilization change

- Economic value of each utilization options

Apr. 2006 – Mar. 2007 (4th year)

- Summarize the mechanisms to maintain biodiversity
- Summarize the relationships between taxonomic groups and their roles in the ecosystem
- Detect the driving forces and incentives to cause utilization change
- Economic value of each utilization options

Apr. 2007 – Mar. 2008 (5th year)

- Integrate the evaluation
- Develop better evaluation methods to evaluate sustainability

5. Modification on the original research plan:

- The socio-economic analyses were started earlier than planned.
- The preliminary model of forest use has been developed a bit earlier than planned schedule, following the recommendation of the evaluation committee.

6. Progress of the project

(a) Historical change in forest utilization and its social- and economic backgrounds

- The history of forest utilization was compiled as GIS for last 100 years in Abukuma and Yaku sites, and about 50 years for Lambir and Kinabaru sites.
- Natural broadleaf forests were abundant 100 years ago, and they have been rapidly changed into coniferous plantations in recent decades in Abukuma and Yaku Island. The change was mainly caused by high timber demand and the national policy responding to this.
- The global demands for timber, rubber, and oil palm has changed the forest use around Lambir and Kinabaru sites. The developments of adjacent city and road system were also very influential for the change.

(b) Evaluating impacts of forest utilization on biodiversity

- Biodiversity variations among forest types were investigated after screening the target organisms to apply. The assessments have been made almost in schedule, though they have taken longer time for some organisms that are difficult to identify.
- The more developed forests tended to keep the higher biodiversity in general, though it sometimes varied among taxonomic groups in temperate sites. Man-made forests had entirely different and less rich biota from broad leaf secondary forests.
- The more diverse mutualisms as well as species diversity were observed in the more developed forests at Lambir site.
- Combining these data with GIS, the biodiversity change through forest use history was detected quantitatively.

(c) Evaluation of ecosystem services provided by biodiversity

- Fragments and strips of natural forests remained after logging were evaluated in terms of tree reproduction and gene flow. Some strips seemed not very effective as corridors for tree reproduction.
- Increase in conifer plantations in Yaku Island have lead to decrease in key habitat for wildlife (deer, monkey), and thus, might have caused serious damage for agricultural products.
- Rapidly increasing oil palm plantations have some risks not only to decrease natural swamp forests but also destroy pollinator-plant interacting system of hill tropical rainforests, because the swamp forests are key habitat for an important pollinator, giant honeybee, in Borneo.
- The naming systems for plants were closely related to the forest utilization patterns of local people.

(d) Conditions necessary for sustainable forest management

- A model incorporating the sustainability, economic values of forest types, and individual decision were

developed. The economic model for conserving endangered animals by establishing local institutions was discussed.

- The method to economically evaluate biodiversity was discussed.
- The questionnaire researches in Yaku Island showed that the people who admit various values for forests tended to understand the needs for broadleaf forests rather than conifer plantation.

7. Problems for implementation or points need to change plan

(i) Outcomes are rather fragmented. Though this is partly because the project deals with various aspects and organisms, more integration is required toward the clear goal of the whole project.

(ii) The researches in the four study sites are not equally progressing. There are variation among sites and subjects, partly because of the specificity of the study sites. For the integration based on the comparison between sites, the delayed subjects need to be caught up with the others.

(iii) The researches on biodiversity assessment should consider the spatial scale. Most biodiversity assessments have been done in stand level, though it should sometimes be made in landscape or larger spatial scales.

8. Research plan of 2004

- Study the mechanisms to maintain biodiversity
- Study the relationships between taxonomic groups and their roles in the ecosystem
- Detect the driving forces and incentives to cause utilization change
- Economic value of each utilization options

9. Outcomes (2004)

Original paper (International)

1) Aiba, S. and K. Kitayama (2004) Habitat associations with topography and canopy structure of tree species in a tropical montane forest on Mount Kinabalu, Borneo. *Plant Ecology*, 174(1): 147-161.

2) Eguchi, K., Bui, T. V. and Yamane, Sk. (2004) A preliminary study on foraging distance and nesting sites of ants in Indo-Chinese lowland vegetation (Insecta, Hymenoptera, Formicidae). *Sociobiology*, 43(3): 445-457.

3) Enoki, T., Kawaguchi, H., Nakashizuka, T. & Hamid, A. A. (2004) Growth pattern and leaf morphology of Shorea parvistipulata saplings in a tropical rain forest of Sarawak, Malaysia. *Journal of Tropical Ecology*, 21(2): 215-218 (2005).

4) Hall, S., G. P. Asner, and K. Kitayama (2004) Substrate, climate, and land use controls over soil N dynamics and N-oxide emissions in Borneo. *Biogeochemistry*, 70(1): 27-58.

5) Ichie, T., Kenta, T., Nakagawa, M., Sato, K. & Nakashizuka, T. (2004) Resource allocation to reproductive organs during masting in the tropical emergent tree, Dipterocarpus tempehes. *Journal of Tropical Ecology*, 21(2): 237-241 (2005).

6) Itioka, T. and Yamauti, M. (2004) Severe drought, leafing phenology, leaf damage and lepidopteran abundance in the canopy of a Bornean aseasonal tropical rain forest. *Journal of Tropical Ecology* 20: 479-482.

7) Ichikawa, M. (2004) Relationships among secondary forests and resource use and agriculture, as practiced by the Iban of Sarawak, East Malaysia. *TROPICS* 12(4). 269-286.

8) Isagi, Yuji, Kanazashi, Tatuo, Suzuki, Wazirou, Tanaka, Hiroshi, Abe, Tetsuto (2004) Highly variable pollination patterns in *Magnolia obovata* revealed by microsatellite paternity analysis. *International Journal of Plant Sciences*, 165(6): 1047-1053.

9) Ishii, H., Tanabe, S. and Hiura T. (2004) Exploring the relationships among canopy structure, stand productivity and biodiversity of temperate forest ecosystems. *Forest Science*, 50(3): 342-355.

10) Kato, H., Yamane, Sk. and Phengklai, C. (2004) Ant-colonized domatia on fruits of *Mucuna interrrupta*

(Leguminosae). *Journal of Plant Research*, 117: 319-321.

11) Kenta, T., Isagi, Y., Nakagawa, M., Yamashita, M., & Nakashizuka, T. (2004) Variation in pollen dispersal between years with different pollination conditions in a tropical emergent tree. *Molecular Ecology* 13 pp. 3575-3584.
12) Kazuo O., Irino, Y., Iba, S., Ishizuka, Tanaka K., Semilan R. Joseph J. K., Miyashita, N., Nara, K., Hogetsu, T., Ninomiya, I., Iwasaki, K., & Sakurai, K. (2004) Effects of controlled-release fertilizer on growth and ectomycorrhizal colonization of pot-grown seedlings of the dipterocarp *Dryobalanops lanceolata* in a tropical nursery. *Soil Science and Plant Nutrition*, 50(5): 747-753.
13) Kitayama, K., S. Aiba, M. Takyu, N. Majalap, and R. Wagai (2004) Soil phosphorus fractionation and phosphorus-use efficiency of a Bornean tropical montane rain forest during soil ageing with podozolization. *ECOSYSTEMS*, 7(3): 259-274.
14) Kurokawa, H., Kitahashi, Y., Koike, T., Lai, J & Nakashizuka, T. (2004) Alloc ation to defense or growth in dipterocarp forest seedlings in Borneo. *Oecologia* 140: 261-270.
15) Manfroi, O. J., Kuraji, K., Tanaka, N., Suzuki, M., Nakagawa, M., Nakashizuka, T., & Chong, L. (2004) The stem flow of trees in a Bornean lowland tropical forest. *Hydrological Process* 18 pp. 2455-2474.
16) Momose, K. (2004) Plant reproductive interval and population density in aseasonal tropics. *Ecological Research* 19: 245-253.
17) Masaki T., Ohta T., Sugita H., Oohara H., Otani T., Nagaike T. and Nakamura S. (2004) Structure and dynamics of tree populations within unsuccessful conifer plantations near the Shirakami Mountains, a snowy region of Japan. *Forest Ecology and Management* 194: 389-401.
18) Nagaike T. and Hayashi A. (2004) Effects of extending rotation period on plant species diversity in Larix kaempferi plantations in central Japan. *Annals of Forest Science* 61: 197-202.
19) Nakagawa, M. and Nakashizuka, T. 2004. Relationships between physical and chemical characteristics of dipterocarp seeds. *Seed Science Research* 14: 363-369.
20) Nakashizuka, T. (2004) The role of biodiversity in Asian forests. *Journal of Forest Research* 9: in press.
21) Otani, T. (2004) Effects of macaque ingestion on seed destruction and germination of a fleshy-fruited tree, Eurya emarginata. *Ecological Research* 19: 495-501.
22) Sakai, S. and Nagamasu, H. (2004) Systematic studies of Bornean Zingiberaceae IV. Alpinioideae of Lambir Hills, Sarawak. *Edinburgh Journal of Botany*, 60(2): 181-216 (2003).
23) Sakai, S. and Nagamasu, H. (2004) A significant range extension for the monotypic Tamijioideae (Zingiberaceae). *Acta Phytotaxonomica et Geobotanica*, 54(1): 81-83 (2003).
24) Tanaka K., Ichie, T. Yoneda, R., Kitahashi, Y., Watanabe, Y. Ninomiya, I. and Koike, T. (2004) Inter-specific variation of photosynthesis and leaf characteristics in five canopy trees of Dipterocarpaceae in a tropical rain forest. *Tree Physiology* 24: 1187-1192.
25) Tsujino R. and Yumoto T. (2004) Effects of sika deer on tree seedlings in a warm temperate forest on Yakushima Island, Japan. *Ecological Research* 19: 291-300.
26) Ushimaru, A., Fukui, A. and Imamura, A. (2004) Effect of floral organ sizes on female reproductive success in Erythronium japonicum (Liliaceae). *Journal of Plant Biology*, 46(4): 245-249.

Original paper (In Japanese)

1) Ichikawa, M. 2004. Chemical adaptation in shifting cultivation on Sarawak, Malaysia. *Nettai Nogyo* (Tropical Agriculture) 48: 111-112.
2) Isagi, Y. 2004. Characteristics of regeneration processes of tree species occurring at low density revealed by microsatellite markers. J. *Jpn. For.* Soc. 86: 169-176.

Book (International)

1) Momose, K. and Shimamura, T. (2004) Malay riverbank community: environment, network and transformation. In H. Furukawa, M. Nishibuchi, Y. Kono, and Y. Kaida eds. Kyoto Area Studies on Asia Vol. 8: *Ecological Destruction, Health, and Development –Advancing Asian Paradigms*, Part 4, Chapter 28. (534-537) Kyoto University Press.
2) Nakashizuka, T., Sakai, S. & Chong, L. (2004) Lambir Hills National Park Canopy Crane, Malaysia. Basset, Y., Horlyck, V. & Wright, S. J. (eds.), "Studyin g Forest Canopies from Above: The International Canopy Crane Network", 120-125.

Book (In Japanese)

1) Nakashizuka, T. 2004. "Sketch of Forests". Tokai Daigaku Shuppan-kai, pp. 236.
2) Nakashizuka, T. 2004. "Conservation Ecology of Forests". In Koike, T (ed.), "*Jumoku Seiri-Seitai-gaku (Eco-physiology of Trees)*", 1-36.
3) Nakahsizuka, T. 2004. "Forest as a space of Biodiversity" In Suzuki, K. (ed.) "*Shinrin Hogo-gaku (Forest Protection)*", Asakura Shoten, 7-15.

Other publications (International)

1) Miyamoto, A. and Sano, M. (2004) Forest landscape changes around the Ogawa Forest Reserve, Ibaraki, Japan, based on old topographic maps and aerial photographs. Proceedings of IUFRO International Workshop on Landscape Ecology 2004 Conservation and Management of Fragmented Forest Landscapes: 79-82.
2) Yamane, Sk. (2004) ANeT: Goals, development and perspective. In: J. Shimura (ed.), *Building Capacity in Biodiversity Information Sharing* (2003), pp. 31-38. NIES, Tsukuba.

Pre-Research

Research axis: Human activity impact assessment
Project number: 2-3PR
Project name: Human activities in Northeastern Asia and their impact to the biological productivity in North Pacific Ocean
Project leader: NARITA, Hideki (RIHN)
Core members: see No. 3

1. Research objectives

This is a project assessing the human impacts in the Amur River basin on the marine ecology in the Sea of Okhotsk and the northern North Pacific. The key element supporting the biomass production in the Sea of Okhotsk is considered to be "dissolved iron" from the Amur River. Primary goal of the project is, therefore, to elucidate the mechanism how the dissolved iron and fulvic acids are formed and transported to the ocean both by the Amur River and through the atmosphere, and how the flux changes will affect the phytoplankton production in the Sea of Okhotsk and the northern North Pacific. We will then clarify the anthropogenic impacts on the flux changes to the ocean.

2. Research topics

The Amur River drainage was historically developed after the end of 19th century in the Russian part. In Chinese part, *i.e.*, Songhua Jyang basin, intensive human activities dates back to several hundreds years. Accelerated human impacts became more obvious after the middle of 20th century in both side of the Amur River. The area is

being disturbed currently by various anthropogenic and natural impacts such as forest fire, deforestation, agricultural and industrial activities, flooding and drought. Land-use changes in the Amur River drainage, therefore, might have caused or may cause significant changes in the flux of dissolved iron, which might or may result in the biomass production changes in the ocean.

This is a project assessing the role of Amur River on biomass production and the prediction of human impacts in the Amur River basin on the marine ecology in the Sea of Okhotsk and the northern North Pacific. Primary goal of the project is to elucidate the mechanism how the dissolved iron are to be formed and transported to the ocean both by the Amur River and through the atmosphere, and how the flux change of dissolved iron will affect the phytoplankton production in the Sea of Okhotsk and the northern North Pacific. Secondly, we will clarify the anthropogenic impacts on flux changes of dissolved iron to the ocean. Finally, we will present a guideline of sustainable land-use in the Amur River basin to maintain the present ecosystem in the Sea of Okhotsk and the northern North Pacific. More specifically, we will propose so-called "sustainable threshold" on the flux of dissolved iron, which can maintain the biomass production in the Sea of Okhotsk and the northern North Pacific. This will give us an ideal management of the land-use in the Amur-River basin and besides in other analogous river basin.

Relation with research program

To clarify a series of studies of the various anthropogenic disturbance, natural impacts and biomass production changes in ocean contribute to the study of human activity assessment on environmental problem.

3. Member of the project (◎: Project leader, ＊: Core member)

◎ NARITA, Hideki (Research Institute for Humanity and Nature)

Group 1: Physical oceanographic conditions.

＊ WAKATSUCHI, Masaaki (Institute of Low Temperature Science, Hokkaido Univ., Physical oceanographic conditions)

＊ OHSHIMA, Keiichiro (Institute of Low Temperature Science, Hokkaido Univ., Physical oceanographic conditions)

FUKAMACHI, Yasushi (Institute of Low Temperature Science, Hokkaido Univ., Physical oceanographic conditions)

KITAGAWA, Hiromitsu (Faculty and Graduate School of Engineering, Hokkaido Univ., Physical oceanographic conditions)

YASUDA, Ichiro (Department of Earth & Planetary Science, University of Tokyo, Physical oceanographic conditions)

Group 2, 3: Geochemical and biological conditions, Transport of biogeochemical materials.

＊ NAKATSUKA, Takeshi (Institute of Low Temperature Science, Hokkaido Univ., Oceanic geochemistry / biogeochemical transport from river to ocean)

MATSUNAGA, Katsuhiko (Yokkaichi Univ., River-ocean interaction)

＊ KUMA, Kenshi (Graduate School of Fisheries Science, Hokkaido Univ., Iron analyses in ocean)

NISHIOKA, Jun (Central Research Institute of Electric Power Industry, LTD, Rare metal analyses in ocean)

SUZUKI Koji (Graduate School of Environmental Earth Sciences, Hokkaido Univ., Ocean biogeochemistry)

Group 4: Biochemical transport from terrestrial ecosystem.

＊ SHIBATA, Hideaki (Field Science Center for Northern Biosphere, Hokkaido Univ., Biogeochemistry from land to river)

＊ NAGAO, Seiya (Graduate School of Environmental Earth Sciences, Hokkaido Univ., Organic matters analyses)

＊ YOH, Muneoki (Environmental Conservation, Tokyo Univ. of Agriculture & Technology, Biogeochemistry from land to river)

KODAMA, Hiroki (Kyoto Prefectural Univ., Biogeochemistry from land to river)

ISHII, Yoshiyuki (Institute of Low Temperature Science, Hokkaido Univ., Hydrological analyses in Siberia)

Group 5: Background of the anthropogenic impacts.

* KAKIZAWA, Hiroaki (Graduate School of Agriculture, Hokkaido Univ., Forest management analyses)

IWASHITA, Akihiro (Slavic Research Center, Hokkaido Univ., Political analyses on China/Russia)

HARA, Toshihiko (Institute of Low Temperature Science, Hokkaido Univ., Dynamics of Forest)

OONISHI, Hideyuki (Research Institute for Humanity and Nature, Minority people in Siberia)

SAKAMOTO, Masahiko (Doshin Information Institute, LTD, Economics and politics of Russia)

Group 6: Spatial and historical monitoring of land-use changes.

* HARUYAMA, Shigeko (Graduate School of Frontier Science, Univ. of Tokyo, Land-use change monitoring)

KONDO, Akihiko (Chiba Univ. Environmental Remote Sensing Center, Land-use change monitoring)

HIMIYAMA, Yukio (Hokkaido Univ. of Education, Asahikawa, Land-use changes and the background)

SAKASHITA, Akihiko (Graduate School of Agriculture, Hokkaido Univ., Agricultural Economics and its history)

PAKU, kou (Graduate School of Agriculture, Hokkaido Univ., Agricultural Economics and Land-use changes)

Group 7: Estimate of atomospheric transports of terrestrial materials.

* SHIRAIWA, Takayuki (Institute of Low Temperature Science, Hokkaido Univ., Ice core analyses)

* UEMATSU, Mitsuo (Ocean Research Institute, Univ. of Tokyo, Aerosol analyses)

KOSHIMA, Shiro (Tokyo Institute of Technology, Biomass in ice core)

AZUMA-GOTO, Kumiko (National Institute of Polar Research. Chemistry of ice core)

NAKAWO, Masayoshi (Research Institute for Humanity and Nature, Dust variation reconstruction)

TAKEUCHI, Nozomu (Research Institute for Humanity and Nature, Biomass in ice core)

HONDOH, Takeo (Institute of Low Temperature Science, Hokkaido Univ., Physical analyses in ice core)

MATOBA, Sumito (Institute of Low Temperature Science, Hokkaido Univ., Trace metal analyses in ice cores)

Group 8: Natural variability of the hydro-meteorological and hydro-chemical conditions.

* TACHIBANA, Yoshihiro (Liberal Arts Education Center, Tokai Univ., Natural variability analyses)

KUBOTA, Jumpei (Research Institute for Humanity and Nature, Hydrological modeling)

OHATA, Tetsuo (Institute of Low Temperature Science, Hokkaido Univ., Water and Energy flux in Siberia)

YAMAGATA, Kotaro (Joetsu University of Education, Land form development)

TAKAHARA, Hikaru (Kyoto Prefectural Univ., Pollen analysis)

Group 9: Modeling of biomass production.

* MATSUDA, Hiroyuki (Graduate School of Environment and Information Sciences, Yokohama National Univ., Biomass modeling)

SAITO, Seiichi (Graduate School of Fisheries Science, Hokkaido Univ., Satellite monitoring of phytoplankton)

ARAI, Nobuo (Slavic Research Center, Hokkaido Univ., Sea product analyses in the Far East)

* KISHI, Michio (Graduate School of Fisheries Science, Hokkaido Univ., Marine ecosystem model)

MUKAI, Hiroshi (Field Science Center for Northern Biosphere, Hokkaido Univ., Marine ecosystem analyses)

4. Progress of the project

The research team has been organized. The research members were selected from the most outstanding experts from various institutions in Japan. Theme of the project was discussed through four meetings during the incubation stage (year 2002) and three meetings during the feasibility stage (year 2003). A report describing the sub-themes on this project as well as meeting summaries was published and distributed in December 2003. Two preliminary research trips were carried out in search for international collaborations and information on available data-set in the fiscal year 2003: one to Vladivostok/Khabarovsk and the other to Changchun / Harbin / Khabarovsk. Reports on the two preliminary research trips were prepared and distributed.

The implementation plan of the project was made according to the discussions and results obtained by January 2004. An international workshop was held in March 3-4, 2004 in Kyoto to confirm the implementation plan among the project members and the international collaborators.

5. Pre-Research activity in 2004

5-1. Research trips to Russia and China

A total of 9 research trips was conducted in 2004 aiming at assessment of possible experimental sites in the Amur river basin, discussion and planning with foreign project members, and collection of pre-existing data. A total of 29 project members joined in the trips as shown below. Research plan during 2005-2009 was roughly decided according to the discussions during the trips.

Itinerary	Destination	Purpose	Member
2004.7.26-8.2	Vladivostok	Preliminary study on Ussuri river and Sangjyang plain	Haruyama
2004.9.11-16	Vladivostok	Discussion on observations in the Sea of Okhotsk with FEHRI.	Nakatsuka, Kuma, Ohshima, Nagao, Nishioka, Yasuda
2004.9.15-24	Khabarovsk	Discussion on observation in Amur rivrer and its tributaries with Institute of Water and Ecological Problems	Nakatsuka, Kuma, Tachibana, Yoh, Nishioka, Nagao
2004.9.19-22	Khabarovsk	Preliminary research trip to the lower Amur river	Same as above
2004.9.23-10.8	Khabarovsk	Preliminary research trip to the middle Amur river	Shiraiwa, Nakatsuka
2004.10.7-10	Vladivostok	Discussion on GIS with Pacific Institute of Geography and discussion of logistics with Far Eastern Branch of Russian Academy of Sciences	Narita, Shiraiwa
2004.11.3-10	Harbin	Discussion of biogeochemical research and a preliminary Research trip to Songhua Jyang (Sungari)	Narita, Shibata, Jyo
2004.12.6-10	Changchun	Discussion on GIS with NIGAE, CAS	Shiraiwa
2004.12.13-17	Khabarovsk	Discussion of forest management with Institute of Economics, RAS	Kakizawa
2005.1.23-29	Changchun and Shengyang	Discussion on biogeochemical research with NIGAE and the Institute of Applied Ecology, Shenyang and a preliminary trip to Sangjyang plain	Nakatsuka, Yoh, Kaku, Hou

5-2. International Workshop and Symposium

An international workshop was held from June 16 to 17 at Sapporo. A total of 8 Chinese scientists was invited to discuss biogeochemical processes and land-use changes in the Amur river basin. The workshop was followed by a three-day excursion to the Uryu Experimental Forest of Hokkaido University where the project members made discussion on methodological problems in biogeochemistry.

An international symposium will be held from March 22 to 24 at Kyoto. A total of 8 scientists will be invited both from Russia and China in addition to the 25 participants from domestic universities and institutions. A part of the financial support for the symposium will be provided by JSPS.

5-3. Project Meetings

A total of 4 meetings was held at Kyoto and Sapporo during the fiscal year 2004. They are the meeting for ocean observations (June 7-8 at Sapporo), terrestrial processes (August 26 at Kyoto), terrestrial processes (October

27, Sapporo) and general project meeting (November 29, Sapporo).

5-4. Others

Project Report No. 2 was published as "Proceedings of the Kyoto Workshop 2004" in December.

6 Outcomes (2004)

2003 Amur-Okhotsk Project Report No. 1 (In Japanese, 88pp)

2003 Report on Preliminary Research Trip to Russia (In Japanese, 19pp)

Feasibility study

Research axis: Human activity impact assessment
Project number: 2-4FS
Project name: Human activity impacts on urban subsurface environments
Project leader: TANIGUCHI, Makoto (RIHN)
Core members: see No. 3
HP: http://www.chikyu.ac.jp/USE/

1. Research objectives and topics

1. Research Objectives

This project will assess the effects of human activities on the subsurface environment, an important aspect of human life in the present and future but not yet evaluated. This is especially true in Asian coastal cities where population numbers and density have expanded rapidly and uses of subsurface environment have increased. The primary goal of this project is to evaluate the relationships between the developmental stage of cities and various subsurface environmental problems, including extreme subsidence, groundwater contamination, and subsurface thermal anomalies. We will address the sustainable use of groundwater and subsurface environments to provide for better future development and human well-being.

2. Research Content

(1) Relationships between the developmental stages of the cities and subsurface environmental problems will be assessed by socio-economical analyses and reconstructions of urban areas by uses of historical records; (2) serious problems in subsurface environments and transformation of water resources will be studied after evaluations of groundwater flow systems and changes in groundwater storage by use of hydrogeochemical data and in-situ/satellite-GRACE gravity data; (3) we will also evaluate accumulations of the materials (contaminants) in subsurface and their transports from land to ocean including groundwater pathways by use of chemical analyses of subsurface waters, sediments and tracers; and (4) subsurface thermal contamination due to the "heat island" effect in urban areas will be evaluated by reconstruction of surface temperature history and urban meteorological analyses.

This project will suggest better future development plans for human well-being by reconstructing changes in urban environments (from present to past), and by developing integrated nature-social models (from past, present to future). Subsurface environmental indices will be used from the points of view of (1) human activities, (2) climate change, and (3) stage of urban development and social policies. Water, heat, and material environments will be evaluated by investigating changes in groundwater resources using satellite data, reconstructions of climate changes and urbanization using subsurface thermal regimes, and evaluations of contamination from preserved subsurface indices.

In order to achieve the research objectives mentioned above in five years, four sub-themes have been chosen

and eight methodologies will be applied. Tokyo, Osaka, Bangkok, Seoul are targeted as study cities, and Nagoya, Taipei, Manila and Jakarta are selected as secondary study cities depending on the four sub-themes. The project will focus on the urban subsurface environments, however, we will treat the problems on a basin scale, because subsurface water, heat, and material transports are interconnected on this scale. We will target the relationships between subsurface environmental changes and human activities during the past 100 years, while some reconstructions will be extended up to 1000 years.

2. Relation with research program

This project belongs to Axis 2 "Human activity impact assessment", however the project consists of both Axis 2 and Axis 1 "Environmental change impact assessment". This is because the climate change causes the changes in useful water resources between groundwater and surface water. This project also deals with the relationships between the development stage of the city and subsurface environmental problems, therefore this is related to Axis 4 "History and time scale." The project will compare the results in some Asian major cities which depends on the climate zone, therefore this is related to Axis 3 "Spatial scale." This project will also address the concept of "potential groundwater recharge rate" and "potential residence time" for sustainable uses of groundwater and subsurface environments. Therefore, this project will also concern the Axis 5 "Conceptual framework for global environmental issues."

3. Project member (Affiliation · Position · Role)

◎ TANIGUCHI, Makoto (Research Institute for Humanity and Nature · Associate Professor · Project Leader)

* KANEKO, Shinji (Graduate School for International Development and Cooperation, Hiroshima University · Associate Professor · Socio-economic analysis)

OKAMURA, Toshiyuki (Faculty of Engineering, Yokohama National University · Associate Professor · Urban infrastructure analysis)

NAGASHIMA, Keiko (Graduate School for International Development and Cooperation, Hiroshima University · COE Researcher · Urban infrastructure analysis)

* YOSHIKOSHI, Akihisa (College of Letters, Ritsumeikan University · Professor · Reconstruction of city · Urban geography analysis)

TANIGUCHI, Tomomasa (Faculty of Letters, Rissho University · Part-time Lecturer · Reconstruction of city · Urban geography analysis)

* ADACHI, Itsu (Global Environment Department, Japan International Cooperation Agency · Group Leader · Analysis of social & water environments in Asian cities)

MATSUMOTO, Toru (Faculty of Environmental Engineering, University of Kitakyushu · Associate Professor · Urban LCA · Environmental system analysis)

TODOKORO, Taiko (Graduate School of Letters, Ritsumeikan University · Graduate student · Reconstruction of city · Urban geography analysis)

* SHIMADA, Jun (Faculty of Science, Kumamoto University · Professor · Groundwater analysis · Isotope analysis)

* FUKUDA, Youichi (Graduate School of Science, Kyoto University · Associate Professor · Gravity satellite analysis)

TOKUNAGA, Tomochika (Graduate School of Engineering, The University of Tokyo · Associate Professor · Groundwater analysis)

NISHIJIMA, Jun (Graduate School of Engineering, University of Kyusyu · Assistant Professor · Groundwater research by gravity measurement)

UEMURA, Takeshi (National Institute of Polar Research · Assistant Professor · Gravity satellite analysis)

KAWAMOTO, Kazuaki (Research Institute for Humanity and Nature · Assistant Professor · Analysis of

climate/water circulation in Asia)

YAMAMOTO, Keiko (Graduate School of Science, Kyoto University · Graduate student · Gravity satellite analysis)

IKAWA, Reo (Graduate School of Science and Technology, Kumamoto University · Graduate student · Groundwater analysis · Isotope analysis)

INOUE, Daisuke (Graduate School of Science and Technology, Kumamoto University · Graduate student · Groundwater analysis · Isotope analysis)

TAKAMOTO, Naohiko (Graduate School of Science and Technology, Kumamoto University · Graduate student · Groundwater analysis · Isotope analysis)

AICHI, Masa-atsu (School of Engineering, The University of Tokyo · Graduate student · Groundwater analysis)

* YAMANO, Makoto (Earthquake Research Institute, The University of Tokyo · Associate Professor · Measurements and analysis of ground- water temperature)

* EHARA, Sachio (Graduate School of Engineering, Kyusyu University · Professor · Analysis of subsurface temperature)

GOTOU, Syusaku (Institute for Geothermal Sciences, Graduate School of Science, Kyoto University · Part-time Researcher · Measurements and analysis of subsurface temperature)

ICHINOSE, Toshiaki (Center for Global Environmental Research, National Institute for Environmental Studies · Chief Researcher · Analysis of urban climate)

GENCHI, Yutaka (Research Center for Life Cycle Assessment, National Institute of Advanced Industrial Science and Technology · Chief Researcher · Analysis of urban climate · and LCA)

BAI, Yingjiu (Tohoku Univ. of Community Service and Science · Assistant Professor · Analysis of urban climate)

HAMAMOTO, Hideki (Graduate School of Science, Tokyo University · Graduate student · Measurements and analysis of ground- water temperature)

KURODA, Takashi (Graduate School of Engineering, Kyushu University · Graduate student · Analysis of subsurface temperature)

SAKEMI, Kotaro (Graduate School of Engineering, Kyushu University · Graduate student · Analysis of subsurface temperature · Graduate student · Analysis of subsurface temperature)

* ONODERA, Shin-ichi (Faculty of Integrated Arts and Sciences, Hiroshima University · Associate Professor · Analysis of material transports)

* NAKANO, Takanori (Research Institute for Humanity and Nature · Professor · Analysis of sedimentary environments)

* KITAGAWA, Hiroyuki (Graduate School of Environmental Studies, Nagoya University · Associate Professor · Isotope analysis)

NAKAYAMA, Tomoe (Research Institute for Sustainable Humanosphere, Kyoto University · Special study researcher · Isotope analysis)

HOSONO, Takahiro (School of Science and Engineering, Waseda University · Assistant Professor · Analysis of material transports and sedimentary environments)

ISHITOBI, Tomotoshi (Graduate School of Education, Nara University of Education · Groundwater Survey)

SAITO, Mitsuyo (Graduate School of Biosphere Science, Hiroshima University · Graduate student · Analysis of material transports)

HAYASHI, Masaki (Graduate School of Biosphere Science, Hiroshima University · Graduate student · Analysis of material transports)

WANG, Chung-Ho (Institute of Earth Sciences, Academia Sinica, Taiwan · Chief Researcher · Isotope Analyses)

SIRINGAN, Fernando (National Institute of Geological Sciences, University of the Philippines · Professor · Hydrogeological Analyses)

KIM, Guebuem (School of Earth & Environmental Sciences, Seoul National University · Associate Professor · Coastal Water Analyses)

WATTAYAKORN, Gullaya (Dept. of Marine Science, Chulalongkorn University · Professor · Biogeochemical Analyses)

PAWITAN, Hidayat (Department of Geophysics and Meteorology, Indonesia · Professor · Groundwater monitoring)

FORONDA, Joseph M. (National Institute of Geological Sciences, University of the Philippines · Associate Professor · Groundwater Analysis)

LEE, K. K. (School of Earth & Environmental Sciences, Seoul National University · Professor · Groundwater Analyses)

DELINOM, Rober (Division of Hydrology, Indonesia Institute of Science, Indonesia · Chief Researcher · Hydrogeological Analyses)

BUAPENG, Somkid (Department of Groundwater Resources, Ministry of Natural Resources and Environment · Section Manager · Groundwater Monitoring)

(◎ = Project leader, ＊ = Core member)

4. Outcomes (2004)

A research team (four groups) of the project has been organized. The research members were selected from the most outstanding experts on the subjects from various institutions in Japan. The research themes, study areas, and targeted period of the project were discussed during three meetings in the incubation period (2003), and four meetings in the feasibility stage (2004). A report describing the project including a review of each sub-theme was published and distributed in December 2004. Three preliminary research trips were carried out in search for international collaborations, available data-sets, and logistical information: First to Singapore in July 2004, by Makoto Taniguchi, J. Shimada and S. Onodera, second to Bangkok in July 2004, by M. Taniguchi, S. Onodera, and J. Nishijima, and third to Manila in Jan. 2005, by M. Taniguchi. The reports on the two preliminary research trips were presented in the FS meeting in November 2004. An implementation plan for the project was made according to these discussions. A home page was launched (http://www.chikyu.ac.jp/USE/) in July 2004 for introducing the present project. This project will be carried out with strong relationships to international research frameworks, such as **UNESCO-GRAPHIC** (**G**roundwater **R**esources **A**ssessment under the **P**ressures of **H**umanity and **C**limate changes) project (Project leader: Makoto Taniguchi), **GWSP** (**G**lobal **W**ater **S**ystem **P**roject: Japanese delegate: M. Taniguchi), IUGG/IAPSO **Heat Flow Committee** (Vice Secretary: M. Taniguchi, Member: M. Yamano), **APN/START** (APN project leader: M. Taniguchi), **IHDP** and **IGBP**. We have introduced and discussed this project at the several international meetings including GRAPHIC (Sep. 2004), Heat Flow (Oct. 2004), GWSP (Dec. 2004), and AGU (Dec. 2004, session co-chair: M. Taniguchi).

■Progress of the project

1. Outline of result

(1) A research team (four groups) of the project has been organized.

(2) The research themes, study areas, and targeted period of the project were decided during four meetings in the feasibility stage (2004).

(3) A report describing the project including a review of each sub-theme was published and distributed.

(4) Three preliminary research trips were carried out in search for international collaborations, available data-sets, and logistical information:

(5) An implementation plan for the project was made.

(6) A home page was launched (http://www.chikyu.ac.jp/USE/) for introducing the project.

2. Bibliography

Book

Taniguchi, M., Burnett, W. C., Cable, J. E and Turner, J. V. 2003 "Assessment methodologies for submarine groundwater discharge" In Taniguchi, M. et al. eds., *Land and Marine Hydrogeology*, Elsevier, 1-23.

Papers

Fukuda, Y., Higashi, T., Takemoto, S., Abe, M., S, Dwipa, D., Kusuma, S., Andan, A., Doi, K., Imanishi, Y and Arduino, G 2004 "The first absolute gravity measurements in Indonesia" *J. Geodynamics* 38: 477-488.

Ichinose, T 2003 "Regional warming related to land use change during recent 135 years in Japan" *Journal of Global Environment Engineering* 9: 19-39.

Nakano, T., Yokoo, Y., Nishikawa, M and Koyanagi, H 2004 "Regional Sr-Nd isotopic ratios of soil minerals in northern China as Asian dust fingerprints" *Atmospheric Environment* 38: 3061-3067.

Takano, S., Ito, M., Nakano, T., Horikawa, K and Nakamura, Y 2004 "Sequence-stratigraphic signatures of hemipelagic siltstones in deep-water successions: The Lower Pleistocene Kiwada and Otadai Formations, Boso Peninsula, Japan" *Sedimentary Geology* 170: 189-206.

Taniguchi, M. and Iwakawa, H. 2004 "Submarine groundwater discharge in Osaka bay" *Limnology*, 5, 25-32.

Tokunaga, T and Kameya, H 2003 "Determination of storage coefficient of a porous material from flow-pump experiments: Theoretical analysis and experimental evaluation" *Int. J. Rock Mech. Min. Sci* 40: 739-745.

Uchida, Y., Sakura, Y and Taniguchi, M 2003 "Shallow subsurface thermal regimes in major plains in Japan with reference to recent surface warming" *Phys. Chem. Earth* 28: 457-466.

Yamanaka, T., Shimada, J., Hamada, Y., Tanaka, T., Yang, Y., Zhang, W and Hu, C 2004 "Hydrogen and oxygen isotopes in precipitation in the northern part of North China Plain: Climatology and inter-storm variability" *Hydrological Processes* 18: 2211-2222.

Others

Onodera, S., Saito, M., Takei, T., Hayashi, M 2004 "Effects of rainfall and land use on nitrate transport of coastal groundwater in western Japan" *Proc. 33rd Con. Int. Ass. Hydrogeologist.*

Tijani, M., Onodera, S 2004 "Quality assessment of stream water and bed sediments: A case study of urbanization impacts in a developing country" *Proc. ASAE Conference.*

3. Workshop list

(a) AGU (14, December, 2004, SF AGU2004Fall meeting session "Groundwater Resources Assessment under the Pressures of Humanity and Climate Changes")

http://www.agu.org/meetings/fm04/fm04-sessions/fm04_H21F.html

Topics:

(1) Ferguson, G A (St. Francis Xavier University, Department of Earth Sciences)
"Factors Affecting the Sustainability of Groundwater-Source Cooling"

(2) Jayawickreme, D H (Department of Geological Sciences, Michigan State University)
"Influence of Land Cover on Regional Scale Groundwater Recharge: Analysis With NEXRAD Precipitation Data"

(3) Famiglietti, J (University of California, Irvine, Dept. of Earth System Science)
"Satellite Monitoring of Global Groundwater Resources"

(4) Taniguchi, M (Research Institute for Humanity and Nature)
"A Review of Climate Change and Societal Impacts on Groundwater: Implications for a UNESCO Initiative"

(5) White, I (Centre for Resource and Environmental Studies, The Australian National University)
"Climate and Human Pressures on Fresh Groundwater in Coral Atoll Island Nations in the Pacific"

(6) Intaraprasong, T (Texas A&M University, Geology and Geophysics Department)
"Capture Zone of a Pumping Well Between two Parallel Rivers"
(7) Hsu, K (Department of Resources Engineering, National Cheng-Kung University)
"The Impact of Climate Variability on the Water Resource Management of Ping-Tung Plain, Taiwan"
(8) Grant, G E (USDA Forest Service, Pacific Northwest Research Station)
"Geologically Mediated Groundwater Storage can be a First-Order Control on Streamflow Response to Changing Climate"
(9) Tague, C L (San Diego State University Department of Geography)
"Predicting Contrasting Responses to a Warmer Climate for Groundwater and Shallow Subsurface Dominated Systems in the Oregon Cascades"
(10) Chen, J (Sun Yat-sen University)
"Environmental problems associated with groundwater flow system in the North China Plain"
(11) Nakayama, E (Mie University)
"The interaction between irrigated water, groundwater and sea water in the Ise Plain, Japan"
(12) Nishikawa, T (U. S. Geological Survey)
"Estimating Natural Recharge in a Desert Environment Facing Increasing Ground-Water Demands"
(13) Kendall, A D (Department of Geological Sciences)
"Using Spectral Analysis to Relate Climate and Land-Use Changes to Processes Influencing Stream Flow"
(14) Gurdak, J J (U. S. Geological Survey)
"Predicting nitrate contamination in recently recharged groundwater: High Plains regional aquifer"
(15) Grimaldi, R T (State University of New York College at Oneonta)
"The Sensitivity of the Northeast Colorado Moist Convective Environment to Upstream Soil Moisture Conditions"
(16) Sun, L (International Research Institute for Climate Prediction, Columbia University)
"Impact Of Initial Soil Wetness On Seasonal Climate Prediction"
(17) Cleverly, J R (Department of Biology, MSC03 2020 1 University of New Mexico)
"Development of a Statewide, Interbasin Flux Network to Monitor Evapotranspiration Changes During and Following Riparian Restoration in New Mexico"
(18) Scanlon, B R (Jackson School of Geosciences, Bur. of Econ. Geol., University of Texas at Austin)
"Impact of Land use Change From Natural to Agricultural Ecosystems on Groundwater Recharge"

(b) APN (Asia Pacific Network)
"Groundwater Discharge as Important Pathway in South-East Asia"
Tuesday, February 8:
14:00 PM: "Introduction to SGD"
(1) Makoto Taniguchi (Research Institute for Humanity and Nature)
"Characteristics, fluxes, review of studied areas"
(2) William C. Burnett (Department of Oceanography, Florida State University)
"Isotopic methods for assessment of SGD"
(3) Henry Bokuniewicz (SUNY, Stony Brook)
"Coastal zone management implications of SGD"
PM: "Case studies"
(1) William C. Burnett (Department of Oceanography, Florida State University)
"Florida – examples from Florida Gulf of Mexico coast, Florida Keys, Biscayne Bay"
(2) Makoto Taniguchi (Research Institute for Humanity and Nature)

"Japan 1 – examples from Suruga Bay, Osaka Bay and Shiranui Bay"

(3) Shin-ichi Onodera ()

"Japan 2 – examples from Setouchi (Inland Sea of Japan)"

(4) Evgeny Kontar (Shirshov Inst. Oceanology)

"Inland Asian seas"

Wednesday, February 9:

09:00 AM: "SGD Studies in Asia"

(1) Guebuem Kim (School of Earth & Environmental Sciences, Seoul National University)

"Submarine Groundwater Discharge (SGD) to the Coastal Zones of Korea"

(2) Chung-Ho Wang (Institute of Earth Sciences, Academia Sinica)

"Interaction between Groundwater and Seawater off the Pingtung Plain"

(3) Fernando Siringan (National Institute of Geological Sciences, University of the Philippines)

"Initial Assessment of SGD in Manila Bay, Philippines"

(4) Gullaya Wattayakorn (Aquatic Resources Research Institute, Department of Marine Science, Chulalongkorn University)

"Submarine Groundwater Discharge (SGD) Studies in Thailand"

14:00 PM: "Coastal Zones in SE Asia & Potential SGD Study Sites"

(1) KONG Meng (General Department of Mineral Resources)

"Groundwater Characteristics of Krong Preah Sihanouk"

(2) Ong Jin Eong (Universiti Sains Malaysia)

"Nutrient Fluxes from the Sungai Merbok Mangroves Estuary, Malaysia: Getting a Salt Balance"

(3) Robert M. Delinom (Research Center for Geotechnology, Indonesian Institute of Sciences)

"Coastal Groundwater Research in Indonesia: An Overview"

(4) Cao Thi Thu Trang (Haiphong Institute of Oceanology)

"Vietnam: Water Resources in the Relation with Coastal Features"

(5) Thazin Lwin (Department of Chemistry, University of Yangon)

"Discharge and Water Quality Relations of the Ayeyarwady River Basin near Industrial Sites of Myanmar"

(6) Fernando Siringan (National Institute of Geological Sciences)

"National Institute of Geological Sciences"

(7) Sompop Rungsupa (Aquatic Resources Research Institute, Chulalongkorn University)

"Submarine Groundwater Discharge, Nutrients and Organic Pollutants Contribution in the Coastal Areas of the Upper Gulf of Thailand"

Thursday, February 10:

09:00 AM: "New Projects"

(1) Makoto Taniguchi (Research Institute for Humanity and Nature)

"RIHN Project: Human Impact on the Subsurface Environment"

(2) Future plans (all participants)

(3) Input for preparation of APN Report

Friday, February 11:

09:00 AM

(1) P. I. meeting and preparation of APN Report: Aquatic Resources Research Institute, Chulalongkorn University

(2) Discussion of future proposals (all participants)

Feasibility study

Research axis: Human activity impact assessment
Project number: 2-5FS
Project name: Erosion of genetic diversity as a social, ecological and environmental problem
Project leader: SATO, Yo-Ichiro (RIHN)
Core members: see No. 2
HP: http://www.chikyu.ac.jp/sato-project/

1. Background and Objectives

The present project deals with the loss of genetic diversity, *genetic erosion*, in man-made habitats of Eurasia and its neighboring regions during the latest 10,000 years, as a social, ecological and environmental problem. Genetic erosion in domesticated plants and their realatives has accelerated in the last 100 years, though habitat modification and increasing dependence on a narrow range of domesticated species and varieties. The project will focus on:

i) The social, ecological and environmental history of plant genetic diversity and genetic erosion.
ii) Models for understanding genetic erosion, to incorporate advances in biological, environmental, and social history.
iii) Recovering genetic diversity in man-made habitats.
iv) *In situ* preservation and development of genetic diversity.

2. Member of the project (◎: Project leader, ＊: Core member)

◎ Yo-Ichiro Sato (RIHN, Professor, Plant genetics)
＊ KATO, Kenji (Okayama University, Assosiate professor, Breeding)
＊ KADOWAKI, Kouichi (Natioanal Institute of Agrobiological Sciences, Head of Team, Breeding)
＊ SHINODA, Kenichi (National Science Museum, General manager, Anthoropology)
＊ NAKAMURA, Ikuo (Chiba University, Associate professor, Plant molecular genetics)
＊ FUKUNAGA, Kenji (International Research Center for Japanese Studies, Research support promotion, Plant genetics)
＊ MUGURUMA, Yumi (Institute of Culture of Tohoku, Tohoku University of Art & Design, Researcher, Folklore)
＊ Yang Haiying (Sizuoka University, Associate professor, Social anthoropology)
AKASAKA, Norio (Culture of Tohoku Research Center, Tohoku University of Art & Design, Head, Folklore)
AKIMICHI, Tomoya (RIHN, Professor, Ecological Anthoropology)
ASHIKAWA, Ikuo (National Institute of Crop Science, Plant genetics)
ATSUMI, Susumu (Tokyo University of Science, Guraduate Student, Geochemistry)
ABE, Kenichi (Natioal Meseum of Ethonology, Associate professor, Ethonology)
IKEBE, Makoto (Free-lance writer)
ISHIKAWA, Ryuji (Hirosaki University, Associate professor, Plant breeding study)
ISHIGURO, Naotaka (Gifu University, Professor, Molecular genetics)
INOUE, Katsuhiro (Department of Environmental Life, Shimane Prefectual Government, Director)
INOUE, Takashi (Japan Broadcasting Corpoperation Special Program center, Executive Producer)
INTOH, Michiko (National Museum of Ethonology, Professor, Ethonology • Archaeology)
UEDA, Shintarou (Tokyo University, Professor, Anthoropology)
UDATSU, Tetsurou (Miyazaki University, Associate professor, Agronomy)
UCHIYAMA, Jyunzou (RIHN, Associate professor, Archaeology)
OTA, Syoji (University of Fukui Prefecture, Professor, Plant genetic resources)

OSADA, Toshiki (RIHN, Professor, Linguistics)
KASAMATSU, Hiroki (Shimane Mountanious Reagion Research Center, Chief researcher)
KITAGAWA, Junko (International Research Center for Japanese Studies, Research assistance member, Palynology)
KURODA, Yousuke (National Institute of Agrobiological Sciences, Special researcher, Plant genetics)
KOYAMA, Syuuzou (Suita City Museum, Superintendent)
SAITO, Naruya (National Institute of Genetics, Professor, Social anthoropology)
SAITO, Kiyoaki (RIHN, Professor)
SASANUMA, Tsuneo (Yokohama Sity University, Assistant, Genetics)
SATO, Tadashi (Tohoku University, Associate professor, Genetic ecology)
TAKEUCHI, Nozomu (RIHN, Assistant, Glacier biology)
TANNO, Kenichi (RIHN, Part-time researcher, Plant archaeology)
TSUJIMOTO, Hisashi (Tottori University, Profssor, Plant genetics)
TOMINAGA, Toru (Kyoto prefectural University, Professor, Agricultural ecology)
NAKAI, Izumi (Tokyo University of Science, Profssor, Geochemistry)
NAKANO, Takanori (RIHN, Profssor, Living thing of isotope Earth science)
NAKAMURA, Shinichi (Kanazawa University, Professor, Archaeology)
NASU, Hiroo (International Research Center for Japanese Studies, Research assistance member, Botany)
NISHIAKI, Yoshihiro (Tokyo University Digital Museum, Associate professor, Archaeology)
FUJIYAMA, Hiroshi (Shimane Mountanious Reagion Research Center, Chief researcher)
HOSOYA, Aoi (Waseda University, Archaeobotany)
HOTTA, Mitsuru (Kagoshima Prefectual College, The President, Botany)
MATSUURA, Seiji (Kiyohara Breeding Farm, Tohoku Co., Chief, Plant breeding)
MATSUDA, Ryuji (Paleoenvironment Research Co., Director, Paleoenvironment)
MORI, Naoki (Kobe University, Associate professor, Plant genetics)
YASUDA, Yoshinori (International Research Center for Japanese Studies, Professor, Environment archaeology)
YUMOTO, Takakazu (RIHN, Professor, Plant ecology)
YOSHIZAWA, Yasuki (Kinokuniya Bookstore, Director)
WADA, Eitaro (Frontier Research Center for Grobal Change, Proffesor, Geochemistry)
WATABE, Takeshi (Tokai University, Professor, Histrical science)
* WILLCOX, George (Institute of Prehistoical Oriental Jales, Archaeology)
* JONES, Martin K. (Cambridge University, Professor, Archaeology)
* MATTHEWS, Peter (National Museum of Ethonology, Associate professor, Plant archaeology)
CHITRAKON, Songkran (Biotechnology Research and Development Office, Science of plant genetic resources)
TANG, Linghua (Agriculture Academy of Sciences, Plant breeding)
LONG, Chunlin (Plant Resources Kunming Institute of Botany / Chinese Academy of Science, Professor, Ethonobotany)
WANG, Wei (Institute of Archaeology Chinese Academy of Social Science, Deputy director, Archaeology)

3. Methodology

Methods will be adopted from the related disciplines of archaeobotany, palaeobotany, ethnobotany, ecology, and genetics. Target plants will be mainly wheat, taro and rice, which show annual, perennial and intermediate forms of reproduction, respectively. These have been stable-food plants in Eurasia and its neighboring regions since antiquity. In order to evaluate plant use and genetic diversity in the past, plant remains from archaeological sites will analysed on the macroscopic, microscopic and molecular scales (*archaeobotany*). The study of ancient DNA (*DNA*

archaeology) will be one of the most impotant approches. Change and diversity in man-made habitats will be evaluated through analyses of pollen, phytoliths, and diatoms (*palaeobotany and palaeoecology*). Where appropriate, radio-carbon (14C) dating will be carried out. The origin and the transportation of the seeds or other products excavated will be surveyed using stable isotopes. Plant diversity and genetic erosion in the historic age and the present will be evaluated through literature review, field surveys (*ethnobotany and ecology*) and analyses of DNA variation (genetics).

4. Progress of the project (from 2003. April to 2004. March)

1) Member of the project discussed on the structure of the project, and decided to build three different sub-groups, wheat-group and taro-group. In addition the project deals with the historical change of man made habitat due to the progress of human activity in the different places of Eurasia, as a common interest of the project.

2) Rice group consists of 12 researchers, and had its own meeting once. One of the common interest of the group is origin of indica. Rice varieties have been differentiated into indica and japonica groups. Origin of japonica has been well studied, but, that of indica remains unknown. This year, rice group has been discussing strategy of study to know origin of indica rice.

3) Wheat group had its meeting three times. Main target of the study is to perform DNA analysis for wheat grains excavated from an ancient relic in the western China (ca. 3800yrs. Old). The group attempted to exchange MOA (memorandom of agreement) between archaeological Xinjiang Institute of Archaeology.

5. Activities in Academic Societies

July 2004 Inasaku izen saikou: Dai3kai Touhoku gaku kouza (Reconsideration of before rice crop: The III lecture of the Tohoku gaku. Symposium on Culture of ethnology of Eastasia (Tohoku University of Art & Design) [in Japanese]
- Participant

Koumei Sasaki, Yo-Ichiro Sato, Nobuo Harada, Norio Akasaka, Yumi Muguruma

July 2004 Mugi noukou nitsuiteno seminer: Seminer about Cultivated of wheat (International Research Center for Japanese Studies) [in Japanese]
- Participant

Yo-Ishiro SATO, Kenichi Tanno, Aoi Hosoya, Naoki Mori

August 2004 World wild rice forum 2004: World wild rice forum 2004 ( ) (Osaka International Congress Hall)
- Commentator

Keijiro Otsuka, Yo-Ichiro Sato, Darshan S Brar, Songkran Chitorakon, R. S. Hamilton
- Organizer

Shigeru Matsunami

September 2004 Saibai syokubutsu no sinka to seitaikei no hensen: Chikyu ken project dai2kai kenkyukai (Evolution of cultivate plants and transition of ecosystem: The II society for study on RIHN project) (International Research Center for Japanese Studies)
- Participant

Ryuji Ishikawa, Takeshi Watabe, Kenichi Shinoda, Kenji Kato, Naoki Mori, Kenji Fukunaga, Ryuji Matsuda, Takanori Nakano, Junko Kitagawa

Full-Research
Research axis: Spatial scale
Project number: 3-1FR
Project name: Multidisciplinary research for understanding interactions between humans and nature in the Lake Biwa-Yodo River watershed
Project leader: WADA, Eitaro (- July 31, 2004)
YACHI, Shigeo (August 1, 2004 -)
Core members: see No. 3
HP: http://www.chikyu.ac.jp/biwayodo/index_e.html

1. Research objectives and topics

Research objectives

We aim to develop a methodology for revealing interactions between human activities and nature in a watershed ("watershed diagnosis") and for consensus building through an interdisciplinary study and practice with the residents and administration in the Lake Biwa-Yodo River watershed.

A watershed is regarded as an essential spatial unit for the effective management of hydrological cycling, material cycling and ecosystems. It is, however, usually composed of a main river as well as various large and small tributaries branching out like a tree. This hierarchical (or nested) structure of its river systems, to which human social (decision making) systems are hierarchically structured in parallel (e.g., administrative districts, such as prefecture-cities-communities), causes the people that live in the watershed area where different elements exist, to experience their lives differently, thus, have different interests and opinions. Therefore, in the process of building consensus on managing a certain watershed, there will be much disagreement and opposition regarding what the subjects are. We regard this disagreement on the main watershed management issues between spatial scales as the most important watershed management issue, and aim to develop a methodology to overcome it. In other words, 1) we aim to develop a methodology to empowerment the residents to build a *bottom-up* vision of their water environment beneficiary for them, and 2) to develop a methodology to find a consistent solution in the conflict between the bottom-up vision of the residents and the top-down policy. On the basis of the project activities, we make proposals for the management of the Lake Biwa-Yodo River watershed.

Topics and methodology

We proposed "hierarchical watershed management" concept as an ideal model of watershed management to overcome the difficulties in consensus building arising from the nested structure of the watershed. The main objective of our project is to test the effectiveness of this idea through our study and practice in the Lake Biwa-Yodo River watershed. To tackle on this problem, we identify three levels (or spatial scales) in the Lake Biwa watershed, the social decision making of each level seems to have each influential effect on the Lake Biwa eutrophication. They are; "Shiga prefecture (or the Lake Biwa watershed)" as macroscopic-level, "Aisei land improvement district (or Inae area in Hikone city)" as meso-level, which is an agricultural area located in the east of the Lake Biwa, and the "towns in the Aisei improvement district" as microscopic-level, where the levels are embedded in the order of micro, meso, and macro. Setting these three levels as our main research sites, we organized four working groups (WGs); "material cycling", "social & cultural system", "ecosystem" and "watershed information & modeling". Focusing on water environmental issue, we are promoting synthetic study and practice with an interdisciplinary partnership at the above three levels (macro, meso, micro) of the Lake Biwa-Yodo River watershed. At each level, 1) we seek an effective method to promote "adaptive management" by stakeholders of each level to develop and use watershed diagnosis tools, such as models and indicators which are designed for each level. 2) we also aim to develop a methodology which enables stakeholders of the three levels to find and share the differences in how to see watershed and the way of thinking, for the mutual understanding between levels. Specifically, we seek for a way which enables

both the empowerment of the residents to build a *bottom-up* vision of their water environment at the meso and micro levels and a method for consensus-building between meso-micro levels and macro level towards reducing the pollution load by agricultural drainage, thus to the improvement of the Lake Biwa water environment. The followings are the activities of four WGs:

Material cycling working group (WG)

The material cycling WG elucidates the human disturbances on material cycling at various spatial scales by using mainly "stable isotope" techniques, extends and establishes "indicators" as a tool of watershed diagnosis methodology, and develops "environmental capacity" concept to evaluate the human load permissible in the watershed by using total available dissolved oxygen in the Lake Biwa.

Social & cultural system WG

The social & cultural system WG mainly focuses its activity at the meso and micro-levels (Aisei land improvement district and the towns in it), supports the residents and administration to make a regional environmental vision of the district by using sociological methods and information obtained by the project ("sub-project"), researches the environmental policy of the Shige prefecture to find the solution to balance the macro environmental policy and the beneficiary of the stakeholders at the meso and micro levels, develops important concepts of watershed management for residents participation and consensus building (e.g., governance, empowerment, adaptive management, etc.) by organizing workshops on these topics and through practice in the sub-project.

Ecosystem WG

The ecosystem WG co-operates with the material cycling WG to survey biodiversity at the meso and micro levels to characterize each region, model the interactions between human activities and the Lake Biwa eutrophication at the macro level, collaborate with the watershed information & modeling WG to develop a platform for sharing and integrating information at the three levels of the watershed by GIS and modeling, develop tools which facilitate communication within and between levels for building consensus.

Watershed information & modeling WG

The watershed information & modeling WG establishes common protocols for information sharing and processing among the four WGs and develops GIS and modeling as tools of our diagnosis methodology. This WG organizes other three WGs towards constructing an "open data base" for the sub-project and in compiling the project products.

Unifying WG Meeting

It consists of the core members of the four WGs and aims to promote collaboration and integration of the project.

2. Relation with research program

The Lake Biwa-Yodo River watershed is a spatially large watershed, with huge population of 14 million, containing characteristic social systems depending on each spatial unit in the watershed.

By developing a total diagnosis methodology of a watershed, we hope to reveal inherent environmental problems in each watershed by the residents themselves as a basis to manage global environmental problems from the bottom-up scale.

When we zoom up (or down) the spatial scales of a large watershed as the Lake Biwa-Yodo River watershed, e.g., from a prefecture scale to those of cities or villages, focal environmental issues may differ. This means that scaling up of a management scale towards a watershed, brings about the heterogeneity and diversity in nature and human life. The resolution of conflicts within and between scales, thus, becomes a critical issue in watershed management. This issue, however, is essentially the same subject in many global environmental issues concerning management of spatially spread resources by multiple stakeholders. Thus, by pursuing a consensus-building methodology, this project aims to contribute to global environmental issue from the spatial scale axis.

3. Project leader and collaborators

Project Office

◎ WADA, Eitaro (RIHN, Professor, Project Leader: until July 31, 2004)
(Japan Agency for Marine-Earth Science and Technology, Program Director: after August 1, 2004)
◎ YACHI, Shigeo (RIHN, Associate Professor, Project Leader: After August 1, 2004)
KITAMURA, Ayako (RIHN, Administrative Assistant, secretary to P3-1)

(1) Material cycling WG

* TAYASU, Ichiro (Center for Ecological Research (CER), Kyoto University, Associate Professor, Chief of the material cycling WG)
* NAKANO, Takanori (RIHN, Professor, diagnosis indicators)
IGETA, Akitake (RIHN, Technical Assistant, diagnosis indicators)
UEDA, Takaaki (former CER member, sampling)
OKAJIMA, Toshiya (Faculty of Culture and Education, Saga University, Associate Professor, water quality analysis)
SHIMIZU, Isamu (CER, Professor, diagnosis indicators)
SUGIMOTO, Takashige (Institute of Oceanic Research and Development, Tokai University, Professor, RIHN visiting Professor, Yodo River adviser)
NAKAMURA, Masahisa (Lake Biwa Institute, Shiga, Director, non-point source adviser)
NAKAMOTO, Nobutada (Faculty of Textile Science and Technology, Shinshu University, Professor, water quality adviser)
NARITA, Tetsuya (former CER member, ecosystem research)
HYODO, Fujio (RIHN, JSPS Research Fellow, diagnosis indicators)
MATSUI, Kiyoshi (Nara University of Education, Professor, diagnosis indicators)
YAMADA, Yoshihiro (Faculty of Agriculture, Kagawa University, Associate Professor, agricultural drainage diagnosis)
WADA, Eitaro (Japan Agency for Marine-Earth Science and Technology, Program Director, watershed diagnosis indicator: after August 1, 2004)

(2) Ecosystem WG

* YACHI, Shigeo (RIHN, Associate Professor, chief of the ecosystem WG)
ISHII, Reiichiro (RIHN, Research Fellow, ecosystem modeling and field research)
IWATA, Tomoya (Yamanashi University, Assistant, watershed ecosystem adviser)
USHIMARU, Atsushi (RIHN, Technical Assistant, ecological research adviser)
KATO, Motomi (CER, JSPS Research Fellow, ecosystem modeling)
KANAO, Shigefumi (Faculty of Environmental Science, University of Shiga Prefecture, Student, ecological research)
KOHMATSU, Yukihiro (RIHN, Assistant Professor, ecological research)
KOHZU, Ayato (CER, JST Research Fellow, ecological research)
TAYASU, Ichiro (CER, Associate Professor, facilitator of the material cycling WG and ecosystem WG)
NAGATA, Toshi (CER, Professor, adviser on aquatic ecosystem)
FUJITA, Noboru (CER, Assistant Professor, human activity and biodiversity relationship)
MARUYAMA, Atsushi (Faculty of Science and Technology, Ryukoku University, Assistant Professor, ecological research)
MITSUHASHI, Hiromune (Museum of Nature and Human Activities, Hyogo, Research Fellow, adviser on GIS-

based regional ecosystem conservation methodology)
YAMAMURA, Norio (CER, Professor, ecosystem modeling & database)

(3) Social & cultural system WG

* WAKITA, Ken-ichi (Faculty of Sociology, Ryukoku University, Associate Professor, chief of the social and cultural system WG)
* TANAKA, Takuya (RIHN, Technical Assistant, social research)

IMADA, Miho (RIHN, Technical Assistant, social research)
OHNO, Tomohiko (Graduate School of Global Environmental Studies, Kyoto University, Part time Assistant, social research)
KAKIZAWA, Hiroaki (Faculty of Agriculture, Hokkaido University, Associate Professor, adviser on watershed management issue)
KASHIO, Tamaki (RIHN, Technical Assistant, agricultural policy)
KATO, Junzo (Faculty of Human Sciences, Osaka International University, Lecturer, adviser on social psychology)
SAKAGAMI, Masaji (Faculty of Social and Information Sciences, Nihon Fukushi University, Lecturer, environmental economics)
TAMURA, Norie (Graduate School of Agriculture, Kyoto University, Research Assistant, social research)
NONAMI, Hiroshi (School of Sociology, Kwansei Gakuin University, Associate Professor, social psychology research)
HIROSE, Yukio (Graduate School of Environmental Studies, Nagoya University, Professor, adviser on social psychology)
MITSUMATA, Gaku (School of Economics, University of Hyogo, Lecturer, social research)

(4) Watershed information & modeling WG

* YACHI, Shigeo (RIHN, Associate Professor, chief of the watershed information & modeling WG)
* HARA, Yuuichi (Watershed information division, Pacific Consultants Corporation, watershed information and technical adviser)

UEDA, Atsushi (RIHN, Technical Assistant, GIS operator)
NAITO, Masaaki (Kyoto Institute for Eco-sound Social Systems, general adviser)

(◎: Project leader, *: Core member)

4. Progress of the project (from April 2004 to March 2005)

We made favorable progress in research in the Lake Biwa watershed at each spatial scale, i.e, macro, meso and micro. At macro spatial scale, watershed diagnosis method using stable isotopes and lake ecosystem modeling were developed. At meso and micro scales, by collaboration of the four WGs, research on the agricultural drainage in Inae district and workshops on agriculture and water environment with residents in the towns in Inae were held. Mutual use of each data using GIS is also promoted. We made progress in research in the Yodo River watershed, the downstream of the Lake Biwa watershed, in field survey, water quality sampling and critical review on issues. The details are as follows:

(1) Conceptual framework

1) International workshop on Regime Shift (2004 October)

Focusing on the understanding of the current state of the Lake Biwa and the risk of its regime shift, we invited Professor Stephen Carpenter, the top-runner of lake ecosystem regime shift research, and discussed how to utilize

watershed diagnosis information for watershed management.

2) Human Impact Seminar (2002-)

Ecosystem WG co-organized "Human impact seminar" with stuffs of Center for Ecological Research, Kyoto University and invited guest speakers tackling on environmental issues to bridge the human activity and ecosystem issue. In 2004, we focused on the Lake Biwa ecosystem and its sustainability.

3) Social Science Seminar (2002-)

Social & cultural system WG organized and invited guest researchers, administration at the Shiga prefecture to discuss intensively issues which our project is tackling. In 2004, we focused on the issues of "agricultural drainage" and "management of the Yodo River".

4) Conceptual Reviews on Social capital and Stable Isotope method

Social & cultural system WG and Material cycling WG intensively reviewed on social capital concept and stable isotope method, respectively.

(2) Research Activities at each scale

■The Yodo River watershed

【WG collaboration】

We intensively discussed issues on water environment in the Yodo River watershed. We held workshops, field surveys, and made a review report on the mechanisms of decrease in dissolved oxygen at the estuary of the Yodo River.

■The Lake Biwa watershed (macro spatial scale)

【Material cycling WG】

Material cycling WG

1) observed pathway of agricultural drainage from tributary rivers to the lake Biwa in April-May, measured outflow of muddy water after simulated harrowing in an experimental paddy field in May-June.
2) monthly measured isotope ratios of POM and nutrients in river water and compared with those parameters at vertical profile of the lake Biwa (off Oumi-Maiko).
3) measured methane production from tributary rivers and agricultural drainage as an indicator of oxidation-reduction potential of sediments, compared carbon and nitrogen isotope ratios of living organisms along Yasu-River and Ane-River from head water to down stream.
4) sampled sulfur and strontium isotope ratios of 41 tributary rivers in order to compare with the data obtained in 2003.

【Social & cultural system WG】

Social & cultural system WG collected and summarized the environmental policy of the Shiga prefecture.

【Ecosystem WG】

Ecosystem WG made models on regime shifts to evaluate the human activities on the Lake Biwa ecosystem. For that purpose, we held international workshop on regime shift.

■The Lake Biwa watershed (meso and micro spatial scale)

【WG collaboration】

1) Agricultural drainage experiment

Field experiment was carried out in the Aisei area with the cooperation of the farmers in Aisei land improvement district. In this experiment, the qualities of the outflows from two paddy fields under different conditions were compared. One is managed along the "Kankyo-Kodawari (careful about muddy water flow)" crops certification system guideline of the Shiga Prefecture. The other is out of management of the muddy water outflow.

2) "Agriculture and water environment" workshop and socio-psychological experiment

To know the effects of information on the management of muddy water, "agriculture and water environment" workshops were held in 6 rural communities in Aisei land improvement district. At the workshop, we explained the effects of the turbid water and held discussion with the farmers on water management. Three different types of explanations were designed; (1) scientific explanation (scientific persuasion), (2) rousing the memories of old days (emotional persuasion), (3) both of (1) and (2). Material cycling WG and Ecosystem WG have cooperated with Social & cultural system WG to make a presentation for the workshops.

【Material cycling WG】

Material cycling WG observed pathway of agricultural drainage from tributary rivers to the lake Biwa in April-May and measured outflow of muddy water after harrowing.

【Social & cultural system WG】

1) Environmental economics questionnaire about local environment

Environmental economics questionnaire was carried out for the residents of Aisei land improvement district to know the waterfronts which they like, assess the cost of discussion they feel reasonable for the conservation of the waterfronts using CVM.

2) Socio-psychological questionnaire about the Lake Biwa

Socio-psychological questionnaire was carried out for the residents of Aisei land improvement district to know how the differences in social background (age, farmer/non-farmer, community etc.) affect environmental consciousness about the Lake Biwa.

3) Analysis of farming policies at community level using Agricultural Census

Behind the turbid water problem, there is difference in farming policies at community level in the Aisei land improvement district. This difference may come not only from the farming area but also from the past history of each community. As a beginning, we analyzed the area effect on farming policy using Agricultural Census.

【Ecosystem WG】

1) Spatial pattern and time series analysis of water temperature in waterways in the Aisei land improvement district

Water temperature is a basic data to know the potential use of waterways by animals and plants and to detect the changes in human activities on water management. About 70 loggers for water temperature was set in the waterways in the Aisei land improvement district.

2) Water plants survey

Water plants distribution survey was carried out to know the characteristics of each waterway.

■Across scales (across hierarchies)

【WG collaboration】

1) GIS database

Watershed information & modeling WG assisted three WGs to collect their research data convert into digital data on GIS database and promoted to analyze it.

2) GIS Workshop

Ecosystem WG and Watershed information & modeling WG co-organized a workshop which aims to find method to facilitate communication within and between scales by using GIS.

5. Modification on the original research plan

We planed to observe agricultural drainage from particular paddy fields at micro scale for comparison of the differences in years 2004 and 2005. Because of unexpected reasons, some of the above paddy fields were converted to wheat fields in the late 2004, and as a result, the comparison became impossible. For this reason, we changed the method of comparison from direct observation of agricultural drainage to other method, such as social comparison of

changes in farmers' behavior.

6. Outcomes (2004)

(1) Overview of the outcomes

①Relationship between the Lake Biwa and the rivers in the Lake Biwa watershed

The material cycling research at macro scale and the estimation of the load of agricultural drainage based on the meso and micro scale comparative experiments suggest that small rivers in the East Areas of the Lake Biwa may have large impact on the Lake Biwa ecosystem.

②Whole image of the agricultural drainage issue and its scale dependency

By synthesizing the results of researches of sociological, ecological and material cycling at macro, meso, and micro, the whole image of the agricultural drainage issue including the upstream (change of farming policy, community and its irrigation system) and the downstream (load of agricultural drainage and its effect on the Lake Biwa) became transparent. It is also shown that this issue appears as a "complex problem", i.e., the nature as an environmental problem is different at different scales. These results show that the "hierarchical watershed management system" concept is useful in real situations.

③Research on the Yodo River watershed

We discussed issues on water environment in the Yodo River watershed and made a intensive review report on the mechanisms of decrease in dissolved oxygen at the estuary of the Yodo River.

(2) Articles

【In English】

Kiyashiko, S. I., Imbs, A. B., Narita, T., Svetashev, V. I. and Wada, E. 2004 "Fatty acid composition of aquatic insect larvae, Stictochironomus Piculus (Diptera: Chiromidae): evidence of feeding upon methanotrophic bacteria" *Comparative Biochemistry and Physiology – PartB* 139: 705-771.

Kohzu, A., Kato, C., Iwata, T., Kishi, D., Murakami, M., Nakano, S. and Wada, E. 2004 "Stream food web fueled by methane-derived carbon" *Aquat. Microb. Ecol.* 36: 189-194.

Kohzu, A., Tayasu, I., Maruyama, A., Kohmatsu, Y., Hyodo, F., Onoda, Y., Igeta, A., Matsui, K., Nakano, T., Wada, E., Takemon, Y., Nagata, T. 2004 "Nitrogen isotope ratios of riverine organisms and organic pools – New indicators of human impacts on river ecosystems –". *The Second Annual Joint Seminar between Korea and Japan on Ecology and Civil Engineering*, 81-84.

Nagata, T, Kohzu, A., Yoshimizu, C., Tayasu, I., 2004 "Integrated assessment of watershed ecosystems by the use of stable isotope ratios of water, nutrients and organisms". *The Second Annual Joint Seminar between Korea and Japan on Ecology and Civil Engineering*, 19-20.

Carpenter, S. and Yachi, S. (eds.) 2005 "Report from the workshop: Regime shifts and thresholds in Lake Ecosystems by Stephen Carpenter (2004.10.27, Kyoto)". *Project 3-1 Working Paper No. 12.*

【In Japanese】

Tomohiko Ohno, Daisaku Shimada, Gaku Mitsumata, Yukinobu Ichida, Takayuki Ota, Mayuko Shimizu, Ayumi Suda, Aki Tonami, Akiko Washino

2004 'Shakaikankeishihon ni kansuru shuyousenkoukenkyu no gaiyou to sono ichiduke – gainenseiri to ryuuikikanri heno sisa (Reviews on the fundamental articles of social capital theory: conceptual redefinition and implications for watershed management' *Project 3-1 Working Paper No. 11.*

Takashige Sugimoto, Hirotake Imamoto, Rikuo Yamashita

2004 'Ryuuiki · kakoukaigankei ni okeru busshituyusou to kankyou · bousai' *Gekkan Kaiyou 36(3)*, 177-180.

Takashige Sugimoto, Shigeo Yachi, Metocean Environment Inc.

'Biwako · Yodogawa · Osakawan ni okeru suishitu · fukaryou ni kansuru sougou report' *P3-1 Jimukyoku.*

Yoshihiro Yamada
2004 'Suikei seitaikei ni okeru kankyou hyoukashihyou to siteno anteidoutaihi' *Suishigen kenkyuu Center kenkyuu houkoku No. 24*, 57-60
Ken-ichi Wakita
2004 Chiiki dukuri to dakusui mondai – kaisoukann komyunike-syonn wo mezasite – (Region making and turbuid water problem-Aiming hierarchical communication) "Dai 66 kai zenkoku tosi mondai kaigi kankyou to kyouseisuru machidukuri – tayou na syutai no kyoudou ni yoru utukusii tosi wo mezasite –" pp. 187-195
Eitaro Wada
2005 'Ryuuiki-ken wo donoyouni miruka – busshitu jyunkann no tachiba kara' Shizen to kyousei shita ryuuiki-ken · toshi no saisei – *Work Shop Jikkou Iinkai hen, Sankai dou*, 177-186.
Eitaro Wada
2004 'Shizen kai no busshitu jyunkan wo saguru – anteidouitai ga kataru seibutsu to chikyu kankyou' *Gendaikagaku, 3 gatu-gou* 14-19.
Eitaro Wada
2004 'Seibutukai ni okeru $\delta^{15}N$, $\delta^{13}C$ no bunpu – sono 40 nenshi' *Project 3-1 WorkingPaper Special Edition.*
Eitaro Wada, Yoshihiro Yamada, Ichiro Tayasu, Takanori Nakano, Akitake Igeta, Narin Boontanon, Takuya Tanaka, Shigeo Yachi
2005 'Biwako-Yodogawa suikei no shindan hou – ryuunyuu shoukasen no jyuuyousei ni tsuite' *Project 3-1 Working Paper No. 12.*

(3) Symposium and Lecture

1) Project 3-1 international workshop on "Regime shifts in lake ecosystems – seeking an effective interdisciplinary methodology for lake ecosystem diagnosis and management –" (October 27, 2004, Kyoto)

Session 1 Regime shifts in lake ecosystems

Chairperson: NAKAJIMA, Hisao (Ritsumeikan University)
CARPENTER, Stephen (Center for Limnology, University of Wisconsin)
"Regime shifts and threshold in lake ecosystems"
GENKAI-KATO, Motomi (CER, Kyoto University)
"Eutrophication due to phosphorus recycling in relation to lake morphometry, temperature and macrophytes"

Session 2: Current state of the Lake Biwa ecosystem: diagnosis and management

Chairperson: YAMAMURA, Norio (CER, Kyoto University)
YACHI, Shigeo (RIHN)
"Multi-disciplinary research for understanding interactions between humans and nature in the Lake Biwa-Yodo River watershed: Hierarchical watershed management concept"
TAYASU, Ichiro (CER, Kyoto University)
"An environmental diagnosis on watershed ecosystems based on stable isotope ratios"
NAGATA, Toshi (CER, Kyoto University)
"Hipolimnetic dissolved oxygen in Lake Biwa – Spatio-temporal variations and microbial controls –"
ISHII, Reiichiro (RIHN)
"Effects of anthropological impacts on lake ecosystems – modeling approach –"

Discussion

Chairperson: YACHI, Shigeo (RIHN)

2) Human Impact Seminar (2002-) (in Japanese)

Chairpersons: YACHI, Shigeo, ISHII, Reiichiro (RHIN), NAGATA, Toshi, YAMAMURA, Norio (CER, Kyoto University)

14th September 16, 2004 (CER, Kyoto University)
YOSHIDA, Akihiko (Kometsutsuji corporation)
"Afforestation, flood control and river aquatic ecosystem recovery"
15th October 22, 2004 (CER, Kyoto University)
KADA, Yukiko (Faculty of Humanities, Kyoto Seika University)
"Water use and the lake shore development – from the perspective of environmental sociology"
NOZAKI, Kentaro (School of Human Sciences, Sugiyama Jogakuen University)
"Transition of phytoplankton and the benthic alga community in the North Lake Biwa"
16th November 26, 2004 (RIHN)
SUDO, Miki (Faculty of Environmental Science, University of Shiga Prefecture)
"Agricultural activity's effect on the water quality at Lake Biwa watershed – with focus on turbid water and agricultural chemicals"
HAMABATA, Etsuji (Lake Biwa Research Institute, Shiga Prefeuture)
"Changes of plant communities at the lake biwa shore and its factors"
17th January 20, 2005 (CER)
WATANABE, Tsugihiro (RIHN)
"Recent development of agricultural water use system at the lake Biwa watershed"
YUMA, Masahide (CER)
"Changes of aquatic environment and response of fresh water organisms: a case study from the Lake Biwa"

3) Social Science Seminar (2002-) at RIHN (in Japanese)

Chairperson: WAKITA, Ken-ichi (Faculty of Sociology, Ryukoku University)
6th November 12, 2004
AZUMA, Yoshihiro (Lake Biwa Research Institute)
"Information system and public participation – from the case study of Hojyo no sato Akanoi bay watershed council"
7th December 10, 2004
MASUDA, Yoshiaki (Faculty of Environmental Science, University of Shiga Prefecture)
"The structure of agricultural turbid water problem and its measures – with focus on activities of agricultural turbid water problem research group"
8th January 14, 2005
MIYAMOTO, Hiroshi (Kinki Regional Development Bureau, Ministry of Land, Infrastructure and Transport)
"Establishment of river improvement program at Yodo River and flood management"

4) Workshop on nutrient cycle at the downstream and estuary of Yodo River (November 13, 2004, at RIHN) (in Japanese)

Chairperson: SUGIMOTO, Takashige (Institute of Oceanic Research and Development, Tokai University, RIHN visiting Professor)
NAGATA, Toshi (CER, Kyoto University)
"Kosho, Kasen, Kakoiki ni okeru rin no kyodo"
SASAKURA, Satoshi and IZUMI, Shinji (METOCEAN ENVIRONMENT INC.)
"Osaka wan okubu ni taisuru riku karano N, P huka-ryo"
NAKAMOTO, Tadanobu (Faculty of Textile Science and Technology, Shinshu University)
"Kasen no eiyouen jyouka kinou"
YANAGI, Tetsuo (Research Institute for Applied Mechanics, Kyushu University)
"Osaka wan okubu no eiyouen shushi to akashio, hinsansosuikai keisei"
FUJIWARA, Tateki (Faculty of agriculture, Kyoto University)
"Osaka wan no estuary jyunkanryu to bushitu yuso, hinsanso suikai keisei"

Disucussion

Commentator: KUSAKABE, Takayuki and MORI, Masatsugu (Osaka-Prefectual Fisheries Experimental Station)
YACHI, Shigeo, NAKANO, Takanori, TANAKA, Takuya (RIHN)

(4) Video

Social & cultural system WG & Tomohiko Ohno ed. 2004 "Workshop for a future of local waterfront" (5min.) (in English & in Japanese)

Social & cultural system WG & Tomohiko Ohno ed. 2004 "Inae no mizube – Satsuma town –" (20min.) (in Japanese)

Social & cultural system WG & Tomohiko Ohno ed. 2004 "Workshop for a future of local waterfront – Satsuma town –" (20min.) (in Japanese)

Social & cultural system WG & Tomohiko Ohno ed. 2004 "Inae no mizube – Shingai town and Tazuke town –" (20min.) (in Japanese)

Social & cultural system WG & Tomohiko Ohno ed. 2004 "Workshop for a future of local waterfront – Shingai town and Tazuke town –" (20min.) (in Japanese)

Social & cultural system WG & Tomohiko Ohno ed. 2004 "Inae no mizube – Inasato town –" (20min.) (in Japanese)

Social & cultural system WG & Tomohiko Ohno ed. 2004 "Workshop for a future of local waterfront – Inasato town –" (20min.) (in Japanese)

Full-Research
Research axis: Spatial scale
Project number: 3-2FR
Project name: Interactions between natural environment and human social systems in subtropical islands
Project leader: TAKASO, Tokushiro (RIHN)
Core members: see No. 3

1. Research objectives and topics

A variety of environmental problems have arisen on islands around the world, including Iriomote Island, and precious local cultures are disappearing. A thorough understanding of the interaction between the natural environment and human social systems on islands is required to resolve these issues. Since islands are relatively closed systems with a limited geographical expanse, they display a combination of uniqueness and vulnerability in both the natural environment and human social systems. The vulnerable nature of phenomena that exist on islands is often held accountable for problems once they have occurred (perhaps opposite sides of the same coin), so deepening our understanding of island vulnerability can provide a guide to solving the problems. The natural environments of islands are vulnerable to typhoons and other natural disasters, as well as human activities associated with industry. In addition, it is recently feared that the introduction of foreign organisms and global warming will seriously impact island forest and marine ecosystems. This research project focuses on and aims to deepen our understanding of the vulnerability of the natural environment to human activities, taking into consideration the vulnerability of the human social system itself. As a model, Iriomote Island can be considered ideal for the launch of academic environmental research focusing on vulnerability since it is a typical humid subtropical island that, even today, has rich water and forest resources.

2. Relation with research program

In the research axis of spatial scale, study is expected to have strong connection with "areas" in which land is strictly limited. Islands are relatively closed systems in water and material cycles, in the natural environment and in the human social system.

Iriomote Island, with rich biodiversity, is a globally rare typical humid subtropical island located at the southwestern tip of the Ryukyu island chain. The inflow of people and material into this island increased abruptly in the past 30 years, and this has brought drastic change in the natural environment and human social system. This project aims to clarify the interactions of human activities with the natural environment and to provide clues to building a sustainable social in the closed system.

3. Project members

Name	Affiliation	Position	Role
◎ TAKASO, Tokushiro	Research Institute for Humanity and Nature	Professor	overall care of project analysis of pollination mechanism
* MAEKADO, Akira	Faculty of Law and Letters, Univ. of the Ryukyus	Professor	analysis of water balance, study of soil erosion
* INOKURA, Youji	Faculty of Agriculture, Kagoshima University	Associate Prof.	analysis of water balance
HIROSE, Takashi	Faculty of Law and Letters, Univ. of the Ryukyus	Associate Prof.	analysis of water balance
YOSHIMURA, Kazuhisa	Graduate School of Science,	Professor	analysis of hydrology (land)

	Kyushu University		
MA, Tei- Rei	Research and Development Center for Higher Education, Kyushu University	Associate Prof.	analysis of water (land)
SUZUKI, Atsushi	National Institute of Advanced Industrial Science and Technology	Head Researcher	analysis of water (sea)
YOKOTA, Masatsugu	Graduate School of Engineering and Science, Univ. of the Ryukyus	Professor	analysis of plant diversity, study of endangered plants
TATEISHI, Youichi	Faculty of Education, Univ. of the Ryukyus	Professor	analysis of plant diversity, study of introduced plants
YONEKURA, Koji	Graduate School of Life Sciences, Tohoku University	Assistant Prof.	analysis of plant diversity
KIMOTO, Yukitoshi	Research Institute for Humanity and Nature	Research Fellow	analysis of plant diversity, plant morphology
PENG, Ching- I	Academia Sinica, Taiwan, Institute of Botany	Head Researcher, Curator of Herbarium	analysis of plant diversity
CHIANG, Tzen- Yuh	Faculty of Biology, Cheng-Kung University	Professor	analysis of plant diversity
NAKASHIZUKA, Tohru	Research Institute for Humanity and Nature	Professor	numerical analysis of forest ecosystem
HAGIHARA, Akio	Graduate School of Engineering and Science, Univ. of the Ryukyus	Professor	analysis of forest ecosystem
ENOKI, Tsutomu	Faculty of Agriculture, Univ. of the Ryukyus	Assistant Prof.	analysis of forest ecosystem
KUBOTA, Yasuhiro	Faculty of Education, Kagoshima University	Associate Prof.	analysis of forest ecosystem
AIBA, Shinnichiro	Faculty of Education, Kagoshima University	Assistant Prof.	analysis of forest ecosystem
KAWAKUBO, Nobumitsu	Faculty of Applied Biological Sciences, Gifu University	Associate Prof.	analysis of pollination mechanism
SETOGUCHI, Hiroaki	Graduate School of Human and Environment	Associate Prof.	study of impacts of introduced plants on ecosystem
NOMURA, Naofumi	Graduate School of Agriculture, Kyoto University	COE Research Fellow	study of impacts of introduced plants on ecosystem
* ARAMOTO, Mitsunori	Tropical Biosphere Research Center, Univ. of the Ryukyus	Professor	study of forest bioresources, ethnobotany
UENO, Masami	Graduate school of Agriculture, Univ.	Professor	remote sensing of forests

	of the Ryukyus		
SHINZATO, Takakazu	Faculty of Agriculture, Univ. of the Ryukyus	Associate Prof.	study of forest bioresources, analysis of plant diversity
NAKAZATO, Nagahiro	Okinawa Regional Research Center, Tokai University	Lecturer	study of *Podocarpus* tree growth and timber resources
IZAWA, Masako	Faculty of Science, Univ. of the Ryukyus	Associate Prof.	analysis of ecosystem study of Iriomote wild cat
UEDA, Keisuke	Faculty of Science, Rikkyo University	Professor	analysis of bird diversity, ecology and genetics of endemic bird subspecies
KOHNO, Hiroyoshi	Okinawa Regional Research Center, Tokai University	Researcher	analysis of animal behavior
OTA, Hidetoshi	Tropical Biosphere Research Center, Univ. of the Ryukyus	Associate Prof.	study of impacts of introduced animals on ecosystem
NAKANISHI, Nozomi	Research Institute for Humanity and Nature	Research Fellow	study of Iriomote wild cat
KINJO, Masakatsu	Tropical Biosphere Research Center, Univ. of the Ryukyus	Associate Prof.	analysis of insect diversity and ecology
KOMAI, Furumi	Faculty of Arts, Osaka University of Arts	Associate Prof.	analysis of insect diversity and ecology, ecological and systematic analysis of Lepidoptera
HAYASHI, Masami	Faculty of Education, Saitama University	Professor	analysis of insect diversity and ecology
MAETA, Yasuo	Professor Emeritus, Shimane University	Professor Emeritus	study of pollination symbiosis and life cycle of bees
SUGIURA, Naoto	Faculty of Science, Kumamoto University	Lecturer	study of pollination symbiosis and life cycle of bees
MIYANAGA, Ryuichi	Faculty of Life and Environmental Science, Univ. of Shimane	Assistant Prof.	study of pollination symbiosis and life cycle of bees
TADAUCHI, Osamu	Graduate School of Agriculture, Kyushu University	Professor	taxonomy of insects analysis of diversity of insects
HANNAN, Md. Abdul	Research Institute for Humanity and Nature	Research Fellow	taxonomy of insects, study of pollination symbiosis
SEKINO, Tatsuki	Research Institute for Humanity and Nature	Associate Prof.	limnological and ecological studies using information technology
* SAKAI, Kazuhiko	Tropical Biosphere Research Center, Univ. of the Ryukyus	Associate Prof.	ecological study of coral and coral reef
NAKASHIMA, Yasuhiro	College of Economics, Nihon Univ.	Professor	study of fish in coral reef
KUWAMURA, Tetsuo	Faculty of Liberal Arts, Chukyo University	Professor	ecological study of fish

ONISHI, Nobuhiro	Graduate School of Asian and African Area Studies, Kyoto University	Researcher	ecological study of fish
SEKI, Satoko	Kyoto University of Foreign Language	Lecturer	ecological study of fish
KUMAZAWA, Norichika	Tropical Biosphere Research Center, Univ. of the Ryukyus	Professor	study of microorganism-invertebrate interactions
* OSHIRO, Hajime	Center for Asia-Pacific Island Studies, Univ. of the Ryukyus	Professor	economical analysis
FUJITA, Yoko	Faculty of Law and Letters, Univ. of the Ryukyus	Associate Prof.	economical analysis of industries, study of ecotourism
KABIRA, Nario	Faculty of Law and Letters, Univ. of the Ryukyus	Professor	economical analysis of agriculture
HAGIWARA, Natsuko	Faculty of Environmental and Information Studies, Musashi Institute of Technology	Associate Prof.	analysis of social environment
OTSUKA, Yoshiki	Faculty of Environmental and Information Studies, Musashi Institute of Technology	Associate Prof.	analysis of social environment
MIZOO, Yoshitaka	Colledge of Tourism, Rikkyo University	Professor	analysis of tourism
MURAYAMA, Seiichi	Graduate school of Agriculture, Univ. of the Ryukyus	Professor	historical analysis of crop production
ASAOKA, Koji	Okinawa Prefectural University of Arts	President	analysis of folklore
AKAMINE, Masanobu	Faculty of Law and Letters, Univ. of the Ryukyus	Professor	analysis of view of nature from folk material
* SATOI, Yoichi	Faculty of Law and Letters, Univ. of the Ryukyus	Associate Prof.	historical analysis of land use
TATARA, Masaya	Iriomote Wildlife Center, Ministry of Environment	Conservation expert	administration of environmental conservation

(◎= Project leader, * = Core member)

4. Modifications on the original research plan

At the step to pre-research, we have made a more careful selection of individual studies regarding research on 1) geography and water balance and 2) forest and coral reef regions. When it comes to research on 3) social systems that form the background to human activities affecting the natural environment, the majority of anthropological studies has been eliminated and the focus has been shifted to concentrate on research in the economic field. The reason for putting the focus on the economic realm is that resort development and public works projects are still brisk on Iriomote Island. We have taken a fresh look at the fact that this kind of development is relevant to activation

of the regional economy and expansion of employment, and decided that it is necessary to understand the current state of economic activities and examine their background as a priority in this project.

At the step to full-scale research, the evaluation committee has recommended that the project should keep good relation with local societies. To respond to this recommendation we usually have hearing-research during festival activities to which we are attending. We are trying to play important roles in environment-oriented studies operated by various kinds of organizations. The evaluation committee also has suggested us to extend the research on water balance more comprehensively, and we have added aspects on water quality and water circulation using stable isotopes in the research on water balance. We have realized the difficulty in the succession and development of cultural activities including performing arts, and decided to use audiovisual aids to proceed research effectively and to solve the problem.

5. Progress of the project

Until March 31st, 2004

To respond to the comments by the evaluation committee, the previous research plan was fully revised. In the revised research plan, the concept of vulnerability was added to combine the different research aspects. In the research of social systems focus has been shifted to economic field. To meet with the revisions mentioned above, members were replaced and member meetings were held. Studies on biodiversity in plants and biodiversity in coral areas were commenced together with the monitoring in forest succession.

From April 1st, 2004 to March 31st, 2005

Researchers with expertise in water quality, water circulation and sea water quality were joined to the project. In the field of social systems, sociologists who are capable to link their studies to local activities and capable to attend these activities were also joined. Furthermore, members were added in the fields of forest maintenance and function, introduced plants and pollination mechanisms and in the field dealing with relationships between fish and corals.

In the research on water balance, items of examinations were selected and long-term measurements were commenced. In the research field on forest maintenance and function, monitoring has been continued in evergreen broad-leaf forests focusing on their succession. Pilot studies have been carried in mangrove forests. In the research field on the maintenance and function in coral reef regions, long-term monitoring and analysis to reveal relationships between fish and corals were commenced concentrating on biodiversity. In the research field of social systems, basic data relevant to economic activities in Iriomote island were gathered and put into databases.

6. Outcomes (2004)

Water is regularly collected from representative rivers in Iriomote island, and its chemical components have been analyzed. Accordingly, data to better understand water balance and water quality are being accumulated.

It is postulated that the process of succession among secondary forests affected by human activities may vary depending on local geography soil characteristics.

Major component trees in mangrove forests have been regularly measured for the analysis of succession. Salt concentration has been also measured.

Our study in *Bidens*, an introduced plant, showed that weeding may promote its propagation. We proposed the effective manner of weeding for this plant based on our results.

Fauna of bees, which mainly contribute pollination in Iriomote Island, has been showed with three new species. Their life cycle and ecological behavior have also been examined.

We proposed a hypothesis for the conservation of corals. We consider amount of coral larvae, concentration of salts in sea water and amount of algae eaten by fish are key factors for the conservation.

For better understanding of sea water quality, we regularly measure the degree of muddiness, concentrations of

chlorophyll and concentration of salts in an extended sea area.

To promote economics related studies, the movement of population in Iriomote island was analyzed using old documents, census data and land registers. Industrial structure in the post war period was also analyzed together with the movement of the number of tourists to the island. These data were put into data-bases.

Results of past research conducted on Iriomote Island have been collected, organized into about 5,800 items and put into a database. Internet access is available to this database, and 27000 times of access were counted.

Plant specimens more than 8000 were collected. Most of them will be distributed to herbaria in foreign countries.

Periodicals containing newspaper articles relevant to Taketomi-cho Town (Vol. 1-5) were rearranged as a database for research.

Pollination mechanisms and local activities (e.g., Shichi festival) were recorded using video cameras for research and record.

Feasibility study

Research axis: Spatial Scale
Project number: 3-3FS
Project name: Environmental change and the decline of Indus Civilization
Project leader: OSADA, Toshiki (RIHN)
Core members: see No. 3
HP: http://munda.chikyu.ac.jp/

1. Research objective and contents

(1) Research objective:

Environmental problems are resulted from the human activity because human being utilized and changed natural environment repeatedly since ancient times. Generally, studies of environmental problems are focused on climate, vegetation, water and/or air pollution and so on. In other words only few studies have given an attention to humanity. In our project we will cast light on the humanity. Our project aims to understand the Indus Civilization and its environment in a holistic manner. Especially, we will concentrate pursuing the cause of downfall of Indus civilization because environmental problems are one of the main reasons for it. We will be doing an integrated study of man and environment and I think the aim of our project as very similar to the broader aim of RIHN.

(2) Contents of Research:

One of our main purposes is to understand the Indus Civilization from a linguistic point of view; i.e. to decipher its script and to reconstruct its material culture by the comparative linguistics. But without understanding the archaeology of its material culture, the environment and climate where this script developed and other known contemporary languages, we cannot arrive at any solid conclusions. Thus our methodology will involve humanistic as well as scientific approaches. The former will involve linguistics, archaeological history, Indology, trade, craft, socio-political aspect and so on, whereas the latter will involve the study of land forms, analysis of stone, metals, bone and clay objects and plant remains. Besides these we will attempt to understand the process of civilization against the background of palaeoclimate, the results of which are generally derived from study of lacstrine and glacial deposits.

2. Relation with research program

The Indus civilization sites spread mainly in the Indus river basin. The spatial scale is very important to understand the Indus civilization as an environmental problem. Especially, we focus on the decline of Indus

civilization in relation to the change or avulsion of the Indus River.

3. Project members

◎ OSADA, Toshiki (RIHN, Professor, Project leader)
* UNO, Takao (International Research Center for Japanese Studies, Professor, Excavation leader)
* EINO, Shingo (Tokyo University, Professor, Vedic Study)
* OHTA, Shoji (Fukui Prefactorial University, Professor, Analysis of Wheat)
* KUMAMOTO, Yutaka (Tokyo University, Professor, Western Asian languages)
* KODAMA, Nozomi (Kumamoto Unvieristy, Associate Professor, Dravidian languages)
* GOTO, Toshifumi (Tohoku University, Professor, Old Indo-Aryan)
* SHOGAITO, Masahiro (Kyoto University, Professor, Historical linguistic methodology)
* TANAKA, Masakazu (Kyoto University, Professor, Indian Folk Culture)
* KHARAKWAL, Jeewan Singh (RIHN, Visiting Professor, Excavation in India)
IEMOTO, Taro (Kyoto University, Associate Professor, Dravidian languages)
UESUGI, Satoshi (Kansai University, Lecturer, Excavation assistant)
ONISHI, Masayuki (Sydney University, Visiting Fellow, Indo-Aryan languages)
KOISO, Manabu (Tokai University, Lecturer, Excavation assistant)
KOBAYASHI, Masato (Hakuoh Unviersity, Assistant Professor, Phonetic analysis of Indian Languages)
KONDO, Hideo (Tokai University, Professor, Excavation in Pakistan)
TAKAHASHI, Takanobu (The University of Tokyo, Professor, Old Tamil)
DOYAMA, Eijiro (Osaka University, Assistant Professor, Vedic text analysis)
TOGAWA, Masahiko (Hiroshima University, Associate Professor, Indian folk religion)
FUJII, Masato (Kyoto University, Professor, Vedic culture)
MATSUI, Takeshi (Tokyo University, Professor, Pakistan Folk Culture)
MIURA, Reiichi (Kyoto University, Research Associate, Cultivated plants)
MINEGISHI, Makoto (Tokyo University for Foreign Studies, Professor, Linguistic methodology)
YASUGI, Yoshiho (National Museum of Ethnology, Professor, Maya scripts)
YAMASHITA, Hiroshi (Tohoku University, Professor, Dravidian Culture)

(◎: Project leader, *: Core members)

4. Modification on the original plan

Our title was *an attempt to reconstruct the environmental condition of ancient civilization with special reference to Indus civilization* in 2003. We have changed to *environmental change and the decline of Indus civilization* this year because we accepted the advice from the members of RIHN.

5. Progress of the project (2004)

At the stage of incubation study, our title was *an attempt to reconstruct the environmental condition of ancient civilization with special reference to Indus civilization*. As we were making a discussion with other members of RIHN many times, our focus of project should be attention to the decline of the Indus civilization as an environmental problem. In the Feasibility Study Osada as a project leader reviewed the previous study on the Indus civilization. Then we have published the book titled *Studies on the Indus Civilization: Retrospect, Prospect and Bibliography* (mainly in Japanese, partly in English) from RIHN. At the symposium and seminar in this year, we have invited the scholars who are interested in our project abroad. Then they gave us the lectures on several topics. As a result of these meetings, the book titled *Occasional Paper 1: Linguistics, Archaeology and the Human Past* has been published by us. As far as the field research is concerned, we have already selected the site at Kanmer, Gujarat

in India. We hope we will make a signature of MOU (memorandum of understanding) in early 2005. Then we will start to excavate this site from November 2005.

6. Outcomes (2004)

1. General remarks:

(1) We have published two books as we listed in 2.

(2) We have organized one symposium.

(3) We have almost agreed with the Gujarat government and Archaeological Survey of India and Rajasthan Vidyapeeth, Udaipur to excavate at the Kanmer site in India.

2. List of major publication

OSADA Toshiki 2005 *Studies on the Indus Civilization: Retrospect, Prospect and Bibliography.* (In Japanese) Research Institute for Humanity and Nature.

OSADA Toshiki (ed.) 2005 *Occasional Paper 1: Linguistics, Archaeology and the Human Past.* Research Institute for Humanity and Nature.

3. Symposium, Seminar and meetings

(1) The First Project Meeting

11 June, 2004

The speaker and title in a lecture:

Nicholas (Nick) Evans (Melbourne University)

Life as the seas rise and fall: micro-colonization and synthetic prehistory in the Wellesley islands, Gulf of Carpentaria.

The commentator:

AKIMICHI Tomoya (RIHN)

12 June, 2004

The speaker and title in a lecture:

Jeewan Singh Kharakwal (RIHN)

Indus Civilization: an overview

The commentator:

KOISO Manabu (Tokai University)

(2) Mini Symposium collaborated with the Eurasia Project of RIHN

3 July, 2004

The first speaker and title:

MINEGISHI Makoto (ILCAA, Tokyo University of Foreign Studies)

The isolating languages and the linguistic meaning of isolating languages.

(In Japanese)

The second speaker and title:

GOTO Toshifumi (Tohoku University)

Rethinking on the Indo-European language family. (In Japanese)

4 July, 2004

The first speaker and title:

KURIBAYASHI Hitoshi (Tohoku University)
On the Altai languages (In Japanese)
The commentator and title:
Martine Robeets (Tokyo University)
Comments on the origins of Japanese language (In Japanese)
The second speaker and title:
OSADA Toshiki (RIHN)
Notes on the study of the origins of Japanese language (In Japanese)

(3) The Second Project Meeting
5 November, 2004
The speaker and title in a lecture:
Michael Witzel (Harvard University)
Central Asian antecedents of Vedic languages and religion.
The two commentators:
EINO Shingo (Tokyo University)
Jeewan Singh Kharakwal (RIHN)

6 November, 2004
The first speaker and title:
YASUGI Yoshiho (National Ethnological Musuem)
On the Maya script (in Japanese)
The second speaker and title:
MAEKAWA Kazuya (Kyoto University)
On the cuneiform script (in Japanese)
The third speaker and title:
KODAMA Nozomi (Kumamoto University)
A historical development of Indic script (in Japanese)
The fourth speaker and title:
OSADA Toshiki (RIHN)
A recent study on Indus script (in Japanese)

Full-Research
Research axis: History and time scale
Project number: 4-1FR
Project name: Historical evolution of the adaptability in an oasis region to water resource changes
Project leader: NAKAWO, Masayoshi
Core members: see No. 3
HP: http://www.chikyu.ac.jp/oasis/index-e.html/

Outline of Research Project

1. Research Objectives

In oasis regions scattered over arid and semi-arid regions in central Eurasia, people's lifestyles have evolved in accordance with changes in water resources, which changes are primarily associated with global changes. Nomadic activities and agriculture have had a close and complex relation to each other in history. As agriculture has become predominant, stock farming has become less intense; but, lately agriculture itself has been subjected to severe problems owing to recent so-called desertification. The present research project aims at reconstructing a history of the interaction between people and nature, in particular by examining the adaptability of the ecosystem, the human lifestyle from social and cultural points of view, in response to changes in the water circulation system, for the last 2000 years in arid regions. In this way, disclosing the past evolution of the culture and the sense of value, we may learn something important for creating new manners of living that could assure future capability.

2. Contents and Methodology

The major research field is in and around the Heihe region in western China, where present processes in water circulation, including those with human activities, is to be examined by scientific and socio-economic *in situ* investigations. At the same time, the history of the region is to be reconstructed by examining historical documents, and varieties of proxies such as ice cores from glaciers, tree-ring samples, lake sediment cores. The water circulation system in the basin, that is, water resources as well as demand or use, is to be studied also. The project is to reveal the temporal evolution of the water circulation system, owing to changes in the amount of precipitation, of used water, say for irrigation during river and groundwater discharge, and the subsequent changes in evapo-transpiration. It is thus intended to reveal the historical change of the interaction between people and nature by focusing on water.

3. Project Members excluding members in foreign institutions (◎: Project leader, ＊: Core member)

◎ NAKAWO, Masayoshi	RIHN	supervision
＊ ENDO, Kunihiko	Nihon University	historical reconstruction
＊ KATO, Yuzo	RIHN	historical reconstruction
＊ KUBOTA, Jumpei	RIHN	process studies
＊ KONAGAYA, Yuki	National Museum of Ethnology	process studies
＊ SATO, Atsushi	National Institute for Disaster Prevention and Earth Science	historical reconstruction
＊ SUGIYAMA, Masaaki	Kyoto University	historical reconstruction
＊ SOMA, Hidehiro	Nara Wemen's University	historical reconstruction
＊ TAKEUCHI, Nozomu	RIHN	historical reconstruction
＊ FUJII, Yoshiyuki	National Institute of Polar Research	historical reconstruction
＊ FUJITA, Koji	Nagoya University	process studies
＊ WATANABE, Tsugihiro	RIHN	process studies
AISINGIORO, Ulhicun	Ritsumeikan Asia Pacific University	historical reconstruction

AKIYAMA, Tomohiro	Nagoya University	process studies
AZUMA, Kumiko	National Institute of Polar Research	historical reconstruction
ARAKAWA, Shintaro	Tokyo University of Foreign Studies	historical reconstruction
IGURO, Shinobu	Otani University	historical reconstruction
ISHII, Yoshiro	Okayama University	process studies
ITO, Tatsuya	Fukui University of Technology	historical reconstruction
INOUE, Mitsuyuki	RIHN	historical reconstruction
UETAKE, Jun	Tokyo Institute of Technology	historical reconstruction
UJIGASHI, Yasuyuki	Fukui University of Technology	historical reconstruction
OHTA, Keiichi	The University of Shiga Prefecture	process studies
YANG, Haiying	Shizuoka University	process studies
OZAKI, Takahiro	Kagoshima Uniersity	process studies
ONO, Hiroshi	Kyoto Tachibana Women's University	process studies
KINOSHITA, Tetsuya	RIHN	historical reconstruction
KOHSHIMA, Shiro	Tokyo Institute of Technology	historical reconstruction
KOHNO, Mika	National Institute of Polar Research	historical reconstruction
KODAMA, Kanako	Nagoya University	process studies
KOBAYASHI, Osamu	Ehime University	historical reconstruction
KONYA, Keiko	Hokkaido University	process studies
SAKAI, Akiko	Nagoya University	process studies
SATOW, Kazuhide	Nagaoka Institute of Technology	process studies
SATOH, Takayasu	Osaka University	historical reconstruction
Kicengge	RIHN	historical reconstruction
SHIRAISHI, Noriyuki	Niigata University	historical reconstruction
SHIRAIWA, Takayuki	Hokkaido University	historical reconstruction
Shinjilt	Hitotsubashi University	process studies
SHEN, Weirong	RIHN	historical reconstruction
SUGIYAMA, Kiyohiko	Osaka University	historical reconstruction
SEGAWA, Takahiro	Tokyo Institute of Technology	historical reconstruction
TAKAHASHI, Shigehiro	Nagoya University	process studies
TAMAGAWA, Ichiro	Gifu University	process studies
TSUJIMURA, Maki	Tsukuba University	process studies
TIAN, Ran	Nara Wemen's University	historical reconstruction
NAITO, Nozomu	Hiroshima Institute of Technology	process studies
NAKAZAWA, Fumio	Nagoya University	historical reconstruction
NAKATSUKA, Takeshi	Hokkaido University	historical reconstruction
NAGANO, Takanori	RIHN	process studies
NAKAMURA, Kenji	Nagoya University	process studies
NAKAMURA, Tomoko	Tohoku University	process studies
NARAMA, Chiyuki	Nagoya University	historical reconstruction
NARITA, Hideki	RIHN	historical reconstruction
HAMADA, Masami	Kobe University	historical reconstruction
HIYAMA, Kuniharu	Nagoya University	process studies
HIROBE, Muneto	Okayama University	process studies
Huhubator	Showa Women's University	process studies
FURUMATSU, Takashi	Kyoto University	historical reconstruction

HORI, Kazuaki	Meijo University	historical reconstruction
HORI, Sunao	Kohnan University	historical reconstruction
Mailisha	Rikkyo University	process studies
MATSUKAWA, Takashi	Otani University	historical reconstruction
MATSUDA, Yoshihiro	Nagoya University	process studies
MATOBA, Sumito	Hokkaido University	historical reconstruction
MIKI, Naoko	Okayama University	process studies
MURATA, Taisuke	Nihon University	historical reconstruction
MORIYA, Kazuki	Kyoto University	historical reconstruction
MONDA, Yukako	Okayama University	process studies
YATAGAI, Akiyo	RIHN	process studies
YAMAGUCHI, Satoru	National Institute for Disaster Prevention and Earth Science	process studies
YAMAZAKI, Yusuke	Kyoto University	process studies
YAMANAKA, Ichiro	Kyoto University	historical reconstruction
YAMAMURO, Shin'ich	Kyoto University	historical reconstruction
YUBA, Tadanori	Kyoto Tachibana Women's University	historical reconstruction
YOSHIKAWA, Ken	Okayama University	process studies
YOSHIDA, Setsuko	Shikoku Gakuin University	process studies
YOSHIMOTO, Michimasa	Kyoto University	historical reconstruction
WATANABE, Mitsuko	Nara Wemen's University	historical reconstruction

4. Progress

○Until March 31st, 2004

It was found that similar water problems seem to have taken place, in our study area (Heihe River Basin in western China), four times in the last 2000 years. The cause of the problems and the people's reaction/counter measure, however, is not the same in the four cases: people have abandoned to stay, in the region, in some cases, and kept staying at different times.

○April 1st, 2004 to March 31st, 2005

Since an ice core from the Dunde Ice Cap has been transported to Japan, near the end of previous fiscal year, its analysis has been started, and the temporal dating was finished. Tree-ring samples obtained from the Qilian Mountains and the sediment samples from the downstream region was initiated. Copying the related documents preserved in the First Historical Archives of China has been completed, and their analysis was started.

A Chinese movement of promoting so called "environmental immigration", which is the relocation of people for preserving/restoring local ecosystems, was found to play an important role in the water circulation system in the Heihe Basin. An international symposium on environmental immigration was hence organized in Beijing, and the immigration was discussed in detail. A book on the "Environmental Immigration" was prepared in Japanese, as the outcome of the symposium, and is in the editing stage. The book will be available in ordinary bookstores shortly. Also, the 4th International Symposium was co-organized in Lhasa, and several papers were presented at the symposium as the outcome of the project.

5. Outcomes (2004)

The output of the project includes Project Report on an Oasis-region Vol. 4 (Nos. 1 and 2) and Vol. 5, No. 1, in addition to individual publications, which are not listed here.

Full-Research
Research axis: History and time scale
Project number: 4-2FR
Project name: A trans-disciplinary study on the regional eco-history in tropical monsoon Asia: 1945-2005
Project leader: AKIMICHI, Tomoya (RIHN)
Core members: see attachment
HP: http://www.chikyu.ac.jp/ecohistory/index.htm

1. Outline of Research Project

(1) Research Objectives

This research project aims to demonstrate human-nature interactive consequences in tropical monsoon Asia as the regional eco-history, focusing on World War II through present-day period (1945-2005). This region is characterized by marked monsoonal seasonality and diverse ecological environments where a number of ethnic groups have retained unique life-styles and cultures. As socio-political upheavals have occurred in this region during the past several decades, modernization, development, and external impacts have affected people's life to a great deal. We conduct integrative analyses as to how local inhabitants have coped with such upheavals in terms of subsistence complex, nutrition and health, and resource use and management, and ultimately demonstrate consequences of the regional eco-history

(2) Contents and Methodology

In this project, we focus upon several sub-themes: (1) ethno-history of various ethnic groups and their interactions with the external factors, (2) impacts of subsistence activities upon ecological disturbance, and eco-history of commodity production and distribution, (3) decision-making process by communities responding to micro-climate fluctuation, and (4) life history of individuals manifested as the changes in nutrition and health status of the people. By combing these analyses at individuals, communities and the region levels, we explore to construct an integrative figure of human and nature interactions as the regional eco-history.

Research are conducted in Yunnan province of southwestern China, Laos and north Thailand. Various ethnic groups inhabiting in these areas are chosen for the intensive study, and interactions and transformation between these people and the surrounding environments are examined through time during these several decades.

As research methodologies, multiple approaches are employed by disciplines such as nutritional and epidemiological assessments in human ecology, analyses of subsistence complex by ethnobiological, ethno-technological, and ecological anthropological studies of resource management and the commons, geographical space analyzes, and historical literature and documentation analyses.

2. Relation to Research Axis

The concept of ecological history has significances as one of the historical study approach. In general, human and nature interactions are realized through practical human decision-making and physical activities, as well as seasonal onset and fluctuation of the natural environmental phenomena. Once modified environments also give impacts upon human physical, economic, and social aspects. These interactions are complex, and the processes are not always synchronizing but delayed, or accelerated in terms of time series. Furthermore, not only cyclic and periodical phenomena, but also historical change are taken into account in the complex ecological history. These are appropriate reasons why we take eco-historical approach within the framework of history and time scale research axis.

3. Project Members excluding members in foreign institutions (◎: Project leader, ＊: Core members)

◎ AKIMICHI, Tomoya (RIHN)

(1) Yunnan History Group: Eco-history in the south of Yuan Jiang, and ethnography of ethnic minorities

＊ CHRISTIAN, Daniels (Tokyo University of Foreign Studies)
＊ ABE, Kenichi (Center for Area Studies, National Museum of Ethnology)
TSUKADA, Masayuki (National Museum of Ethnology)
KUROSAWA, Naomichi (Tokyo University of Foreign Studies)
SHIMIZU, Ryo (Nihon University)
TATEISHI, Kenji (Tokai University)
NISHIKAWA, Kazutaka (Chuo University)
NOMOTO, Kei (Gakushuin University)
MASUDA, Atsuyuki (Tokai University)

(2) Human Ecology Group: Health survival in the Mekong watershed

＊ MOJI, Kazuhiko (Institute of Tropical Disease, Nagasaki University)
＊ NAKAMURA, Satoshi (International Medical Center of Japan)
ATAKA, Yuji (Institute of Tropical Disease, Nagasaki University)
ABE, Taku (Meiji University)
INAOKA, Tsukasa (Saga University)
IWASA, Mitsuhiro (Chiba University)
UMEZAKI, Masahiro (Tokyo University of Medicine and Dentistry)
ONISHI, Hideyuki (RIHN)
OBA, Tamotsu (National Institute of Social Security and Population Studies)
OKUMIYA, Kiyoto (RIHN)
KATANODA, Kotaro (National Institute of Public Health)
KANEDA, Eiko (Institute of Tropical Disease, Nagasaki University)
KAWABATA, Masato (Kobe University)
KAWABE, Toshio (Takasaki City University of Economics)
KOBAYASHI, Jun (JICA)
SUZUKI, Katsumi (Chiba University)
TAKEI, Hideo (Chiba University)
NAKAZAWA, Minato (Yamaguchi Prefectural University)
NAKATSU, Shunsuke (Institute of Tropical Disease, Nagasaki University)
MATSUBAYASHI, Kozo (Institute for Southeast Asian Studies, Kyoto University)
MATSUMURA, Yasuhiro (National Institute of Health and Nutrition)
MIDORIKAWA, Hiroshi (Suzuka University of Medical Sciences)
MURAYAMA, Nobuko (Niigata Medical and Welfare University)
YAMAUCHI, Taro (The University of Tokyo)
YAMAMOTO, Taro (Kyoto University)
WATANABE, Mikitsugu (Institute of Tropical Disease, Nagasaki University)

(3) Wetland-Plain Group: Ecology, economy and life structure in wetland-riparian habitats

＊ NONAKA, Kenichi (RIHN)
AJISAKA, Tetsuro (Kyoto University)
IKEGUCHI, Akiko (Nagoya Industrial University)

IKEYA, Kazunobu (National Museum of Ethnology)
ISARA, Yanathan (Nagoya University)
OKAMOTO, Kohei (Nagoya University)
ONO, Eisuke (Nagoya University)
KATO, Kumiko (Nagoya University)
SAITO, Haruo (Kyoto University)
TAKENAKA, Chisato (Nagoya University)
NAKANISHI, Masami (ex-RIHN)
NISHIMURA, Yuichiro (RIHN)
MASUNO, Takashi (Graduate University of Advanced Studies)
MIYAGAWA, Shuichi (Gifu University)
MIYAMURA, Haruna (Mie University)
MORI, Seiichi (Gifu University of Economics)
WAKANA, Isamu (Eco-Museum Center of Lake Akan)

(4) Agro-Forestry Group: Ecology, economy, culture and society in agro-forestry communities

* KONO, Yasuyuki (Institute for Southeast Asian Studies, Kyoto University)
UCHIDA, Yukari (Kyoto University)
OCHIAI, Yukino (Research Museum of Kagoshima University)
KASHINAGA, Masao (National Museum of Ethnology)
KATO, Makoto (Kyoto University)
KURODA, Yosuke (Kyoto University)
SAKURAI, Katsutoshi (Kochi University)
SATO, Yoichiro (RIHN)
TAKAI, Yasuhiro (Otani University)
TANAKA, Koji (Institute for Southeast Asian Studies, Kyoto University)
TAKEDA, Shinya (Kyoto University)
TOMITA, Shinsuke (Institute for Southeast Asian Studies, Kyoto University)
TOMOOKA, Norihiko (Institute of Agricultural Bio-Resources)
NAKATA, Tomoko (Princess Maha Chakri Sirindhorn Anthropology Center)
NAKANISHI, Mami (Kyoto University)
NAWATA, Eiji (Kyoto University)
HIROTA, Isamu (Kyoto University)
HYAKUMURA, Yoshihiko (Research Institute of Global Environmental Strategy)
FUJITA, Yuko (Lake Biwa Museum)
HOTTA, Mitsuru (Kagoshima Women's College)
MATSUURA, Miki (Kyoto University)
MATSUDA, Akira (Kyoto University)
MATO, Toru (Kyoto Uniersity)
MUTO, Chiaki (Gifu University)
YOKOYAMA, Satoshi (Kumamoto University)
VILAYPHONE, Anoulom (Kyoto University)
NATHAN, Badenoch (Kyoto University)

(5) Materials and Information Group: Data base analyses and construction of digital eco-history archives

* KUBO, Masatoshi (National Museum of Ethnology)
KANESHIGE, Tsutomu (Shiga Medical University)
KAWANO, Kazuaki (Reimei-kan, Kagoshima Prefectural Center of Historical Documents)
KOJIMA, Mabun (Kagoshima Junshin Women's College)
GOTO, Akira (Doshisha Women's University)
SHIMIZU, Ikuro (RIHN)
TAGUCHI, Rie (RIHN)
TSUNAMI, Soichiro (Gankoji Institute of Cultural Property)
HASHIMURA, Osamu (National Institute of History and Folk-lore)
MIYAWAKI, Chie (RIHN)
YAMADA, Hitoshi (National Museum of Ethnology)
YOSHIDA, Hirohiko (Oyasato Museum, Tenri University)

4. Modification on the original plan

(1) Change of the title

In order to clarify the nature and content of the research project, we have changed the title of the project by adding 1945-2005. These time-span is appropriately chosen in eliciting and reconstructing information from historical ducuments and through fieldworks.

(2) Change and addition of members

In order to promote research capacity, we have upgraded the researech organization by inviting younger scholars who can stay longer periods and obtain in-depth information.

5. Progress of the project

By the present time, we have made substantial progress in the field research, data collection, and organized international workshops in China and Laos, and study meetings.

5-1. From April 2003 to March 2004

Chinese scholars in Yunnan University have conducted several week-long field research in 31 commnuties in southern and western parts of Yunnan Province. Collection of historical inscriptions has been conducted and a number of documents have been obtained by Japanese team.

In Laos, we have made agreement with National Institute of Public Health (NIUPH) in August, 2003, and our office has been established in the Institute. Field station has been constructed in one community of Lahanam district in Savannakhet Province. We have made agreement with Institute of Lao Culture, Ministry of Information and Culture (ILC of MIC) in August, 2003, and established the mutual collaboration in the research activity. Agreement with Department of Livestocks and Fisheries, Ministry of Agriculture and Forestry (DLF of MAF) has also been made in September, 2003, and we have three rooms office in Vientiane city. In December, 2003, we have made agreement with National Agriculture and Forestry Research Institute of Ministry of Agriculture and Forestry (NAFRI of MAF). With National University of Laos (NUOL), we have continued the negotiation with the University. For the Faculty of Forestry, we have opened the Herbarium and it is expected to enhance the development of ethnobotanical study in the University and collection and conservation of useful plants in Laos.

In Thailand, we have made academic agreement with the Faculty of Social Sciences, Chiang Mai University in July, 2003. Especially, mutual understanding to study indigenous knowledge of ethnic minorities in northern Thailand have been reached, and we continue to conduct research in the region.

In Japan, documents and records by Japanese researchers during the post-war period have been collected extensively at museums and institutions; Harano Agriculture Museum and Kagoshima Prefectural Center of

Historical Documents, National Museum of Ethnology, Oyasato Museum of Tenri University, University of Tokyo Museum, and Nanzan University were visited, and a number of materials, photos, and reports have been collected. These information are now in preparation as the Digital Eco-history Archives.

5-2. From April 2004 to March 2005

(1) In China we have discovered several discarded inscriptions materials that showed the community-based forest management and nature conservation practices during the mid and late Chin dynasty (1790 to 1830). It demonstrated that local communities had laws regarding nature conservation besides general law enforcement by the central government. It may shed light upon the reconstruction of local environmental history in China.

(2) Seminar was organized in Yunnan University in October, 2004 and 31 papers were presented by Chinese scholars. In these papers, several scholars dealt with environmental conservation and impacts of global economy upon local economy. Some of these outcomes were agreed to be published as a book in the following year.

(3) Agro-forestry group has established a field station in Udomuxai, northern Laos. This station has merits to effectively conduct fieldwork in neighboring communities of ethnic minorities. From field studies, rapid infiltration of cash economy, introduction of exotic plant species, increase in border trade have been witnessed since around the beginning of this century.

(4) In Xaythani, central Laos, extensive census research was conducted at the community level with emphasis of eliciting impacts of urbanization, sales of commodities to local market. The result shows a diverse nature of local response to cash economy and urbanization. How rapid urbanization may affect on the use of wild resources in paddies and flooded plains may be the foci of the next year's research. In December, 2004, joint study workshop was held with the collaraboration with NAFRI and we examined the transformation in resource use in the Vientiane plains.

(5) Local health center was open in Lahanam district, Savanannakhet in 2004, and we have accepted local inhabitants for medical inspection. Particularly, about 700 school children and 240 aged villagers were intensively examined for identification of their health and nutritional status. Strikingly, about 60% of children were positive schistomasis careers, and unusual high rate of diabetes were detected among over 60's aged people in the communities. Schistomasis may be due to the consumption of fish and other aquatic animal in raw. High proportion of diabeteis needs further inquiries for identifying genetical and nutritional factors.

(6) Material culture information group has conducted research in Vientiane and southern Laos and obtained important source materials of audio-visual ethnographic documents stored in the Vientiane Museum. Future comparison with those kept in museums in Japan are next important process.

(7) For integrating individual research findings, it became urgent to compile ecological chronicle of the region in terms of time series as the eco-chronicle. For this purpose, we have started to compile historical documents and county gazetter of Yunnan Province, and started the translation and compilation of environment-related events described in the county gazetter. About 26 counties were specifically chosen for the first-stage work that are located at the border areas with Myanmar, Laos and Vietnam. It may clarifiy differences of environmental policy and its impacts upon local communities and regional economy.

In terms of space aspect of ecological history, we have devised distribution maps of cultural complex such as rice-associated culture complex (RCC) and freshwater fish and fishery culture complex (FCC). By dendrogram analysis of culture elements such as technology, tools, and rituals associated with rice cultivation and fishery, it is expected to clarify regional and inter-ethnic diversities of RCC and FCC through time. This work is based on the former cluster analysis promoted by Obayashi, Sugita and Akimichi during the past decade.

(8) We had a general study meeting in February, 2005 at Nagasaki and 54 members attended. The result will be compiled as the Annual Research Report 2004. In March 26th, we had an international symposium on "History and Environment" in Kyoto in which Professor George Condominas (Directeur d'Etudes à l'Ecole des Hautes Etudes en

Sciences Sociales) had a memorial lecture on "Ethnologie diachronique et é cologie". Following the lecture we had a panel discussion on "The Post-Green Revolution: Human and Rice" in which four panelists and three commentators contributed. Apart from one commentator, the others were affiliated as project members. The result will be published as a book.

6. Outcomes (2004)

We have summarized research reports and articles as one volume of "The 2004 Annual Research Project Report" and will be published in June, 2005. It includes 67 papers and reports by members of the Project. Materials and documents are also in process as the Digital Eco-history Archives.

Feasibility study

Research axis: History and time scale
Project number: 4-3FS
Project name: The growth of artificial environments in Eurasia and changes in world view
Project leader: KINOSHITA, Tetsuya (RIHN)
Core members: (see item No. 3)

1. Research objectives and contents

1. Research objectives

In order to develop a sound strategy to tackle global environmental issues, it is necessary to study those issues objectively and unemotionally within the larger historical context. In the past, an historical understanding of the various regions of Asia, including Japan, has been concerned with individual nation states, or been based on an historical framework derived from the historiography and sociology that developed in nineteenth-century Europe. The result has been a limited viewpoint that does not reflect the actual situation.

The objective of this Project is to broaden this limited historical awareness to include Eurasia as a whole, and by so doing to reach an understanding of the history of the relationship between human beings and their environment. This relationship, which is directly related to the global environmental problems that are currently causing concern, will be studied in terms of changes within a system composed of human beings, artificial environments and nature.

2. Contents and methodology

The basic model that we will apply in our attempt to understand this history is not a binomial one of man and nature, but a more appropriate trinomial one where the artificial environment is interposed between man and nature. The concept of "artificial environment" includes not just material culture like clothing and tools, which has existed since the beginning of human history, but also the cultural and social systems which people have devised to bring order to human activity.

The development of artificial environments, together with their diversification, expansion, extension and interchanges, has greatly changed the relationship between man and nature. We will attempt to elucidate the nature of the interrelationship of the three points of the trinomial model by studying the historical dynamic of artificial environments comparatively and comprehensively, taking under consideration Eurasia (and its related islands) as a whole throughout the historical period down to the present.

Important factors in the dynamics of artificial environments are:

i. emergence and growth of agriculture and stock-raising
ii. development of cities
iii. formation of the state

iv. establishment of modern industrialized society and its global diffusion

These factors will constitute the focus of our study, and comparisons and generalizations concerning each of our study points will be made according to them. They will form the basis of our annual themes for research, which will be studied through broad-based study meetings and symposia and where the various results will be integrated in terms of the project as a whole.

2. Relation with research program

Global environmental problems directly threaten the survival of, not just human, but all biological life. It is necessary to arrive at a pertinent understanding of the issues involved, within the larger historical context, in order for us to be able to plan a sound strategy for dealing with them, without undue pessimism or indeed optimism. This project aims to provide an historical understanding of the issues involved with the destruction of the global environment.

3. Project members

◎ KINOSHITA, Tetsuya	RIHN	Professor	Leader – To lead the research program of this Project and integrate the results.
SEKIMORI, Gaynor	The Institute of Oriental Culture, The University of Tokyo	Associate Professor	To advise the leader about managing the research program as a whole, research into the basic world views of the Far Eastern island cultures, especially the indigenous religious traditions of Japan.
OSADA, Toshiki	RIHN	Professor	To advise the leader about managing the research program as a whole, research into modern Indian society, especially the survival of the societies of its minority races.
KATO, Yuzo	RIHN	Assistant Professor	To advise the leader about managing the research program as a whole, research into the conflicts between the sense of possession in modern law and that of traditional (19-20 century) China.
* CHENG, Zhi	RIHN	Research Fellow	To research the dynamic relationship between shamanism and the Qing state.
IGURO, Shinobu	Otani university	Assistant Professor	To research the dynamic relationship between shamanism and the Jin state.
SE, Yin	Institute of Ethnology and Anthropology Chinese Academy of Social Sciences	Research Fellow	To research the dynamic relationship between shamanism and the Mongolian states.
FURUMATSU, Takashi	Institute for Reseach in Humanities, kyoto University	Assistant Professor	To research the dynamic relationship between shamanism and the Liao state.
* MATSUI, Takeshi	The Institute of Oriental	Professor	To research the relationship between

	Culture, The University of Tokyo		subsistence, environment and world view in Okinawa society and West Asian nomadic society.
SAJI, Osamu	Fukushima Museum	Chief Curator	To study shamanism in Far East island societies (Japan and Okinawa).
TAKI, Tomoya	The University of Tokyo Graduate School of Arts and Sciences	Doctor course student	To study shamanic music and song in Central Asia.
TOMIYAMA, Kazuyuki	Faculty of Education, University of the Ryukyus	Associate professor	An hisotrical study of the societies of Ryukyu-Okinawa.
HIRASE, Takao	The Institute of Oriental Culture, The University of Tokyo	Professor	To research systems and the symbolism of traditional states in China, historically.
YANAKA, Shigeru	The Institute of Regional Study, Okinawa University	Full-time Researcher	A sociological study of societies and cultures in Ryukyu-Okinawa.
* OKI, Yasushi	The Institute of Oriental Culture, The University of Tokyo	Professor	To study the cities and gardens of traditional China.
ITAKURA, Masaaki	The Institute of Oriental Culture, The University of Tokyo	Associate professor	To study the spatial sense and world view expressed in Chinese traditional paintings.
OGATA, Tohru	College of Integrated Arts and Sciences, Osaka Prefecture University	Professor	To study the relationship between Daoism and the symbolism of traditional gardens in China.
ODAIRA, Keiichi	Division of Literature, Osaka Women's University	Professor	To study the spatial sense and world views expressed in Chinese traditional tales.
TAKEDA, Tokimasa	Institute for Research in Humanities, Kyoto University	Professor	To research the spatial sense and world views expressed in Chinese traditional sciences.
* ARAKI, Masaru	Faculty of Law, Okayama University	Professor	To study state-formation and theories about the state in the ancient Aegean and medieval Poland.
KOYAMA, Satoshi	Faculty of Letters, Kyoto University	Associate Professor	To study state-formation and development in early modern Poland.
SHIRAKI, Taichi	Tokyo University of Foreign Studies	Part-time lecturer	To study state-formation and development in modern Poland.
* SHIRAISHI, Noriyuki	Faculty of Humanities, Niigata University	Associate Professor	To study the history of cities in the Steppes, archaeologically.
SAKAI, Hideo	Faculty of Science, Toyama University	Professor	To study relics of city remains in the Steppes with archaeomagnetism dating.
SOHMA, Hidehiro	Faculty of Letters, Nara Women's University	Professor	To study city remains in the Steppes with remote sensing techniques.

BAO, Muping	Institute of Industrial Science, The University of Tokyo	Research Fellow (JSPS)	To study the historyof cities in the Steppes, architecturally.
MATSUDA, Koichi	Department of Management and Information Science, Osaka International University	Professor	To study the relationship between the emergence of the Mongol Empire and the development of cities in the Steppes.
* MURAMATSU, Shin	Institute of Industrial Science, The University of Tokyo	Associate Professor	To study forms and functions of cities on a Pan-Eurasian scale, typologically.
FUKAMI, Naoko	The Institute of Oriental Culture, The University of Tokyo	Technical Assistant	To study Islamic cities and gardens, architecturally.
TSURUOKA, Mayumi	College of Letters, Ritsumeikan University	Professor	To study artifact-designs and the basic world view expressed in them on a Pan-Eurasian scale.
KAWANISHI, Hiroyuki	History and Anthropology, University of Tsukuba	Professor	To study forms and functions of cities on a Pan-Eurasian scale, archaeologically.
* HANEDA, Masashi	The Institute of Oriental Culture, The University of Tokyo	Professor	To study the history of states, cities and societies in the West Asian and Mediterranean regions, correlated with their environments.
* ONO, Hiroshi	Faculty of Letters, Kyoto Tachibana University	Professor	To study the history of texts concerning agricultural techniques in Western Asia.
SATO, Tsugitaka	School of letters, Arts and Sciences, Waseda University	Professor	To study the state and rural society in medieval Islam, and state theories there.
* TAKAKURA, Hiroki	The Center for Northeast Asian Studies, Tohoku University	Associate Professor	To research techniques of pastoralism and social structure in twentieth century Northern Asia, especially Sakha society.
OKA, Hiroki	The Center for Northeast Asian Studies, Tohoku University	Associate Professor	To study the social structure of pre-modern Halh-Mongolia society, as the basic social structure of pre-modern Mongolian society.
SHIOTANI, Masachika	The Center for Northeast Asian Studies, Tohoku University	Assistant Professor	To study the material distribution and material culture of pastoral societies in modern Northern Asia.
WATANABE, Hibi	The University of Tokyo Graduate School of Arts and Sciences	Full-time Lecturer	To study the transformation of pastoral societies in Northern Asia as a result of sovietization.
* YANO, Michio	Department of Intercultural Studies Faculty of Cultural	Professor	To study the interactions and fluctuations of traditional sciences and modern sciences in contemporary Indian society.

	Studies, Kyoto Sangyo University		
YAMASHITA, Tsutomu	Faculty of Business Administration, Kyoto Gakuen University	Associate Professor	To study the interactions and fluctuations of traditional and modern medical science in contemporary Indian society.
* SUGISHIMA, Takashi	Graduate School of Asian and African Area Studies, Kyoto University	Professor	To study the societies and cultures of islands in the area of the Flores, Banda and Savu Seas, in terms of historical anthropology.
ABE, Ken-ichi	The Japan Center for Area Studies, National Museum of Ethnology	Associate Professor	To study the eco-history and political ecology of islands in the area of the Flores-Banda-Savu Seas.
SHIMAMURA, Tetsuya	Field Science Education And Research Center, Kyoto University	Technical assistant	To study the ecology of forests of islands in the area of the Flores-Banda-Savu Seas.
NAKAGAWA, Satoshi	Graduate School of Human Sciences, Osaka University	Professor	To study cultures and world views of island societies in the area of the Flores-Banda-Savu Seas.
KATO, Tsuyoshi	Graduate School of Asian and African Area Studies, Kyoto University	Professor	To study the societies and cultures of islands in the area of the Java-Malacca Seas, in terms of comparative sociology.
TORII, Takashi	School of Commerce, Meiji University	Associate Professor	To study politics and development of islands in the area of the Java-Malacca Seas.
NAGATA, Jun-ji	Graduate School of Arts and Sciences, The University of Tokyo	Associate Professor	To study the political and cultural ecology of islands in the area of the Java-Malacca Seas.
ARAI, Sachiho	Graduate School of Arts and Sciences, The University of Tokyo	Assistant Professor	To study relationships between farmers and policymakers in farming villages in islands in the area of the Java-Malacca Seas.
NAGATSU, Kazufumi	Graduate School of Asian and African Area Studies, Kyoto University	Assistant Professor	To study colonialization and changes to traditional societies by the permeation of nation states among the islands in the area of the Sulu-Celebes Seas.
AKAMINE, Jun	School of Humanities & Social Sciences, Nagoya City University	Associate Professor	To study languages and societies in the area of the Sulu-Celebes Seas.
IWATA, Akihisa	Graduate School of Asian and African Area Studies, Kyoto University	Associate Professor	To study aquatic ecological resources in the area of the Sulu-Celebes Seas.
TAWA, Masataka	School of Humanities, Kwansei Gakuin University	Professor	To study aquatic ecosystems and fishing in the area of the Sulu-Celebes Seas.

(◎: Project leader, *: Core member)

4. Progress of the project (From April 2004 to March 2005)

A FS has been carried out regarding the 2004 topic, "Establishing Environmental History, based on Eurasian ethnographies – Evaluating the connection between Man and Nature." Objectives for the project have been established, preparatory research for the study contents has been done, members have been confirmed, and members have exchanged basic information concerning future group research. The core members met on April 24 and October 16, two conferences were held on June 3-4 and November 13-14, and two mini symposia were held on July 3-4 and October 17.

The mini symposium on July 3-4 had as its theme "The Present State of Eurasian Linguistic History." It gave information about regional divisions in Eurasia based on the latest research on linguistic typology, and offered the most recent information on the cultural characteristics of speakers of Indo-European languages and on the special features of their spread, spanning both the prehistoric and historic eras.

The mini symposium on October 17 discussed "The Present Historical Picture of Eurasia." The keynote speech was called "The Islamic World" and it explained that regional concepts in the understanding of world history that we now have were created in contrast to the concept of "Europe" in nineteenth century Europe. Discussion followed on how to study a "new global history" going beyond this nineteenth century European concept of regions.

The conference on November 13-14 had four themes: "Artificial," "Occupation," "Shamanism" and "State." Discussion was based on the structure of the themes bringing the project together.

By means of such study meetings and symposia and the discussions and points considered, as well as discussions within the Institute itself, the Research objectives and contents outlined above were honed. As a result, the project was renamed "The development of artificial environments in Eurasia and changes in world view," and themes and methodology were ascertained.

5. Outcomes (2004)

Outline

Study groups and symposia during this year's Feasibility Study have set up, through discussion, a basic trinomial model (human beings - artificial environments - nature) which inserts "artificial environment" within the binomial model of human beings - nature, from an awareness of its necessity and validity for explaining historically the connections between human beings and nature. Based on this understanding, we have revised previous plans and drafted the present project plan.

Reports

2004 *EURA NEWS* vol. 1 RIHN Project 4-3FS
2004 *The Present State of Eurasian Linguistic History* vol. 1-2 RIHN Project 4-3FS
2004 *The Present Historical Picture of Eurasia* RIHN Project 4-3FS
2005 *EURA NEWS* vol. 2 RIHN Project 4-3FS

Mini Symposiums

3-4 July 2004
Title: *The Present State of Eurasian Linguistic History*
First speaker and Title:
MINEGISHI, Makoto (ILCAA, Tokyo University of Foreign Studies)
The isolating languages and the linguistic meaning of isolating languages. (In Japanese)
Second speaker and title:
GOTŌ, Toshifumi (Tohoku University)
Rethinking the Indo-European language family. (In Japanese)

Third speaker and title:
KURIBAYASHI, Hitoshi (Tohoku University)
On the Altai languages (In Japanese)
Commentator and title:
Martine Robbeets (CANON Foundation Research Fellow, University of Tokyo)
Comments on the origins of the Japanese language; Is Japanese an Altaic language? (In Japanese)
Fourth speaker and title:
OSADA, Toshiki (RIHN)
Notes on the study of the origins of the Japanese language (In Japanese)

17 October 2004
Title: *The Present Historical Picture of Eurasia*
First speaker and title:
HANEDA, Masashi (Institute of Oriental Culture, The University of Tokyo)
Creation of the concept of "The Islamic World" and the world history. (In Japanese)
Commentator:
HAYASHI, Toshio (Soka University)
Second speaker and title:
YAMABE, Noriko (Nara Women's University)
On the identity of "Europe" in Italian view (In Japanese)
Third speaker and title:
HAMADA, Masami (Kobe University)
Where is the border between the East and the West? (In Japanese)

Full-Research

Research axis: Conceptual framework for global environmental issues
Project number: 5-1FR
Project name: Global water cycle variation and the current world water resources issues and their perspectives
Project leader: KANAE, Shinjiro (RIHN)
Core members: (see item No. 3)

1. Research objectives and topics

This research project focused on water as one of the most common factors in global environmental studies. A population increase in conjunction with continuous desire for high QOL necessitates more increases in water demand for human life, food production and industry, resulting in more intense use of water resources in the world. It is recently called "water crisis in the 21st century." Although much information on water issues is now available, some of it seems groundless and often emotional. One of the problems on water issues is that scientifically reliable information and groundless prejudice are distributed with confusion. Another problem is such that only a little information is dispatched by Asian countries including Japan. In Asia, not only the "too little water problems," but also the "too much water problems" are vital. This project aims to clarify the true nature of world water issues and present perspectives in the future, from Japan as a part of Asia. As a result of this project, the following products will be expected: a prediction of the world water resources supply/demand probably to the next IPCC report, a report of fresh water resources for the Millennium Assessment of the United Nations, and a way for settlement of regional

water issues in Asia. Furthermore, by examining new concepts of water resources, such as Virtual Water, we aim to encourage awareness on water issues and establishing guidelines for sustainability development in society in terms of water.

This project, included in the axis of Conceptual Framework for Global Environmental Issues, wishes to stand on incredulity whether the world water crisis really exists. Then, this project can reveal true aspects of world water crisis, one after another. This project must be of use, from the viewpoint of RIHN which seeks sustainability development and future possibility of the world.

2. Relation with research program

The "Conceptual Framework for Global Environmental Issues" is a relatively new axis which was changed from "Integration" in this institute. Since this project has been attempting to develop a new concept and new information related to global water issues, this change is very relevant for us. Quantification of "virtual water", one of the main outcomes of this project, needs to be investigated more in deep from the viewpoint of its concept. It will be a next subject in near future, and probably will be a good topic among the projects in the program.

3. Leader name concerned with the project, joint researcher name (Affiliation)

(Researchers were so many that joint researchers' name were excluded except core members)

(◎: Project leader, ＊: Core member)

◎ KANAE Shinjiro (RIHN)

＊ ARAMAKI, Toshiya (Asian Institute of Technology): Demand analysis and modelization of urban water

＊ ENDO, Takahiro (RIHN): A new integrated basin management through forest, river and sea

＊ HIRAKAWA, Yukiko (Graduate School for International Development and Cooperation, Hiroshima University): International political governance with respect to water

＊ HIRABAYASHI, Yukiko (Faculty of Engineering, Yamanashi University): The impact of global warming on hydrological cycles.

＊ KAWASHIMA, Hiroyuki (Graduate Schoolof Agricultural and Life Sciences, The Univ. of Tokyo): Agricultural water demand model considering an international grain price.

＊ KIM, Wonsik (Department of Atmospheric Science, Yonsei University): Observation of water cycles in Asia

＊ KITSUREGAWA, Masaru (Institute of Industrial Science, The Univ. of Tokyo): Development of global environmental water information library

＊ KURAJI, Kooichiro (Graduate School of Agricultural and Life Sciences, The Univ. of Tokyo): Water management in forest are and local community

＊ MATSUMOTO, Jun (Graduate School of Science, The Univ. of Tokyo): Seasonal change of Asian monsoon and the relation with society

＊ MATSUMOTO, Mitsuo (Faculty of Humanities and Economics, Kochi University): Water laws in Asia

＊ MORIYAMA, Toshiyuki (Fac. of Engineering, Sojo Univ.): Making structural hydrological meteorological database

＊ OKI, Taikan (Institute of Industrial Science, The Univ. of Tokyo): Global water cycles and virtual water trade

＊ OHTE, Nobuhito (Graduate School of Agriculture, Kyoto Univ.): Observation and modelization of water cycle process in forest area

＊ SATOMURA, Takehiko (Graduate School of Science, Kyoto Univ.): Modelization of water cycle in mesoscale

＊ SHIBAZAKI, Ryosuke (Center for Spatial Information Science, The Univ. of Tokyo): Land use change model considering water and provision demand

＊ SHIRAKAWA, Naoki (Institute of Engineering Mechanics and Systems, University of Tsukuba): Demand analysis and modelization of environmental water

* YASUOKA, Yoshifumi (Institute of Industrial Science, The Univ. of Tokyo): Remote sensing for hydrology and vegetation

4. Progress of the project

One of the most important and controversial issues in global water problems is the impact of so-called global warming. We calculated the global terrestrial water variations in the whole 20th century, and obtained major floods and droughts. In addition, with the outputs from a very high-resolution climate simulation for IPCC, we have obtained the change in floods and droughts expected in the 21st century. For the assessment of quality aspect of water resources, a global terrestrial nitrogen circulation model is developed. With the model, nitrate transport by global rivers in the past few decades is calculated.

On the other hand, we realize that many current regional/local water issues appear as an issue related with land use change and land conservation, both in "too much water problem" and "too little water problem." We begin to investigate this topic mainly by the new core member Dr. Endo.

5. Modifications on the original research plan

First of all, the axis itself (of the institute) was changed from "integration" to "conceptual framework." The project title was changed accordingly in the last year. Although the basic structure of the project has not been changed, some viewpoints have been changed in order to keep relevance with the axis changes. This year, Dr. Endo began to work in RIHN and this project. Owing to this, social science part of this project has been intensified.

6. Outcomes (2004)

- The quantification of the virtual water trade in the world was carried out. This outcome was published/introduced not only in academic papers but also in general magazines, books, newspapers and TV programs.
- Floods and droughts of the globe for 100 years in the 20th century were simulated successfully on 1degree basis. The change in the 21st century has been simulated.
- A global terrestrial nitrogen cycle model was developed, and applied.

Oki, Taikan, Kanae, Shinjiro
2004 "Virtual water trade and world water resources" *Water Science & Technology* 49(7): 203-209.
Yoshimura, Kei, Oki, Taikan, Ohte, Nobuhito, Kanae, Shinjiro
2004 "Colored moisture analysis estimates of variations in 1998 Asian monsoon water sources" *J. Meteor. Soc. Japan* 82: 1315-1329.
Koster, R. D., Dirmeyer, P. A., Guo, Z., Bonan, G., Chan, E., Cox, P., Gordon, C. T., Kanae, S., Kowalczyk, E., Lawrence, D., Liu, P., Lu, C. H., Malyshev, S., McAvaney, B., Mitchell, K., Mocko, D., Oki, T., Oleson, K., Pitman, A., Sud, Y. C., Taylor, C. M., Verseghy, D., Vasic, R., Xue, Y., Yamada, T.
2004 "Regions of strong coupling between soil moisture and precipitation" *Science* 305: 1138-1140.
Kiguchi, Masashi, Matsumoto, Jun
2005 "The rainfall phenomena during the pre-monsoon period over the Indochina Peninsula in the GAME-IOP year" *J. Meteor. Soc. Japan* 83: 89-106.
Komatsu, H.
2004 "A general method of parameterizing the big-leaf model to predict the dry-canopy evaporation rate of individual coniferous forest stands" *Hydrological Processes* 18(16): 3019-3036.
Komatsu, H., Kumagai, T., Hotta, N.
2005 "Is surface conductance theoretically independent of reference height?" *Hydrological Processes* 19(1): 339-347.

Yoshimura, K., Oki, T., Ichiyanagi, K.
2004 "Evaluation of two-dimensional atmospheric water circulation fields in reanalyses by using precipitation isotopes databases" *J. Geophys. Res.* 109(D20): doi:10.1029/2004JD004764.
Suga, Yoshito, Hirabayashi, Yukiko, Kanae, Shinjiro, Oki, Taikan
2005 "Changes in river nitrate transport of the world resulted from increase in fertilizer use" *Annual Journal of Hydraulic Engineering* 49: 1495-1500. (in Japanese)
Hanasaki, Naota, Kanae, Shinjiro, Oki, Taikan
2005 "Global river discharge simulation taking into account irrigation water intake" *Annual Journal of Hydraulic Engineering* 49: 403-408. (in Japanese)
Hirabayashi, Yukiko, Kanae, Shinjiro, Oki, Taikan
2005 "Long-term variation of wrold terrestrial water cucle in 20th century" *Annual Journal of Hydraulic Engineering* 49: (in Japanese)

The 2nd APHW conference, Special session JS4 "Water and Energy Cycles in Asia Pacific Region" (6th July 2004, 8:45-17:30, in Singapore)

- Overview of GAME and its implication in monsoon Asia, Prof. Tetsuzo Yasunari
- Sustention model for water resource management, Prof. Hansa Vathananuki
- Land degradation assessment in Mongolia, Prof. Tsohiojiin Adyasuren
- Development of a new soil moisture retrieval algorithm using TRMM/TMI polarization ratio and NDVI, Mr. Kenji Tanaka
- Estimating the origin of rain water by stable isotopes in Sumatra Island, Indonesia, Dr. Kimpei Ichiyanagi
- GAME-Tropics Hydrometeorological Database: How it should be used?, Dr. Yasushi Agata
- Future projections of precipitation characteristics in Asia, Dr. Akio Kitoh
- Decision support model for integrated water resources management: A case study for the Ta-Chin River, Thailand. Ms. Sukanda Lekphet
- The method of evaluation flood resource sustainable utilization capacity, Prof. Zhongjing Wang
- Efficiency of the integrated reservoir operation for flood control in the upper Tone River of Japan considering spatial distribution of rainfall, Dr. Dawen Yang
- Landuse and cropping pettern classification using satelite derived vegetation indices in the Huaihe River Basin, Mr. Osamu Kozan
- Pattern of multiyear wet and dry cycles of monsoon rainfall over Northeastern Thailand, Prof. Sanguan Patamatamkul
- Impact of deforestation on hydrological changes in northeastern basins in Thailand: a warning for watershed management and planning Dr. Uruya Weesakul
- Multiple goal optimization for land and water resources management of Mae Klong river basin,Thailand, Prof. Bancha Kwanyuen
- A special session on water and energy cycles in Asia Pacific region was held in APHW 2004, and an interdisciplinary workshop on water conflicts in Southeast Asia was held in March, 2005.

Full-Research

Research axis: Conceptual framework for global environmental issues

Project number: 5-2FR

Project name: Interactions between the environmental quality of a watershed and the environmental consciousness: With reference to environmental changes caused by the human use of land and water resources

Project leader: YOSHIOKA, Takahito (RIHN)

Core members: (see item No. 3)

HP: http://www.chikyu.ac.jp/idea/

1. Research objectives and topics

Environmental qualities of a watershed have been affected by the changes in the human use of land and water resources. Environmental consciousness of people also changes with such environmental changes. In this project, the relationship between the environmental consciousness and the environmental qualities will be elucidated. To achieve this goal, an Interactive Device between Environments and Artifacts (IDEA) will be developed. IDEA is composed of a response-prediction model of a watershed environment, the environmental and sociological databases, and a transformation module. Response-prediction model will be developed based on the biogeochemical and ecological surveys of the watershed, and on the estimation of the past environment using chronological environmental indicators such as annual tree-ring and sediment core samples. Database includes historical information from the forestry records, interviews and literatures on the watershed, as well as scientific information. The transformation module is a tool of two-way data-conversion between people's environmental consciousness obtained from interviews or questionnaires and environmental properties. IDEA will be designed as a tool to analyze the relationship between the environmental consciousness and the environmental qualities.

2. Relation with research program

For constructing the human society, which has sustainability and assures the possibility for future generations, it is essential to preserve and utilize the global environment. Assuming that the global environmental issues are based on the interaction between humans and nature, understanding a view of environmental value is important for solving the environmental issues. It is important to understand how people's consciousness about a watershed environment is established and how it relates with the economic value of the watershed resources. Although people's environmental consciousness and environmental values are important concepts on global environmental issues, theoretical and empirical studies have not been carried out sufficiently. In this project, we will develop the interdisciplinary methodology to theoretically and empirically analyze the conceptual framework of the global environmental issues.

3. Project members (◎: Project leader, ＊: Core member)

◎ YOSHIOKA, Takahito (Research Institute for Humanity and Nature, Assoc. Prof., Project leader)

＊ FUJIHIRA, Kazutoshi (Institute of Environmentology, Head, View of value and mutual agreement)

HATA, Kyoko (Metocean Environment Inc., Senior Researcher, Model of lacustrine processes)

HAYAKAWA, Kazuhide (Lake Biwa Research Institute, Shiga, Senior, Lacustrine material cycling)

＊ HINO, Shuji (Faculty of Science, Yamagata University, Assoc. Prof., Lacustrine material cycling)

IGARASHI, Masataka (National Institute for Environmental Studies, Section Head, Nutrient dynamics)

IKEGAMI, Yoshiyuki (Field Science Center for Northern Biosphere, Hokkaido University, Assist. Prof., Vegetation and land-use analyses)

ISHIKAWA, Ysasushi (Center for Environmental Science, Hokkaido, Res. Staff, Analysis of lake ecosystem)

KAKIZAWA, Hiroaki (Grad. Sch. Agriculture, Hokkaido University, Assoc. Prof., Ecosystem management)

KITAGAWA, Hiroyuki (Grad. Sch. Environ. Stud. Nagoya Univ., Assoc. Prof., Palaeoenvironment analysis)
* KOBA, Keisuke (Interdisciplinary Grad. Sch. Science and Engineer, Tokyo Institute of Technology, Assoc. Prof., Development of analytical procedures for environmental valuation)
* KONOHIRA, Eiichi (Grad. Sch. Environ. Stud. Nagoya University, COE Researcher, Modeling of material cycling)
KUTSUKAKE, Hiroshi (Metocean Environment Inc., Senior Researcher, Model of lacustrine processes)
MAKI, Daisuke (SRIC Corporation, Researcher, Ecological anthropology)
MIKAMI, Hidetosi (Center for Environmental Science, Hokkaido, Res. Staff, Isotopic analysis of lake ecosystem)
* NAGATA, Motohiko (Fac. Humanities and Social Sci., Mie Univ., Assoc. Prof., Environmental sociology and psychology)
* NAKATA, Kisaburo (Fac. Oceanography, Tokai Univ., Prof., Model of lacustrine processes)
* OHTE, Nobuhito (Grad. Sch. Agriculture, Kyoto University, Assoc. Prof., Models for water and material cycling)
OKADA, Naoki (Grad. Sch. Agriculture, Kyoto University Assoc. Prof., Annual tree-ring analysis)
* SEKINO, Tatsuki (Research Institute for Humanity and Nature, Assoc. Prof., Development of IDEA)
* SHIBATA, Hideaki (Field Science Center for Northern Biosphere, Hokkaido University, Assoc. Prof., Dynamics of watershed ecosystems)
SHOJI, Yasushi (Forestry and Forest Products Res. Institute, Research fellow, Contingent valuation method)
* SUGIMAN, Toshio (Integrated Human Studies, Kyoto University, Prof., Social Psychology)
* TAKAHARA, Hikaru (Grad. Sch. Agr. Kyoto Prefecture University, Prof., Pollen analysis of forest vegetation)
TAKANO, Keishi (Hokkaido Institute of Public Health, Res. Staff, Plankton population dynamics)
* TOKUCHI, Naoko (Field Science Education and Research Center, Kyoto University, Assoc. Prof., Assessment of forest cutting)
YAMANE, Takuji (University of Human Environments, Assoc. Prof., Environmental economics)
* YASUE, Koh (Faculty of Agriculture, Shinshu University, Assoc. Prof., Annual tree-ring analysis)
YOSHIDA, Toshiya (Field Science Center for Northern Biosphere, Hokkaido University, Assist. Prof., Land plant population dynamics)
* ZHENG, Yuejun (Research Institute for Humanity and Nature, Assoc. Prof., Statistical survey of environmental consciousness)

4. Progress of the project (From April 2004 to March 2005)

(1) Response-prediction models

Observation data of the Lake Shumarinai watershed have been introduced into the PnET-CN model to simulate the changes in the material cycling under several scenarios of artificial impacts. Effects of past impacts in the forest on the regrowth processes were analyzed using literal information. Relationships between material cyclings in a forest and stream chemistry as well as forest dynamics were analyzed in the forest in Yakayama. Data-set to be introduced into the biogeochemical model has been collected in Lake Shumarinai. Although the lake ecosystem seems to be P-limited, the tendency of eutrophication was detected near the river mouth of a inflowing river to the lake. Research members corresponding to the modeling of lake water current have been fixed. Paleoenvironmental analyses using stable isotope techniques have been started.

(2) Methodology on attitude survey

Interview survey in Horokanai town and Nayoro city, Hokkaido was conducted to clarify essential components in the methodology to be developed in the project. Scripts collected from residents were summarized in a map using the evaluation grid method. A simple questionnaire on the environmental change scenarios was carried out to estimate the important environmental components for residents. Protocol for the survey extracting the interest of the

residents to watershed environments was conceptually outlined. Transformation module for analyzing the scripts and narratives collected from residents was examined using UML method.

5. Modifications on the original research plan

In the original plan, PnET-BGC model will be applied to the response-prediction models in the project. However, the PnET-CN model, the interface of which is completed, has been firstly applied, in order to evaluate the applicability of the model to the forest environments considered in this project. Application of the PnET-BGC may be simultaneously considered. Both models will be connected with a hydrologic model.

6. Outcomes (2004)

(1) Outline

①The material cycling in forested watersheds can be simulated by PnET-CN model using observational data. Although the parameters in the model should be tuned, the applicability of the model has been demonstrated.

②It was clarified that the species composition of seedlings was changed with the artificial impact to the forest. It suggested that the kind and strength of the human impact in past times affect the regrowth of the forest vegetation.

③Effects of the changes in the internal material cycling on the stream hydrochemistry were quantitatively evaluated. It will be important for tuning parameters in PnET models.

④Nitrate concentration in the stream waters in Japanese archipelago was significantly correlated with the amount of atmospheric deposition of nitrogen.

⑤Framework of the protocol for extracting the residential interests to the watershed environment has been described.

⑥Prototype of the transformation module has been designed.

(2) Publications

Fujihira, K.

2004 "The Systematization of Environmental Education by Applying a Theory of System Control" *Environmental Education* 13: 63-70. (in Japanese)

2004 "A Methodology for Conducting Environmental Education in Corporations by Applying System Control Engineering" *Corporate Communication Studies* 8: 46-56. (in Japanese)

2004 "The Systematization of Environmental Education in Corporations Based on a Theory of System Control" *Environment-Conscious Management and Mode of Corporate-Communications* pp. 130-144. (in Japanese)

Konohira E., Shindo J. and Yoshioka T.

2005 "Stream water chemistry in Japan" In: Nagoya University the 21st century COE program "Dynamics of the Sun-Earth-Life interactive system" editorial board (ed.) *Nagoya University the 21st century COE program "Dynamics of the Sun-Earth-Life interactive system" Annual report 2004*, pp. 281-290.

Okazaki, A.

2005 "Overseas Investigation Report" *Research in Social Management* No. 4: 45-57. (In Japanese)

Shibata, H., Sugawara O., Toyoshima H., Wondzell S. M., Nakamura F., Kasahara T., Swanson F. J. and Sasa K.

2004 "Nitrogen dynamics in the hyporheic zone of a forested stream during a small storm, Hokkaido, Japan" *Biogeochemistry* 69: 83-104.

Yoshida, T., Iga, Y., Ozawa, M., Noguchi, M. and Shibata, H.

2005 "Factors influencing early vegetation establishment following a soil-scarification in a mixed forest of northern Japan" *Canadian Journal of Forest Research* 35: 175-188.

Yoshioka, T.

2004 "Function of forest catchment" *Journal of Japan Society on Water Environment* 27: 567. (in Japanese)

Zheng Y.
2004 "A Vision for International Comparative Survey Research" In Kwansei Gakuin University (ed.) *Proceedings of the Use of Cross-National Comparative Surveys*, pp. 123-138.

(3) Symposium and lecture meeting
"Environmental Ethic and International Cooperation in Environmental Issues" (February 10, 2005, at RIHN)
Section 1. Environmental Ethics
Chair person: MURAKAMI Masakatu (Doshisha University)
"Introduction" ZHENG Yuejun (RIHN)
"Role of education to environmental issues" SHIBASAKI Fumikazu
"Conceptual considerations on the value judgment of environments" YOSHIOKA Takahito (RIHN)
"Environmental ethics and environmental justice" KITOH Shuichi (Keisen University)
Section 2. International Cooperation in Environmental Issues
Chair person: YOSHIOKA Takahito (RIHN)
"Construction of harmonious society for the cross-national environmental issues based on integrated evaluation on environment in East Asia" ZHENG Yuejun (RIHN)
"Social capacity development for environmental management and international cooperation" MATSUOKA Shunji (Hiroshima University)
Section 3. General discussion
Chair person: YOSHIOKA Takahito (RIHN)
Commentators: AKIMICHI Tomoya (RIHN), SUGIMURA Ken (Forestry and Forest Products Research Institute), TAKEZAWA Hiro (Kyoto University), TSUYUKI Satoshi (The University of Tokyo)

Feasibility study

Research axis: Conceptual framework for global environmental issues
Project number: 5-3FS
Project name: A new cultural and historical exploration into human-nature relationships in the Japanese Archipelago
Project leader: YUMOTO, Takakazu (RIHN)
Core members: (see No. 3)

1. Research Objectives and Contents:

The Japanese Archipelago has been extremely densely populated since the Neolithic Age, and most of the natural environment has been strongly influenced by human activities. The life patterns of humans have, in turn, been shaped by their use of biological resources, by their fauna and flora. Moreover, although the Japanese biota is derived from life forms which migrated from the continental mainland during periods when sea levels were lower, it has been further augmented by human beings, who have introduced additional species at various times. However, in spite of the intensive intervention by humans in the natural environment, there is still a rich biota in the Japanese Archipelago, which includes, for example, an abundance of indigenous species of angiosperm and freshwater fish. Because of this, it has been widely assumed that human-nature relations in pre-modern Japan were governed by some kind of traditional wisdom that prevented people from exhausting biological resources; or even that it was the moderate human activity itself that preserved the abundant biota and sustainability of biological resources in Japan.

However, the question of exactly how stable the coexistence between the nature and humans was in the past has not been resolved. Could it be that even in the Japanese Archipelago there has been a history of exhausting biological

resources? If the wisdom and will to use biological resources in a sustainable way existed, how common were they? Moreover, could there have been any major social changes that occurred as a result of exhausting certain biological resources?

Although each of these questions has been tackled within the limits of one historical period, region, or one academic discipline, they have not been researched using a trans-disciplinary approach, over an area that would represent the whole Japanese Archipelago, or over a time span that encompasses the whole period from the earliest human habitation of Japan to modern times. The objective of the present project is to reconstruct as historical processes. It will examine, first, how the natural environment has been changed since the late Paleolithic Age, when human beings are first known to have existed in the Japanese Archipelago; second, how the biota has changed during that process; and third, what kind of perceptions, knowledge and skills the humans possessed, concerning both nature in general, and specific life forms. Our aim is to present a foundation for contemplating how human-nature relations should be developed, and to suggest concrete measures for preventing mass extinction of species in the near future.

2. Relation to Research Axis:

The Japanese Archipelago extends over 3000 km from North to South, and includes subarctic, cool temperate, warm temperate and subtropical climatic zones. It is evident that, even during the global environmental changes that have taken place over the past 100,000 years, these various climatic zones were present. As a result, the characteristics of the natural environment and the human subsistence activities within the Japanese Archipelago varied greatly, as did the relationships between nature and human activity. Under the influence of climatic change and human activities, the distributions of individual species of plants and animals in the Japanese Archipelago and its surrounding landmasses have been constantly changing. Populations have repeatedly divided, expanded and diminished in response to changes in the availability of suitable habitat. Where suitable habitat was not available, the species became extinct.

The knowledge and skills that humans have developed concerning individual species can be considered to contain both the idea that biological resources should be used sustainably, and the desire to harvest without fear of exhausting the resources. Although ethnological research has highlighted phenomena such as public management of lands and resources, and environmental preservation through limited harvest, it is still unclear when, in which region and among whom the philosophy of preservation was put into practice, or under which social conditions it became an influential way of thinking. Throughout the period of human habitation, the Japanese Archipelago has been blessed with a warm climate and abundant rainfall, and consequently abundant biological resources. But what is the history of overuse and exhaustion of those resources? And how did individual species fare in this historical process? These are the central issues of the present project.

The three main problems to be investigated here are as follows.

1) How did new subsistence/economic systems (human-nature relationships concerning food, shelter, clothing, tools, fuel, fodder, fertilisers, medicine, rituals) emerge and spread?
2) How were these subsistence/economic systems maintained, and how and why did they end? What kind of social system (social structure, economic foundation, system of spatial organisation, technical system, perception of nature) supported the subsistence/economic system, and, after it ends, how does the social system change?
3) What becomes of the biological resources that were connected to the system after it ends? Do they become entirely extinct or remain as relics?

Answering the above questions can contribute to the conceptual framework for global environmental issues.

3. Project members: (◎: Project leader, ＊: Core member)

Name	Affiliation	Role
Project leader		
◎ YUMOTO, Takakazu	Research Institute for Humanity and Nature	Project Leader
Core members		
＊ ABE, Hiroshi	Research Institute for Humanity and Nature	Philosophical study on the value of human-nature relations
＊ IKEYA, Kazunobu	National Museum of Ethnology	Ethnological study and research on the human-nature relations
＊ KATAYAMA, Kazumichi	Kyoto University	Analysis of human diets based on old human bones
＊ MATSUDA, Hiroyuki	Yokohama National University	Theoretical study on the extinction of species
＊ MURAKAMI, Noriaki	Kyoto University	Analysis of the distribution and genetic constitution of living plants
＊ NAKANO, Takanori	Research Institute for Humanity and Nature	Stable isotope analysis of human-nature relations in the past and the present
＊ SHIMIZU, Isamu	Kyoto University	Analysis of the distribution and genetic constitution of living animals
＊ TAKAHARA, Hikaru	Kyoto Prefectural University	Reconstruction of historical environmental from plant remains
＊ TAYASU, Ichiro	Kyoto University	Stable isotope analysis on human-nature relations in the past and the present
＊ UCHIYAMA, Junzo	Research Institute for Humanity and Nature	Zooarchaeological analysis of the for human-nature relationships
＊ YAHARA, Tetsukazu	Kyushu University	Empirical study on conservation of species
＊ YAMAGUCHI, Hirofumi	Osaka Prefecture University	Analysis of the distribution and genetic constitute of domesticated plants
HOKKAIDO Area		
＊ FUJII, Noriyuki	Tokyo Metropolitan University	Analysis of the distribution and genetic constitution of living plants
＊ IGARASHI, Yaeko	Institute for Paleoenvironment of Northern Regions	Reconstruction of historical environments from plant remains
＊ OKITSU, Susumu	Chiba University	Analysis of the distribution and relations between plants and humans
＊ SASAKI, Shiro	National Museum of Ethnology	Ethnological analysis of the human-nature relations
＊ SATO, Hiroyuki	The University of Tokyo	Ethnological analysis of the human-nature relationships
TOHOKU Area		
＊ KIKUCHI, Isao	Miyagi Gakuin Women's University	Historical analysis of the human- nature relationships
＊ KOYAMA, Shuzo	Suita City Museum	Ethnoarchaeological analysis of the human-nature relationships
＊ MAKITA, Akifumi	Akita Prefectural University	Analysis of the distribution and relations

		between plants and humans
* TAGUCHI, Hiromi	Tohoku University of Arts and Design	Ethnological analysis of the human-nature relationships
* TOMARU, Nobuhiro	Nagoya University	Molecular plant geological studies on the Fagaceae plants
* TSUJI, Sei'ichiro	The University of Tokyo	Environmental archaeological analysis of the human-nature relationships
KANTO-CHUBU Area		
* BAUSCH, Ilona	Leiden University	Economic archaeological analysis the human-nature relationships
* MOMOHARA, Arata	Chiba University	Reconstruction of historical environmental from plant remains
* NAKAI, Sei'ichi	Toyama University	Historico-linguistic analysis of the human-nature relationships
* NISHINO, Masato	Chiba Prefectural Association of Cultural Properties	Zooarchaeological analysis of the human-nature relationships
* OHNISHI, Koji	Toyama University	GIS analysis of the resource management systems
* SUKA, Takeshi	Nagano Environmental Conservation Research Institute	Analysis of the distribution and relations between animals and humans
* TAMURA, Minoru	Osaka City University	Analysis of the distribution and genetic constitution of living plants
KINKI Area		
* OGURA, Jun'ichi	Kyoto Seika University	Reconstruction of historical environments from plant remains
* SEGUCHI, Shinji	Shiga Preservation of Cultural Assets Association	Ethnological analysis of the human-nature relationships
* TAKAHASHI, Manabu	Ritsumeikan University	Geographical analysis on human-nature relations
* TSUMURA, Yoshihiko	Forestry and Forest Products Research Institute	Molecular plant geographical studies on conifers
KYUSHU Area		
* IINUMA, Kenji	Beppu University	Historical analysis of the human-nature relationships
* IMAMURA, Akio	Research Institute for Humanity and Nature	Analysis of the distribution and relations between fungi and humans
* NAGAMASTSU, Atsushi	Miyazaki Municipal University	Ethnological and historical analysis of the human-nature relationships
* TAKAHASHI, Kei'ichi	Lake Biwa Museum	Reconstruction of historical environments from animal remains
OKINAWA Area		
* ANKEI, Takako	Yamaguchi University	Ethnological analysis of the human-nature relationships
* ANKEI, Yuji	Yamaguchi Prefectural University	Ethnological analysis of the human-nature relationships

* IIDA, Taku	National Museum of Ethnology	Ethnological and sociological analysis of the human-nature relationships
* KATO, Makoto	Kyoto University	Analysis of the distribution and relations between animals and humans
* MORIGUCHI, Mitsuru	Okinawa International College	Analysis of the distribution and relations between animals and humans
* SETOGUCHI, Hiroaki	Kyoto University	Analysis of the distribution and genetic constitution of living plants

4. Modification from the original plan:

1) The research proposal from last year was titled "Reconstructing the Concept of Symbiosis: a Historical Approach to the Cases in the Far Eastern Archipelago and Surrounding Areas". The title of the project has been changed and the research areas redefined for the following reasons:

- Regarding the concept of "*kyousei*" (translated in the title as "symbiosis")
  (a) At the level of incubation and feasibility studies, three ecological terms, *sustainability*, *mutualism* and *coexistence*, were used without differentiating their respective meanings, and they were therefore confused.
  (b) We reached the conclusion that, based on the concepts deriving from Mahayana Buddhism and anarchism, the *kyousei* concept has been widely accepted by the general public in Japan.

  For the two aforementioned reasons we decided to exclude the term "symbiosis" from the title. Based on that conclusion, we concentrated our research on the issues concerning the real historical process behind the question that we raised at the stage of incubation studies: "Is it true that in former times humans had a *symbiotic* relationship with nature, but that in recent years that relationship has broken down, causing global environmental problems?"
- We decided that the research should focus on how the phenomenon called "Japan" was formed as a notion "unifying" the regional diversity in the cultural and historical aspects of the human society and its mutual relations with nature, and changed the natural geographical term "the Far Eastern Archipelago" in the title for "the Japanese Archipelago", which is more consciously related to the political term "Japan". Accordingly, the main research area was reduced to the territory of Japan.

2) Six areas that are environmentally and historically distinct (Hokkaido, Tohoku, Kanto-Chubu, Kinki, Kyushu and Okinawa) were chosen as research areas. By comparison between the areas we attempt to elucidate the process of exchange among the regions throughout history, and their unification resulting from the expansion of the central political order. Differences in natural environment (ancient climate, geography and vegetation) and human activities will be the two main parameters for comparison.

3) After devising the methods for comparative modelling of the historical environmental change in each of the six regions, we will track the historical change of human activities and explain their relations with the plant species now present, and the geographical distribution of plant populations.

5. Progress of the project:

In June, meetings of the core members were held and the research proposal was redefined. We have finished the screening of currently present plant and animal species for the intensive studies on those plant and animal populations that are representative of a certain natural environment, and that have been a resource for humans. In June and July, a visit was made to the Institute of Biology and Soil Sciences, Far East Branch of the Russian Academy of Sciences, to investigate the possibilities for research on the Primorskij region and hold meetings on the

research plans. In September and October, a visit was made to Tartu University, Estonia, which is one of the centres for research on natural landscapes, Freie Universitat Berlin, Germany, and scholars in the Netherlands and the United Kingdom for collecting vital information. In November, a symposium "Understanding the 'present' interactions between deer and forest" was held in Nara to tackle the problem of damage caused by wild animals (Lectures and discussions of the symposium will be published in 2005 in one volume by Bun'ichi Sohgoh Shuppansha in Japanese).

Research Institute for Humanity and Nature

Incubation Studies

Incubation Study

Project name: A comparative study between the Dominican Republic and Malaysia on the influence of European origin logic and systems on the natural resource uses

Leader: ICHIKAWA, Masahiro (Associate Professor)

Logics and systems, such as production systems, administration organizations, community systems and so on, originally created in western Europe have affected natural resource uses in non-European areas. In this research, with the aim of clarifying the influence, the natural resource uses observed in the Dominican Republic and Malaysia are compared. The two countries were chosen as areas where the natural resource uses have been affected with wide differences by the western European originated logics and systems. Fieldwork will be a main methodology of this research.

Incubation Study

Project name: Integrated studies depending on national policy during the inter-war period

Leader: KATO, Yuzo (Assistant Professor)

During the inter-war period, Japanese institutes for national policy carried out many integrated studies. Although they aimed support of Japanese war regime, most of scholar joining them did excellent researches from genuine scientific interests. When we carry out RIHN's projects, we can consider their method of managing projects. Examining their project's target and method, this incubation study has searched seeds of RIHN's projects.

Incubation Study

Project name: What is the limit of human impacts on sustainability in the environment? A case study in arid regions in China

Leader: KUBOTA, Jumpei (Associate Professor)

Development of human activities, especially the increase of population, has caused serious damages on terrestrial ecosystems, resulting in degradation problems, such as deforestation and desertification due to agricultural development and fuel consumption. Because of its severe natural environment, terrestrial ecosystems in arid and semi-arid regions are fragile and sensitive to human impacts. This study has aimed to clarify the interaction between human and nature in arid and semi-arid regions in China, using various kinds of proxies, such as historical documents. Moreover, we tried to find a threshold of capacity in natural environment for human impacts.

Incubation Study

Project name: Creation of environmental traceability science

Leader: NAKANO, Takanori (Professor)

Man's excessive use of exhaustible resources derived from the geo-sphere generates major qualitative changes in the entire earth's surface (atmosphere, hydrosphere and biosphere, including humans). It is important to establish an "Environment Traceability Science", which tracks the movement of materials in the surface spheres and constructs environmental indicators to further diagnose and assess their safety. This study specifically focused on a variety of geo-spherical information and a combination of old and new geochemistry methods. Aiming to explore a potential of the "Environment Traceability Science", I lectured at several universities and discussed many geologists and geochemists who are interested in applying their knowledge and skill to environmental problems.

Incubation Study

Project name: The study of food – A cross point of human and nature –

Leader: NONAKA, Kenichi (Associate Professor)

For pursuing solutions of environmental problems, this study aims to construct the framework for dealing with eating as a subject of the study to consider the problems in the context of the interaction between the environment and human beings. It also shows that eating should be an important theme in the issues concerning the environment around human life, including biological resources and humans, from the viewpoint of 1) the agency of humans as the subject and 2) interrelations between humans and nature. In perspective of empirically carrying out studies in the future, the framework is focused on the following three points: 1) the definition of eating as the environment-human relations; 2) human beings as the actor to consider the environment; and 3) the environment with reality and the quality of the environment.

Incubation Study

Project name: Global environment and infectious diseases

Leader: MOMOKI, Akiko (Associate Professor)

The world incidence of the infectious diseases has been rising since the 1980s, and emergence and re-emergence of infectious diseases have become one of our greatest concerns. Many factors are said to cause this phenomenon: environmental destruction/change, globalization, population increase, collapse of social systems, poverty, etc. We can say that the actual problem of infectious diseases represents an aspect of the global environmental problem. In this perspective, this study is to investigate how actual cases of the infectious disease problem have appeared as a consequence of interactions between environmental, social, economic and other factors. This will lead to a new orientation of research toward solving the global environmental problem.

Incubation Study

Project name: Study of nature

Leader: SAITO, Kiyoaki (Professor)

The Japanese word shizengaku (study of nature) is authorized by IMANISHI. Kinji IMANISHI (1902-92) was an entomologist, ecologist, anthoropologist, founder of Japanese primatology, who had popularity as an explorer of nature among Japanese pubulic. He published "*The adovocation of shizengaku (study of nature)*" in 1984, and "*The development of shizengaku (study of nature)*" in 1987. So we started to study about IMANISHI and his shizengaku. Now we are in continue. for example ,What is the Japanese view of Nature. Co-study member are Prof. Pamela Asquith (Albert Univ.) and Prof. Suehisa Kuroda (Shiga Pref. Univ.)

Incubation Study

Project name: Long-term dynamics of the prehistoric socio-economic structures in the Holocene from resource use perspectives

Leader: UCHIYAMA, Junzo (Associate Professor)

Humans have experienced two major changes in the relationships with the nature throughout the history: Neolithization and Modernization. Neolithization bid farewell to the nomadic foraging lifestyles of the Palaeolithic/Mesolithic cultures and opened the door to the lifestyles of Neolithic periods, in which people started to give considerable impacts on their surroundings by newly introduced technologies like agriculture. On the other hand, Modernization ended the former comparatively self-sufficient agrarian lifestyles through the emergence of large scale trading networks and industries, and then launched the modern lifestyles, which are characterized by the prodigious scale of the development of the natural environments. Comparing between Neolithization and Modernization in East Asia from historical perspectives, this project aims to answer what socio-economic

phenomenon can be observed when human groups are changing the human-nature relationships and what factors eventually triggered such changes.

Incubation Study

Project name: Towards resilience of social-ecological systems for environmental variability

Leader: UMETSU, Chieko (Associate Professor)

During the 20th century, climate changes caused large human casualties due to disasters and famines in many parts of the world. In addition to the direct impact of natural disasters, it is believed that human factors such as vulnerability of social security and/or a lack of resilience of agricultural production activities associated with chronic poverty are largely responsible for such damages. In particular, for agricultural and pastoral population that largely depend on environmental resources in agricultural sectors in developing countries, degradation of resilience of social-ecological systems caused by the population pressure and a breakdown of traditional communities are becoming critical for their survival. However, the methodology to assess resilience has not yet established. Thus the purpose of the study is first to establish a methodology to assess social-ecological resilience.

Incubation Study

Project name: Nature of archaeologically-hydrologically synthetic flood (NOAH'S Flood)

Leader: YATAGAI, Akiyo (Assistant Professor)

The Noah's Flood story written in Genesis of the Bible describes an event of divine judgment when "all the springs of the great deep burst forth, and the floodgates of the heavens were opened (Genesis 7: 11). According to the Bible story, on Noah's family and the creatures with them on the ark survived the flood. The Noah's Ark story and the Genesis flood hold a fascination for people of all ages as well as scholars such as theologists, archaeologists and paleo-environmental scientists. As an incubation study, we collected literatures which deal with Noah's flood, flood myths, and paleo-environment in the Near East, and had discussions with environmental scientists. In the recent 10 years, some earth scientists suggested that the Noah's flood occurred around the Black Sea. However, there are still many other hypotheses to be discussed, including the possibility that the entire story may have been fiction.

Incubation Study

Project name: Construction of harmonious society for cross-national environmental issues based on integrated evaluation on environment in East Asia

Leader: ZHENG, Yuejun (Associate Professor)

Construction of Cooperative Society for Environmental Issues (COSEI) is a necessary task because considerable cross-national environmental issues in East Asia have become extremely serious in the past decades. The purpose of this research is to develop methodology for improving the environmental quality related to harmful gases emission in the worldwide level, through clarifying the correlation between human activities and environmental changes in temporal and spatial axes quantitatively and identifying the essence of environmental fluctuation. Based on this integrated analysis, we have focused on discussing concepts of COSEI, Integrated Environmental Assessment System (IEAS), Social Degree of Environmental Cognition (SDEC), and Social Capacity for Environmental Management (SCEM), consequently proposed basic elements for construction of COSEI theoretically.

Research Promotion Center

Activities in the fiscal year 2004

The Research Promotion Center, in accordance with the principles of the Institute, has been engaged in building the basis for finding a new research perspective beyond the scope of the existing disciplinary framework.

From this year, the Institute organizes its activities in the framework of the newly established National Institutes for the Humanities, whose Medium-term Action Program stipulates that "Research Institute for Humanity and Nature will make necessary arrangements to consolidate the Research Promotion Center for activities including information collection and processing, science communication, and relevant basic research, in relation to the global environment studies." Accordingly, the Research Institute has set up the Liaison Committee for the Operation of the Research Promotion Center.

The Center, in such framework, take further steps in its own research for promoting the "global environment studies". Such research will constitute the basis for "planning science communication" to the public (for example, the RIHN Citizen Seminar), related to the RIHN's research activities, and for "providing information and its processing tools" (databases, observation technologies, etc.) for promoting the "global environment studies".

"Global ennvironmental studies"

We are planning RPC (Research Promotion Center) 's Research Project "Global environmental studies: What is the way to go"

To do research from the perspective of the "global environment studies", what will be needed? First we shall have a clear idea about the conceptual framework of the "global environment studies", then shall study carefully the appropriate processes and tools used in such research. This Project is to study the possible arguments and standpoints involved in the global environment studies, and try to suggest the way these sciences shall go.

RIHN Public Seminar

The 1st RIHN Citizen Seminar was opened at the Niijima Kaikan (Doshisha university hall near RIHN) on November, 5th. We delivered the first seminar talk titled "Romance and Actual of Silk-Road region ~ from the Oasis Project" by Professor NAKAWO (RIHN). The purpose of this event is to open our research result to public. This series are well-organized and there are an audience of 100 at each seminar.

The 2nd Public Seminar

Date: 3 December, 2004

Speaker: YACHI, Shigeo (Associate Professor, RIHN),
NAKANO, Takanori (Professor, RIHN)

Title: To protect water enviroment of the Lake Biwa

The 3rd Public Seminar

Date: 4 February, 2005

Speaker: TAKASO, Tokushiro (Professor, RIHN) and others

Title: Nature and People's life in subtropical islands Iriomote

The 4th Public Seminar

Date: 4 March, 2005

Speaker: KANAE, Shinjiro (Associate Professor, RIHN)

Title: The Water problems of the world

(This seminar continues by one schedules future and every month.)

Publications

The publication committee was established in this summer. Two kinds of publications called Series & Library are taken out. The series of one volume "Biodiversity, Why is it important?" (in Japanese) is published in March, 2005. In this book how RIHN defines, thinks and inquires about Biodiversity.

Outreach Programs and Events

The 3rd RIHN Forum

Theme: What comes after biodiversity loss?

Date: 10th July, 2004

Venue: Kyoto International Conference Hall

Program

Part 1. Topics

Opening address

HIDAKA, Toshitaka (Director-General, RIHN)

Presentation

Title: Biodiversity science as a global enviromental study

Speaker: NAKASHIZUKA, Tohru (Professor, RIHN)

Presentation

Title: Human being as an omnivorous animal

Speaker: HIDAKA, Toshitaka (Director-General, RIHN)

Presentation

Title: Biodiversity in terms of genes

Speaker: KAWAMOTO, Yoshi (Associate Professor, Kyoto University)

Presentation

Title: Cultural diversity as a survival strategy of humankind: Jomon perspectives

Speaker: UCHIYAMA, Junzo (Associate Professor, RIHN)

Part 2. Panel Discussion

NAKASHIZUKA, Tohru × HIDAKA, Toshitaka × KAWAMOTO, Yoshi

Commentator: YACHI, Shigeo (Associate Professor, RIHN)

Chair: UCHIYAMA, Junzo (Associate Professor, RIHN)

General Chair: SAITO, Kiyoaki (Professor, RIHN)

Outreach Programs and Events

1. RIHN Forum

"What are the global environmental problems?" "What are the integrated global environment studies?" "What will be the outcomes of such studies?" "What will be the future of the global environmental problems?" "Will their solution be possible?"

RIHN Forum is organized, based on the principles and outcomes of RIHN's research activities, and especially on the understanding that "the so-called environmental problems are fundamentally problems of human culture", to raise questions and animate discussion about up-to-date topics around the problems, to help us find answers to the above fundamental questions.

The 3rd RIHN Forum

Theme: What comes after biodiversity loss?
Date: July 10, 2004
Venue: Kyoto International Conference Annex Hall

2. Publication

RIHN Series The 1st volume "Biodiversity, why is it important?", (in Japanese) Showado (2004)

3. Seminars

3-1 RIHN Seminars

RIHN Seminars are organized to provide opportunities for RIHN's scientists to share the latest topics and research trends in different fields of global environment research with speakers invited from Japanese or foreign institutes, and to get inspired with new directions of research; these seminars also serve to create substantial collaborations in research between RIHN and such other institutes. Seminars are held several times a year, where well-studied and reflected subjects of different fields are chosen for discussion.

April 2004-March 2005

The 13th 14 May, 2004
Speaker: TAKAHASHI, Hiroshi (Visiting Professor, Development Institute Co., Japan)
Title: 'Exhibition as Environment, in order to make research outcomes inform widely and appeal deeply'

The 14th 18 October, 2004
Speaker: GRUEN, Armin (Eidgenossische Technische Hochschule, Zurich, Switzerland)
Title: 'Geoinformatics and its challenge for multi-temporal spatial understanding'

The 15th 28 October, 2004
Speaker: BERQUE, Augustin (Ecoles des hautes etudes en sciences socials, Paris, France)
"Theory of milieu and sustainability"

The 16th 9 February, 2005
Speaker: MANNING, Aubrey (The University of Edinburgh)
Title: 'Landscape and natural history'

Abstract: This talk will try to illustrate 'natural history' and landscape in Britain by describing the history of our landscapes and our attitudes towards them. Like Japan, Britain has a wide range of landscape types depending on climate and underlying geology. Human activity can be traced back almost 10,000 years to the time when humans re-colonized Britain after the last glacial retreat. Almost nothing remains untouched but now we actively strive to conserve semi-natural habitats and the biodiversity that goes with them.

The 17th 24 February, 2005
Speaker: MARUYAMA, Tokuji (Ryukoku University, Faculty of Letters)
Title: 'How should we understand "from pollution to earth environmental problem" ?'

The 18th 3 March, 2005
Speaker: MONNAI, Teruyuki (Kyoto University, Graduate school of Engineering)
Title: 'Decoding and design of urban landscape'

The 19th 29 March, 2005
Speaker: HANNAN, Md. Abdul (RIHN foreign researcher)
Title: 'Studies on the partnership between pollinators and wild and cultivated plants in subtropical Island, Iriomote'
Abstract: Iriomote Island is one of the unique places for its fauna and flora. Forest is a great natural resource of this island including small part of human settlements. Majority of the island is occupied with natural forest. It is a very important matter to understand the ongoing relationships between pollinators and plants in this island. Regarding this a research work was conducted from April 2004 to March 2005 entitled <Studies on the Partnership between Pollinators and Wild and Cultivated Plants in Subtropical Island, Iriomote. Pollinators have very important role for the conservation, as well as in the evolution process of plants. Throughout the present study some important results have been accumulated that should be crucial to be used for any conservation study, as well as for further records, which are e.g. Nectar robbing behavior of the wasps visited *Tabebuia rosea* (Bertol.) DC (Bignoniaceae) in Iriomote Island (Hymenoptera, Apoidea); Nest architecture of *Megachile* (*Megachile*) *igniscopata* (Hymenoptera, Megachilidae); Nesting biology and the nest architecture of *Lithurgus* (*Lithurgus*) *collaris* Smith (Hymenoptera, Megachilidae) in Iriomote Island; Additional notes on the nesting habits of *Megachile yaeyamaensis* Yasumatsu et Hirashima in Iriomote Island (Hymenoptera, Megachilidae); and important notes on the nesting biology of *Nomia pavonula* (Hymenoptera, Helictidae) in the southern most subtropical island of Japan. Studies on the partnership between pollinators and plants afford information on the existing condition of them that are very important for future conservation measures or purposeful studies (e.g. pollinator management, habitat management, etc.).

3-2 Luncheon Meeting (Danwakai)

At RIHN where institute members, as well as visiting professors, part-time researchers, foreign researchers and so on, converge to freely present their individual themes on global environmental study, these Luncheon meetings provide an unique opportunity for mutual inquiry and exchange of opinions. As meetings serve as an important venue for promoting creative thinking and constructive debates and will be held virtually on a biweekly basis.

No.60 20 April, 2004
Speaker: SAITO, Kiyoaki (Research Promotion Center)
Title: My study of nature

No.61 18 May, 2004
Speaker: YUMOTO, Takakazu (Professor)
Title: 'Goshawk matter' as environmental discourse

No.62 1 June, 2004
Speaker: HIDAKA, Toshitaka (Director-General), NAKAWO, Masayoshi (Professor)
Title: The establishment of RIHN

No.63 29 June, 2004
Speaker: NAKANO, Takanori (Professor)
Title: Geochemistry of resource and environment

No.64 6 July, 2004
Speaker: YACHI, Shigeo (Associate Professor)
Title: How can we promote the new synthesis of global environmental studies?

No.65 21 July, 2004
Speaker: SAITO, Kiyoaki (Professor, Research Promotion Center)
Title: Role of the Research Promotion Center in global environmental studies at RIHN

No.66 21 September, 2004
Speaker: KANBER, Rıza (Visiting Professor)
Title: Agricultural research activities in Turkey

No.67 5 October, 2004
Speaker: IMAMURA, Akio (Research Fellow)
Title: Plants and I

No.68 19 October, 2004
Speaker: KHARAKWAL, Jeewan Singh (Visiting Professor)
Title: INDIA: as I know

No.69 2 November, 2004
Speaker: CHITRAKON, Songkran (Visiting Professor)
Title: Rice genetic resources in Thailand

No.70 16 November, 2004
Speaker: HIDAKA, Toshitaka (Director-General)
Title: On evaluation of Research Project

No.71 30 November, 2004
Speaker: MOMOKI, Akiko (Associate Professor, Research Promotion Center)
Title: Museum National d'Histoire Naturelle (French National Museum of Natural History) – Secret of its success in our age – report from a field survey

No.72 7 December, 2004
Speaker: ZHENG, Yuejun (Associate Professor)
Title: Preliminary results of a survey on global environmental issues

No.73 9 December, 2004
Speaker: KOHMATSU, Yukihiro (Assistant Professor, Research Promotion Center)
Title: Basic design of exhibition space

No.74 18 January, 2005
Speaker: David Hill Anthony (Invited Research Fellow)

Title: Bats as indicators of environmental change: Responses of bats to human disturbance of forest habitats.

No.75 1 February, 2005
Speaker: TAKEUCHI, Nozomu (Assistant Professor)
Title: RIHN in future—Where are we going to?

No.76 15 February, 2005
Speaker: ENDO, Takahiro (Assistant Professor)
Title: Sea environment protection and political science

No.77 1 March, 2005
Speaker: SHEN, Weirong (Invited Research Fellow)
Title: Uncover the real story of Tibetan Buddhism in Tangut Empire and Mongol-Yuan China, A Survey of Khara Khoto Chinese manuscripts on Tibetan Tantric Buddhism

3-3 Evening Seminars

Modeled on the format of the Study meetings, the evening seminars are intended to promote the free exchange of opinions and to stir up discussion. Although these seminars will of course be far more limited timewise than the aforementioned Luncheon meetings and RIHN Research Seminars, they are important as discussion-centered Study meetings. Ordinarily these Study meetings will be held on a monthly basis and beginning at five p.m. last approximately two hours. As research presenters nominate the next round of presenters, a special feature of these Evening Seminars is the presentation of early buds of information on creative research being done by researchers in diverse academic fields.

No.14 23 April, 2004
Speaker: ABE, Hiroshi (Assistant Professor)
Title: To philosophize at RIHN and myself

No.15 19 May, 2004
Speaker: KUME, Takashi (Research Fellow)
Title: RIHN and me

No.16 16 June, 2004
Speaker: HOSHIKAWA, Keisuke (Research Fellow (RR))
Title: Individual and collectivity, a researcher and a project

No.17 13 July, 2004
Speaker: FUJITA, Wataru (Research Fellow)
Title: Towards real "integrated study": Environmental studies, area studies, and Southeast Asia

No.18 10 September, 2004
Speaker: KATAGIRI, Shuichiro (Research Fellow)
Title: The complexity of clouds against out expectations

No.19 24 November, 2004
Speaker: KANAE, Shinjiro (Associate Professor)
Title: Issues on trans-, inter-, fusion-disciplinary research activities

4. Presentation of Research Projects

Venue: Co-op in Kyoto
Date: 16 December, 2004 (Thu.)-17 December, 2004 (Fri.)

5. Study Meetings "The Whole and the Individual in Nature and Culture (WINC)"

Study meetings "The Whole and the Individual in Nature and Culture (WINC)" aim to evoke innovative discussions and thoughts as to how we approach from studies of the individual-focused and the proximal to the integrative understanding of the reality of nature and culture interactions as a whole. Taking diverse theme and scientific bases of human knowledge and practices interacting with them. Study meetings will be held several times throughout the year and are to be coordinated by AKIMICHI, Tomoya (RIHN), KONAGAYA, Yuki (National Museum of Ethnology), and SHIRAHATA, Yozaburo (International Research Center for Japanese Studies)

5-1 Study Meetings

The 3rd Meeting

Theme: Snow
Date: May 27, 2003
Presenter: TAKEUCHI, Nozomu
KISHIGAMI, Nobuhiro
ISHIGAKI, Satoru
Comment: KOBAYASHI, Tatsuo

The 4th Meeting

Date: November 30, 2004
Theme: Ghost
Presenter: AKIMICHI, Tomoya
Title: Anomalous Animals and Anthropology
Presenter: KOMATSU, Kazuhiko
Title: Reconstruction of the Ghost Study- Tradition and Creation of Ghost Drawing
Presenter: KAGAWA, Masanobu
Title: Neuron, Hypnotism and Spirit- Modern Aspect of the Ghost

The 5th Meeting

Date: February 25, 2005
Theme: Gourd
Presenter: SATO, Yo-Ichiro
Title: Did gourd drift over the ocean spontaneously?
Presenter: YUASA, Hiroshi
Title: On the culture of gourd
Presenter: YOSHINO, Hiroko
Title: The gourd in philosophical thought
Comment:

6. Symposia

The 5th KOSMOS Forum

"Exploring New Philosophy on Life in the 21st Century"
Date: 2005 March 2nd 13:30-16:30

Place: Rhiga Royal Hotel Kyoto

Sponsorship: International Exposition of Flowers Memorial Foundation and Research Institute for Humanity and Nature

Human's place in nature is changing rapidly as the technological civilization has developed and affected seriously on the life of both human and nature. Therefore, in the new century, it is urgent and indispensable for us to rethink what the life is and what the future of life should be for humans as well as every kind of plant and animals on the earth. Focusing on the design and form of life, this symposium aims to discuss about their diverse and fundamental significances.

Keynote Speech

Toshitaka HIDAKA (Director-General, Research Institute for Humanity and Nature)

"Thinking About Life in Nature"

Forum "Design of Life"

Panelists

Yoichiro SATO (Professor, RIHN)

Kouhei SUGIURA (Designer)

Akira HARADA (Professor, The Tsukuba University)

Akiko FUKAI (Professor, Shizuoka University of Culture and Art)

Coordinator

Tomoya AKIMICHI (Professor, RIHN)

Social Activities

1. Press Conference

As a public information activity, RIHN has official press conferences several times per year to make open RIHN's academic activities such as research findings, symposia, publications and update environmental topics through this conferences. This activity has the important media to link RIHN with the society.

Individual Achievements

Individual Achievements

1. Director-General

HIDAKA, Toshitaka — Director-General

Born in 1930.

Curriculum Vitae

Academic Career

Research student, Department of Zoology, Faculty of Science, The University of Tokyo (1959)

Department of Zoology, Faculty of Science, Graduate School (under the old system), The University of Tokyo (1957)

Department of Zoology, Faculty of Science, The University of Tokyo (1952)

Professional Career

Director-General, Research Institute for Humanity and Nature (2001-)

President of the University of Shiga Prefecture (1995-2001)

The Corporate Adviser for the Opening of the University of Shiga Prefecture (1993-1995)

Professor, Department of Zoology, Faculty of Science and Graduate School of Science, Kyoto University (1975-1993)

Dean of the Faculty of Science and Graduate School of Science, Kyoto University (1989-1991)

Professor, Tokyo University of Agriculture and Technology (1965-1975)

Associate Professor, Tokyo University of Agriculture and Technology (1960-1965)

Lecturer, Tokyo University of Agriculture and Technology (1959-1960)

Higher Degree

D. Sc. (The University of Tokyo, 1961)

Fields of Specialization / Background

Ethology

Academic Society Memberships

Japan Ethological Society, The Entomological Society of Japan, Society of Evolutionary Studies, Japan, Ecological Society of Japan, Japanese Psychological Association, Japanese Society of Applied Entomology and Zoology, The Society of Population Ecology, Animal Behavior Society, The Japanese Society of Systematic Zoology, Japan Association for International Centre of Insect Physiology and Ecology, Japan, The Japanese Society for Comparative Physiology and Biochemistry, International Society for Neuro-Ethology, Société Zoologique de France, Primate Society of Japan, Japan Association for African Studies, The Japanese Society for Wild Silkmoths, The Japan Society of Developmental Psychology, The Japan Society of Tropical Ecology, The Lepidopterological Society of Japan, The Japan Association for Social and Economic System Studies, etc.

Major Publications

Books

Toshitaka HIDAKA

2004 To what extent is Human the animal, Shinchosha. (in Japanese)

2004 How to count the spring, Shinchosha. (in Japanese)

Toshitaka HIDAKA and Setsuko SHINODA

2004 On Humans, Sankei-shimbunsha. (in Japanese)

Articles

Eiko Kan, Christopher O. Anjili, Rajindar K. Saini, Toshitaka Hidaka and John I. Githure

2004 "Phlebotomine sandflies (Diptera: Psychodidae) collected in Mukusu, Machakos District, Kenya and their nocturnal flight activity" *Appl. Entomol. Zool.*, 39(4): 651-659.

Miscellaneous

2004

April "The omnivorous animail" *Nami*, Shinchosha. (in Japanese)
April "The Koalas and the English in Australia" *Zenjin*, Tamagawa University Press. (in Japanese)
April "Corporation and accountability" *Kyoto Shimbun*. (in Japanese)
May "The Satoyama story" *Nami*, Shinchosha. (in Japanese)
May "On the bank of the Seine" *Zenjin*, Tamagawa University Press. (in Japanese)
May "How to live in future" *Kyoto Shimbun*. (in Japanese)
May "The strategy of the fresh verdure" *Kyoto Shimbun*. (in Japanese)
Jun. "The King Solomon's Ring" *Shinkan News*. (in Japanese)
Jun. "The logic of living beings" *Kaze-no-tabibito*, Eurasian Travel Co.. (in Japanese)
Jun. "The eyes of J-H. Fabre" *Tosho*, Iwanami-shoten. (in Japanese)
Jun. "The great Niah cave and the bird's nest" *Zenjin*, Tamagawa University Press. (in Japanese)
Jul. "Against the crows" *Nami*, Shinchosha. (in Japanese)
Jul. "World recognition in animals and human" *Shoto Kyoiku*, Toyokan-shuppan. (in Japanese)
Jul. "Eating in moderation" *Kenko*, Agri-Planning. (in Japanese)
Jul. "The trick of genes" *Gakushikai-kaiho*, Gakushikai. (in Japanese)
Jul. "Though being a similar white butterfly" *Nami*, Shinchosha. (in Japanese)
Jul. "In Phuket, Thailand" *Zenjin*, Tamagawa University Press.
Jul. "From the news on TV" *Kyoto Shimbun*. (in Japanese)
Jul. "Merits and demerits of the power-point" *Nikkei Shimbun*. (in Japanese)
Jul. "To Grow and to Rear" *Sozo suru shimin*, Kyoto City. (in Japanese)
Jul. "Gardening without soil" *Nikkei Shimbun*. (in Japanese)
Jul. "The sphere of humans" *Kaze-no-tabibito*, Eurasian Travel Company. (in Japanese)
Jul. "Fish getting smaller" *Nikkei Shimbun*. (in Japanese)
Aug. "The Oshibori in Shinkansen" *Nikkei Shimbun*. (in Japanese)
Aug. "The efforts of the horned beetles" *Nami*, Shinchosha. (in Japanese)
Aug. "Some memories of Bretagne" *Zenjin*, Tamagawa University Press.
Aug. "The cicadas" *Nikkei Shimbun*. (in Japanese)
Aug. "Research Project discussion in an Okinawan island" *Nikkei Shimbun*. (in Japanese)
Aug. "The torrid night" *Nikkei Shimbun*. (in Japanese)
Aug. "The Greece and Greek" *Nikkei Shimbun*. (in Japanese)
Aug.. "The blackout" *Nikkei Shimbun*. (in Japanese)
Sep. "Strange insects along the paddy field" *Nami*, Shinchosha. (in Japanese)
Sep. "Some memories of Bretagne II" *Zenjin*, Tamagawa University Press.
Sep. "The human-This omnivorous animal" *Nikkei Shimbun*. (in Japanese)
Sep. "To give birth and to be born" *Nikkei Shimbun*. (in Japanese)
Sep. "Dinosaurs and cats" *Nikkei Shimbun*. (in Japanese)
Sep. "The joy of living" *Kaze-no-tabibito*, Eurasian Travel Company. (in Japanese)
Sep. "Sci-Tech in China" *Kyoto Shimbun*. (in Japanese)
Sep. "The iron grilles of African houses" *Nikkei Shimbun*. (in Japanese)
Oct. "The Olympic Games and the public phones" *Nami*, Shinchosha. (in Japanese)
Oct. "In Alès in France Midi" *Zenjin*, Tamagawa University Press.
Oct. "For what is it useful?" *Nikkei Shimbun*. (in Japanese)
Oct. "The cow and the horse" *Nikkei Shimbun*. (in Japanese)

Oct. "Only domesticated animals have senility" *Minpaku*, National Museum of Ethnology.
Oct "The Carmina brana" *Nikkei Shimbun*. (in Japanese)
Oct. "Who is the designer?" *Nikkei Shimbun*. (in Japanese)
Oct. "The atumn crickets" *Nikkei Shimbun*. (in Japanese)
Nov. "A hurried trip in Xian, China" *Zenjin*, Tamagawa University Press.
Nov. "The new building of the RIHN" *Nikkei Shimbun*. (in Japanese)
Nov. "A year of natural disasters" *Kyoto Shimbun*. (in Japanese)
Nov. "What is the culture?" *Nikkei Shimbun*. (in Japanese)
Nov. "The venomous mushrooms" *Kyoto Shimbun*. (in Japanese)
Nov. "A tale of the zoo" *Nikkei Shimbun*. (in Japanese)
Nov. "The design" *Nikkei Shimbun*. (in Japanese)
Nov. "The pain of living" *Kaze-no-tabibito*, Eurasian Travel Company. (in Japanese)
Nov. "The Bonenkai" *Nikkei Shimbun*. (in Japanese)
Dec. "The polar flight route of the old time" *Zenjin*, Tamagawa University Press. (in Japanese)
Dec. "The cow and the horse" *Nami*, Shinchosha. (in Japanese)
Dec. "How long is the true span of life" *Kagaku*, Iwanami-shoten. (in Japanese)
Dec. "The height of a tree" *Nikkei Shimbun*. (in Japanese)
Dec. "The cumulative selectrion" *Nikkei Shimbun*. (in Japanese)
Dec. "What the birds are eating" *Shiga Shimbun*. (in Japanese)
Dec. "At the end of a year" *Kyoto Shimbun*. (in Japanese)
Dec. "Evolution in an instant" *Nikkei Shimbun*. (in Japanese)
Dec. "Le Pont Mirabeau" *Nikkei Shimbun*. (in Japanese)

2005

Jan. "The birds" *Nami*, Shinchosha. (in Japanese)
Jan. "The way to Tselger Village, Mongolia" *Zenjin*, Tamagawa University Press. (in Japanese)
Jan. "The cicadas in Provence" *SKYWARD*, Japan Airline. (in Japanese)
Jan. "The relation of plants and human" *Kaze-no-tabibito*, Eurasian Travel Company. (in Japanese)
Feb. "The butterfly garden" *Nami*, Shinchosha. (in Japanese)
Feb. "A night in Tselger village, Mongolia" *Zenjin*, Tamagawa University Press. (in Japanese)
Feb. "Fire of rice-straw stacks" *Kyoto Shimbun*. (in Japanese)
Feb. "A house looking down the small local trains" *Housing Guide Network*. (in Japanese)
Feb. "Food and safety" *Shiga Shimbun*. (in Japanese)
Feb. "Children grow up by themselves" *Terakoya*, Human Research Institute. (in Japanese)
Mar. "Tales about the duckbill" *Nami*, Shinchosha. (in Japanese)
Mar. "The Island Ishigaki – memories and now" *Zenjin*, Tamagawa University Press. (in Japanese)
Mar. "The Kyoto Protocol" *Kyoto Shimbun*. (in Japanese)

2. Research Staff

AKIMICHI, Tomoya — Professor

Born in 1946.

Curriculum Vitae

Academic Career

Department of Anthropology, Faculty of Science, The University of Tokyo, D. Course (1977)

Department of Anthropology, Faculty of Science, The University of Tokyo, M. Sc. (1974)
Department of Zoology, Faculty of Science, Kyoto University (1968)

Professional Career

Professor, Research Institute for Humanity and Nature (2002)
Head of Department, Department of Cultural Research, National Museum of Ethnology (1999)
Adjunct Professor, School of Advanced Sciences, The Graduate University of Advanced Studies (1998)
Professor, Department of Cultural Research, National Museum of Ethnology (1995)
Professor, 1st Research Department, National Museum of Ethnology (1992)
Adjunct Associate Professor, Faculty of Cultural Research, The Graduate University for Advanced Studies (1988)
Associate Professor, 1st Research Department, National Museum of Ethnology (1987)
Research Fellow, 2nd Research Department, National Museum of Ethnology (1977)

Higher Degrees

D. Sc. (The University of Tokyo, 1986)
M. Sc. (The University of Tokyo, 1974)

Fields of Specialization / Background

Ecological Anthropology, Ethno-Biology

Academic Society Memberships

The Society of Bio-Sophia Studies, The Society of Human and Animals Relations, The Society of Ecological Anthropology

Major Publications

Books

Tomoya AKIMICHI

2004 *Anthropology of the Commons: Culture, History and Ecology*. Jinbun-shoin, (in Japanese)

Articles

Tomoya AKIMICHI

2004 "Coral reef degradation and sustainable use in the Yaeyama Archipelago, Okinawa: a study of lift-net fishery and fishermen's perspectives and opinions." *Coral Reefs in Japan*, Ministry of the Environment and Japanese Coral Reef Society eds., pp. 69-76, Tokyo: Ministry of the Environment.

2004 "Spectial dialogues with Keiko Nakamura, Hisao Nakahigashi, Yomo Oguro, Naoki Kagohashi, Mitsuru Hotta, Mitsuhiko Imamori, Kohei Sugiura, and Masao Kawai" *Biostory* No. 1: 6-85. (in Japanese)

2004 "Beyond the horizon: sea space and space allocation in the central Caroline Islands" Nonaka Kenichi ed., *Navigation in the Nature: From Ethnography to Science of Space Perception*. Kokon-shoin, pp. 129-160. (in Japanese)

Miscellaneous

Tomoya AKIMICHI

2004 "Letters from Kyoto: group play in animals" *Economist* 4/13, p. 80, Mainichi Newspaper Co. (in Japanese)

2004 "Dog's welfare" *Kyoto Newspaper*, 2004 May 25th, Kyoto Newspaper Co. (in Japanese)

2004 "Outline of Biostory's activity" *Environmental Justice* 2004 May: 14-15. (in Japanese)

2004 "Dog's stool and owner's ethics" *Environmental Justice* 72: 8-9. (in Japanese)

2004 "Crab meat cannery in dream" *Food and Container* 45(9): 482-483. (in Japanese)

2004 "Memory of flood" *Kyoto Newspaper*, 2004 Sept. 10th, Kyoto Newspaper Co. (in Japanese)

2004 "My opinion on the environment" Asahi Newspaper 2004 Sept. 26th, Asahi Newspaper Co. (in Japanese)

2004 "Wind from Mexico" *Kyoto Newspaper*, 2004 Nov. 16th, Kyoto Newspaper Co. (in Japanese)

2004 "Dialogue on the sea and people's life" (Tomoya Akimichi and Tomiko Kojima) *Traditional Culture* 13: 3-

18, People's Association of Promotion of Traditional Culture. (in Japanese)

2005 "Threat of nature" *Kyoto Newspaper*, 2005 Jan. 11th, Kyoto Newspaper Co. (in Japanese)

2005 "Disposal and culture" *Kyoto Newspaper*, 2005 Feb. 15th, Kyoto Newspaper Co. (in Japanese)

Activities in Academic Societies

Social Activities and Public Lectures

2004.4.27. "Basic course in ecological anthropology" (Environment and Culture 1) Lecture, Research Institute for Humanity and Nature, Kyoto City.

2004.5.15-16. The 2nd Annual Conference of the Society of Biosophia Studies. Vice President, Kusatsu City.

2004.5.29. "Measurement: its significance and limitations" (Environment and Culture 2) Lecture, Research Institute for Humanity and Nature, Kyoto City.

2004.6.17. "Time and odor in Japanese fish cookery: ritualism and fermented fish" Oral presentation, La Maison de Science de l'Homme, Paris.

2004.6.28. "Linking village and the state: towards the promotion of 'elite of the sea' in the marine resource management scheme" Oral presentation, Pan-Pacific Symposium, United Nations University, Tokyo.

2004.6.29. "Ethno-biology in Oceania" (Environment and Culture 3) Lecture, Research Institute for Humanity and Nature, Kyoto City.

2004.7.1. "Mini-Symposium 4-13. Co-Management of Reef Fisheries and Distribution of the Marine Products in Southeast Asia and Japan" The 10th International Coral Reef Symposium (chairperson), Urazoe City.

2004.7.1. "Gastronomy, museum and religion: consideration of cultures in coral reef conservation" Mini-Symposium 4-13. Co-Management of Reef Fisheries and Distribution of the Marine Products in Southeast Asia and Japan. The 10th International Coral Reef Symposium. Oral presentation, Urazoe City.

2004.7.13. "Fishes of the Great Mekong River and their conservation" Oral presentation, Association of Freshwater Fish Conservation, Gifu City.

2004.7.30. "Eel and culture: thinking about environmental conservation" Oral presentation, The 21th COE project of the University of Tokyo, Institute of Marine Science, University of Tokyo, Tokyo.

2004.8.3. "Conservation of coral reef ecosystem and socio-economic dilemma: cases from Thailand, Indonesia and Okinawa" Oral presentation, (Environment and people in the Maritime World Shimane Session, 5th Global Seminar of the United Nations University) Oral presentation, Hamada City.

2004.9.1. "Coastal fisheries resource management: anthropological approach" JICA Lecture on the Marine Resource Management in Coastal Fisheries, Lecture, Yokohama City.

2004.9.25. "Stickleback fish and the Bio-sophia: linking water, fish and the area" The 2nd Summit of Stickleback Conservation in Ono, Lecture, Ono City.

2004.9.27. "With the Kuroshio Current: Okinawa Ocean Exposition and the Museum" (Environment and Culture 4) Lecture, Research Institute for Humanity and Nature, Kyoto City.

2004.10.2-3. "Food and nature in Koza River" (The 6th Study Forum in The Society of Biosophia Studies) Coordinator, Kozagawa-cho.

2004.10.11. "Eco-history in Yunnan" (Eco-History Project Yunnan Symposium) Coordinator, Yunnan University, Kunming City.

2004.10.26. "Sexuality and plant: a case from the Gidra, Western Province, Papua New Guinea" (Environment and Culture 5) Lecture, Research Institute for Humanity and Nature, Kyoto City.

2004.10.28. "The world of J. H. Kalabias" (Memorial symposium for the award of KOSMOS Prize, Foundation of International Exposition of KOSMOS) Coordinator to the panel discussion, Osaka City.

2004.10.31. "The world of lion and koma-inu" (The 11th annual symposium of the Society of Human and Animal Relationships) Coordinator, Osaka City.

2004.11.25-26. "Fish and people in Miyazaki" (The 8th Study Forum of the Society of Biosophia) Coordinator, Miyazaki City.

2004.11.30. "Yokai (Monsters)" (The 4th study meeting of the whole in the individual) Coordinator, Kyoto City.

2004.11.30. "Ethno-zoology and anthropology" (The 4th study meeting of the whole in the individual) Coordinator, Kyoto City.

2004.12.18. "The commons in the anthropological discourse" (21th COE Program symposium, Faculty of Economics Accounting Department, Kyoto University) Oral presentation, Kyoto City.

2005.1.8. "Time in the forest, time as the commons" (Joint study meeting of the 'Resource and Eco-history' group of the MEXT grant-in-aid program for Anthropology of the Resource with the Study Group of the Commons) Coordinator, Tokyo.

2005.1.16. "Urgent symposium for the relief of central Niigata earthquake: To conserve local cultural heritage-bull fighting and ornamental koi carp fish" (jointly organized by the Society of Bio-sophia Studies, The Society of Human and Animal Relationships, the Nogakukai of the University of Tokyo) coordinator, Tokyo.

2005.1.26. "Ethno-network in the global era" (Environment and Culture 6) Lecture, Research Institute for Humanity and Nature, Kyoto City.

2005.1.29. "Waters in share, waters as the commons" (Joint study meeting of the 'Resource and Eco-history' group of the MEXT grant-in-aid program for Anthropology of the Resource with the Study Group of the Commons) Coordinator, Kyoto City.

2005.2.5. "What is life? What is human being?" (The 4th KOSMOS Forum: Exploring the new life concept in the 21st Century) Panelist, Osaka City.

2005.2.17. "Is the sustainable management of sea-cucumber possible?" (The 2nd executive meeting of sea-cucumber fishery in Japan, Fisheries Agency) Oral presentation, Tokyo.

2005.2.23-24. "Living together with life in the paddy" and "The commons in the underground hot springs" (Joint study meeting of the 'Resource and Eco-history' group of the MEXT grant-in-aid program for Anthropology of the Resource with the Study Group of the Commons) Coordinator, Kinosaki, Toyooka City.

2005.2.25. "Gourd" (The 4th study meeting of the whole in the individual) Coordinator, Kyoto City.

2005.3.2. "Design of life" (The 5th KOSMOS Forum: Exploring the new life concept in the 21st Century) Coordinator, Kyoto City.

2005.3.5. "Culture in harmony with nature ③ Thinking bio-diversity and cultural diversity from the use of coral reefs" (The 321st Forum of the Friendship Society of the National Museum of Ethnology) Lecture, Suita City.

2005.3.1. "Eco-commons and ecology" (Environment and Culture 7) Lecture, Research Institute for Humanity and Nature, Kyoto City.

2005.3.12. "Dynamic Kameoka The 52nd Talk of the Tamba Studies A Symposium" Panelist, Kameoka City.

2005.3.19. "View on Animals in Aisa" (The 11st Annual General Meeting of the Society of Human and Animal Relationships: Symposium) Commentator, Tokyo.

2005.3.26. "History and Environment" (Symposium organized by the Eco-history Project Group of the Research Institute for Humanity and Nature) General Coordinator, Kyoto City.

2005.3.28. "HCMR" (Human Chicken Multi-Relationships) the 2nd Thailand Japan International Symposium,

Humanity session) Chairperson with Professor Dr. Kalaya, Tokyo.

Activities in Academic Societies

Director of Science, Ministry of Education, Science, Technology and Sports (2002-), Member, Planning and Coordination Committee of the National Institute of Humanities (NIHU) (2003-), Chairperson, Committee of conservation of spring water environment, Otsuchi-Cho, Iwate prefecture (2001-), Member, Editorial Committee of Ecosophia (1998-), President, The Society of Human and Animal Relationships (1999-), Vice President The Society of Domestic Fowl Studies (2001-), Vice President, The Society of Biosophia Studies (2003-), Member, Evaluation Committee of Research Proposal in Lake Biwa Museum (1998-), Joint Researcher, National Museum of Ethnology (2002-), Part-time Lecturer, Graduate University of Advanced Studies (2002-), Member, Promoting Organization of the Japan Seas Study (2003-), Member, Consulting Committee of Nagao Foundation (2003-).

Awards

Daidō-Seimei Chiiki-Kenkyū Shōrei-Shō in 1998 (Award for Promotion of Area Studies by Daidō Life Insurance Company in 1998).

Research Activities

Field Research in Foreign Countries

2004.5. Laos (Research meeting with National University of Laos, and National Agricultural and Forestry Research Institute and field study in Vientiane Plain)

2004.6. France (Research on the renovation of agriculture in north France)

2004.7. Laos (Research on the use of aquatic resources in southern Laos)

Supervision and Host (Number of DC Students and JSPS Research Fellows)

Special researcher from Japan Society for the Promotion of Science (1)

Special post-graduate course student of Sokendai (2)

FUKUSHIMA, Yoshihiro — Professor

Born in 1942.

Curriculum Vitae

Academic Career

Department of Forestry, Faculty of Agriculture, Kyoto University, Bachelor Course (1966)

Professional Career

Professor, Research Institute for Humanity and Nature, Inter-University Research Institute, Ministry of Culture, Sports, Sciences and Technology (2001)

Professor, Institute for Hydrospheric-Atmospheric Sciences, Nagoya University (1994)

Associate Professor, Kyoto University (1989)

Instructor of Kyoto University (1966)

Higher Degree

D. Agri (Kyoto University, 1981)

Fields of Specialization / Background

Mountain Hydrology, Forest Hydrology, Eco-Hydrology

Academic Society Memberships

Japan Society of Hydrology and Water Resources, The Meteorological Society of Japan

Major Publications

Books

Edited by the working committee

Fukushima, Yoshihiro

2005 "Towards material cycle from hydrological cycle" *Drainage basin system and regeneration of urbanized area, Sankaido-press*: 201-210. (in Japanese)

Articles

Shimoyama, K., T. Hiyama, Y. Fukushima and G. Inoue

2005 "Inter-annual CO2 Exchanges in a West Siberian Bog in two Contrastive Growing Periods" *Global Biogeochem. Cycles* (in press).

Fukushima, Yoshihiro

2004 "Formation system of river flow in forested catchments" *Japan Society on Water Environment*, 27(9): 575-578. (In Japanese)

Chen, Jianyao Fukushima, Yoshihiro Tang Changyuan Taniguchi, Makoto

2004 "Water environmental problems occurred in the lower reach of the Yellow River" *J. Japan Soc. Hydrol. & Water Resour.* 17(5): 555-564. (in Japanese with English sammary)

Shimoyama, K., T. Hiyama, Y. Fukushima and G. Inoue

2004 "Controls on evapotranspiration in a west Siberian bog" *J. Geophysical Research*, 109: D08111.

Takahashi, A, T. Hiyama, H. A. Takahashi and Y. Fukushima

2004 "Analytical estimation of the vertical distribution of CO2 production within soil: application to a Japanese temperate forest" *Agricultural and Forest Meteorology*, 126: 223-235.

Activities in Academic Societies

Aug. 2004 Committee member for organizing in Honolulu Conference, WPGM (Western Pacific Geophysical Meeting)

Research Activities

Field Research in Foreign Countries

Oct. 2004 Second field trip to Lake Issyk-kul, Kyrgyz Republic

July 2004 Field trip on the practical water use in the Inner Mongolia

July 2004 First field trip to Lake Issyk-kul, Kyrgyz Republic

June 2004 Field trip on the practical water use to the lower reach of the Yellow River

Supervision and Host (Number of DC Students and JSPS Research Fellows)

Feb. 2005 Examination committee member for Doctor thesis, Graduate school, Nagoya University

Social Activities and Public Lectures

Social Activities

Mar. 1995~ Sub-committee member of Natural Science, UNESCO Japan Domestic Committee

Public Lectures

Feb. 2004 Formation system of river flow in forested catchments, Open Seminar, the Arid Region Research Center of Tottori University (Tottori)

Feb. 2004 Current Status of the Yellow River Studies, VIEWS Planning Meeting, Alterra Hall (Wageningen, the Netherlands)

Jan. 2004 Development of Simulation Models for Hydrology and Water Resources in the Mekong River and the Yellow River basins- Kyousei Project 6 -, JAMSTEC (Yokohama)

HAYASAKA, Tadahiro — Professor

Born in 1959.

Curriculum Vitae

Academic Career

Department of Geophysics, Graduate School of Science, Tohoku University, D. Course (1984)

Department of Geophysics, Graduate School of Science, Tohoku University, M. Course (1982)

Professional Career

Professor, Research Institute for Humanity and Nature (2001)

Professor, National Institute of Polar Research (1999)

Professor, Graduate School of Science, Tohoku University (1999)

Associate Professor, Faculty of Science, Tohoku University (1994)

Assistant Professor, Faculty of Science, Tohoku University (1990)

Research Fellow, Japan Society for the Promotion of Science (1988)

Higher Degrees

Dr. Sc. (Tohoku University, 1988)

M. Sc. (Tohoku University, 1984)

Fields of Specialization / Background

Meteorology, Atmospheric Physics

Academic Society Memberships

The Meteorological Society of Japan

Japan Association of Aerosol Science and Technology

Major Publications

Articles

Kawamoto, K., T. Hayasaka, T. Nakajima, D. Streets and J. Woo

2004 Cloud properties derived from satellite remote sensing andtheir relationships with other factors in East Asia. *Atmos. Res.*, 72, 353-363.

Hayasaka, T., K. Kawamoto and J. Xu

2004 Seasonal variations of clouds, aerosols and shortwave radiation over China. *Proc. 14th International Conference on Clouds and Precipitation, 19-23 July 2004, Bologna, Italy*, 387-388.

Kawamoto, K. and T. Hayasaka

Relationship between the low-level cloud fields from satellites and precipitation from ground over China. *Proc. 14th International Conference on Clouds and Precipitation, 19-23 July 2004, Bologna, Italy*, 554-555.

Hayasaka, T., T. Nakajima, T. Takamura and B. J. Sohn

2005 Radiation and aerosol measurements in ABC project. *Proc. Forth ADEC Workshop, 26-28 January 2005, Nagasaki, Japan*, 45-48.

Hayasaka, T., K. Kawamoto, J. Xu and G. Y. Shi

2005 Seasonal and long-term variations of shortwave radiation in China. *Proc. The CEReS International*

Symposium on Radiation Budget and Atmospheric Parameters Studied by Satellite and Ground Observation Data, 17-18 February, 2005, Chiba University, Japan, 132-135.

Activities in Academic Societies

Committee Member etc.

2001~present IAMAS International Radiation Commission Member

2001~present WCRP GEWEX Radiation Panel Member

1996~present Editorial board member of "Kishou Kenkyu Note", The Meteorological Society of Japan

Oral Presentations etc.

Matsuoka, M. T. Hayasaka, Y. Fukushima, and Y. Honda

2004 Analysis of the Land Cover and its Change over Yellow River Basin using Satellite Data. *XXth Congress of the International Society for Photogrammetry and Remote Sensing, 12-23 July 2004, Istanbul, Turkey.*

Hayasaka, T., K. Kawamoto and J. Xu

2004 Long-term and seasonal variations of shortwave radiation over China. *International Radiation Symposium, 23-28 August 2004, Busan, Korea.*

Kawamoto, K. and T. Hayasaka

2004 Evaluating anthropogenic influences on the cloud and radiation environments. *International Radiation Symposium, 23-28 August 2004, Busan, Korea.*

Hayasaka, T.

2004 Aerosol and radiation measurements for ABC in Japan. *International Workshop for the ABC Gosan Campaign, 20-21 September 2004, Seoqwipo KAL Hotel, Jejudo, Korea.*

Matsuoka, M., T. Hayasaka, Y. Fukushima, and Y. Honda

2004 Land Cover Classification Over Yellow River Basin Using Satellite Data. *IEEE International Geoscience and Remote Sensing Symposium (IGARSS), 20-24 September 2004, Anchorage, USA.*

Hayasaka, T., K. Kawamoto, J. Xu and G. Y. Shi

2004 Evaluation of long-term surface shortwave radiation data in China. *GEWEX Radiation Panel Meeting, 18-22 October 2004, Kyoto, Japan.*

Social Activities and Public Lectures

Public Lectures

2004 'On the global warming viewed from the atmosphere and satellites' FY2004 Educational class of the environmental education

2004 'On the global warming' Cosmos seminar

2005 'On the global warming' Cosmos seminar

KINOSHITA, Tetsuya — Professor

Born in 1950.

Curriculum Vitae

Academic Career

Department of Philosophy, Faculty of Literature, Kyoto University, D. Course (1979)

Department of Philosophy, Faculty of Literature, Kyoto University, M. Course (1976)

Department of Philosophy, Faculty of Literature, Kyoto University (1974)

Professional Career

Professor, Research Institute for Humanity and Nature (2003)
Professor, Faculty of Literature, Okayama University (2001)
Assistant Professor, Faculty of Literature, Okayama University (1984)
Instructor, Faculty of Literature, Okayama University (1981)
Research Assistant, Faculty of Literature, Kyoto University (1979)

Higher Degree

M. Litt. (Kyoto University, 1976)

Fields of Specialization / Background

Chinese philosophical history, Neo-Confucianism, History of Chinese Classical Studies

Academic Society Memberships

The Sinological Society of Japan, The Institute of Eastern Culture, The Society of Oriental Researches.

Major Publications

Articles

KINOSHITA, Tetsuya
2004 Shushigaku no ichi [XIII] – "Chugoku" no genjitsu [II] (On the place of Neo-Confucianism in the Whole Chinese History [XIII] – Actuality of Societies in Song Dynasty [II]). Toyo-kotengaku-kenkyu (Journal of Oriental Classical Studies) 17: pp. 67-84. [in Japanese]

KINOSHITA, Tetsuya
2004 Shushigaku no ichi [XII] – "Chugoku" no genjitsu [I] (On the place of Neo-Confucianism in the Whole Chinese History [XII] – Actuality of Societies in Song Dynasty [I]). Toyo-kotengaku-kenkyu (Journal of Oriental Classical Studies) 18: pp. 23-48. [in Japanese]

Activities in Academic Societies

Presentation

October, 2004 'ming 命' and 'ling 令', The 56rd Annual Conference of the Sinological Society of Japan

JSPS Project

2004 Core Member of IV-3 Project in "Jinsha" (Humanities)

NAKANO, Takanori — Professor

Born in 1950.

Curriculum Vitae

Academic Career

Department of Geology, Faculty of Science, Tokyo University of Education, D. Course (1982)
Department of Geology, Faculty of Science, Tokyo University of Education M. Course (1977)
Department of Geology, Faculty of Science, Tokyo University of Education (1974)

Professional Career

Professor, Research Institute for Humanity and Nature (2004)
Associate Professor, Institute of Geoscience, University of Tsukuba (1992)
Assistant Professor, Institute of Geoscience, University of Tsukuba (1982)

Higher Degrees

D. Sc. (Tokyo University of Education, 1982)

M. Sc. (Tokyo University of Education, 1977)

Fields of Specialization / Background

Resource Geology, Isotope Earth Science

Academic Society Memberships

The Society of Resource Geology, Geochemical Society of Japan, Japanese Association of Hydrological Sciences, Geological Society of Japan, The Society of Society of Economic Geologist

Major Publications

Books

Nakano, T.

2004 A geochemical signature of acidification leading to loss of Ca in the forested ecosystem of Yakushima, a world natural heritage site. Aniya, M eds. *Natural and Human Ecosystem of Yakushima*, ISEBU, 157-167.

Rikitake, T., M. Ie, Y. Ogawa, Y. Nagata, T. Nakano, E. Hiei, M. Hirano, Y. Honkura, T. Asano, N. Ikeda, and M. Shimizu

2002-2004 Chigaku I and Text Guide (text for senior high school), 383 pp. Suuken Shuppan.

Shikazono, N., Nakano, T. and Hayashi, K. eds

2002-2004 Chigaku II and Text Guide (text for senior high school), 394 pp. Suuken Shuppan.

2003 Shigen kankyo chishitsugaku: chikyu shi to kankyo osen wo yomu, 50th Anniversary Publication, Shigenchishitsu gakkai (Resource Geology), 492 pp.

Nakano, T

2003 Sukarun Koushou (skarn deposit), 50th Anniversary Publication, Shigenchishitsu gakkai (Resource Geology), 23-34. [in Japanese]

Nakano, T

2003 Kaisui no kagaku shinka (Chemical evolution of seawater), 50th Anniversary Publication, Shigenchishitsu gakkai (Resource Geology), 217-226. [in Japanese]

Nakano, T

2002 Sutoronchiumu douitai (Sr isotope) *Chikyukankyo chosa jiten, Fujitekunoshisutemu*, 342-345, ISBN 4-938555-90-5. [in Japanese]

Rikitake, T., M. Ie, Y. Ogawa, Y. Nagata, T. Nakano, E. Hiei, M. Hirano, Y. Honkura, T. Asano, N. Ikeda, and M. Shimizu

Satake, K., T. Takamatsu, J. Shindo, T. Nakano, K, Tsunoda (eds.)

2001 *Proceedings of Acid Rain 2000* 922 pp. Kluwer Academic Publishers.

Articles

Nakano, T., Tayasu, I., Wada, E., Igeta, A., Hyodo, F., and Miura, Y.

2005 Sulfur and strontium isotope geochemistry of tributary rivers of Lake Biwa: implications for human impact on the decadal change of lake water quality. *Science of the Total Environment*, 345: 1-12.

Yamanaka, M., Nakano, T. and Tase, N.

2005 Hydrogeochemical evolution of confined groundwater in northeastern Osaka Basin, Japan: estimation of confined groundwater flux based on a cation exchange mass balance method. *Applied Geochemistry*, 20: 295-316.

Nakano, T., Yokoo, Y., Nishikawa, M. and Koyanagi, H.

2004 Regional Sr-Nd isotopic ratios of soil minerals in northern China as Asian dust fingerprints. *Atmospheric Environment*, 38: 3061-3067.

Hosono, T. and Nakano, T.

2004 Pb-Sr isotopic evidence for contribution of deep crustal fluid to the Hishikari epithermal gold deposit, southwestern Japan. *Earth and Planetary Science Letters*, 222: 61-69.

Takano, S., Ito, M., Nakano, T., Horikawa, K. and Nakamura, Y.

2004 Sequence-stratigraphic signatures of hemipelagic siltstones in deep-water successions: The Lower Pleistocene Kiwada and Otadai Formations, Boso Peninsula, Japan, *Sedimentary Geology*, 170: 189-206.

Ogawa, T., Shikazono, N., Ishiyama, D., Sato, H., Mizuta, T., Nakano, T.

2004 Genetic consideration on the formation mechanism of anhydrite in Kuroko deposits based on REE. *Resource Geology*, 54-2: 159-166 (in Japanese with English abstract).

Yokoo, Y., Nakano, T., Nishikawa, M. and Quan, H.

2004 Mineralogical variation of Sr-Nd isotopic and elemental compositions in loess and desert sand from the central Loess Plateau in China as a provenance tracer of wet and dry deposition in the northwestern Pacific. *Chemical Geology*, 204/1-2: 45-62.

Hosono, T., Nakano, T. and Murakami, H.

2003 Source and evolution of volcanic rocks around the Hishikari gold deposit: implications for the contribution of a felsic subcontinental lithosphere. *Chemical Geology*, 201: 19-36.

Nakano, T. and Ishihara, S.

2003 Geochemical characteristics of the Akiyoshi limestones and their bearing on exploration for blind skarn deposits. *Resource Geology*, 52: 29-36.

Nakano, T.

2003 Sekkaigan no chikyukagakutekijouhou kara chikyushi to shigen kankyoumonndai wo yomu (Understanding of earth history and environmental pollution from geochemical information of limestone), *Sekkaiseki*, 232: 28-39. [in Japanese]

Hosono, T. and Nakano, T.

2003 Petrochemistry of volcanic rocks in the Hishikari mining area of southern Japan, with implications for the relative contribution of lower crust and mantle-derived basalt. *Resource Geology*, 53: 239-259.

Nakano, T., Yokoo, Y. and Yamanaka, M.

2001 Sr isotope constraint on the provenance of base cation in soilwater and streamwater in the Kawakami volcanic rock watershed, central Japan. *Hydrological Processes*, 15: 1859-1875.

Horikawa, K., S. Takano, M. Ito, and T. Nakano

2001 Kazusasougun no rikudana – shinkaitei taisekibutu ni kirokusareta hyougasei kaisuijun hendou to kokaiyou hendou, *Dai younki kenkyu* (Quaternary Research), 40: 283-290. [in Japanese]

Nakano, T., Jeon, S-R., Shindo, J., Fumoto, T., Okada, N. and Shimada, J.

2001 Sr isotopic signature of plant-derived Ca in rain. *Water, Air and Soil Pollution*, 130: 733-738.

Nakano, T., Yokoo, Y., Anma, R. and Shindo, J.

2001 Ca depletion in the soil column on a granite substrate on the island of Yakushima, a world natural heritage site. *Water, Air and Soil Pollution*, 130: 733-738.

Nakano, T., Okumura, M., Yamanaka, M. and Satake, K.

2001 Geochemical characteristics of acidified stream water on Yakushima, southwestern Japan. *Water, Air and Soil Pollution*, 130: 869-874.

Yokoo Y., Nakano, T., Nishikawa, M. and Quan, H.

2001 Areal variation in Sr isotopic compositions of acid-soluble minerals in arid soils in China. *Water, Air and Soil Pollution*, 130: 763-768.

Yokoo, Y. and Nakano, T.

2001 Sequential leaching of volcanic soil to determine plant-available cations and the provenance of soil minerals using Sr isotopes. *Water, Air and Soil Pollution*, 130: 1583-1588.

Jeo, S-R and Nakano, T.
2001 Geochemical comparison of stream water, rain water, and watershed geology in central Korea. *Water, Air and Soil Pollution*, 130: 739-744.
Shindo, J., Fumoto, T., Oura, N., Nakano, T. and Takamatsu, T.
2001 Estimation of mineral weathering rates on field conditions based on base cation budget and strontium isotope ratios. *Water, Air and Soil Pollution*, 130: 1259-1264.
Ishi, R., K. Tanabe, J. Yatabe, T. Ito, T. Nakano, Y. Kajiwara, M. Nishino, S. Tsujimura, T. Nakajima, and T. Narita
2001 Biwako no iou sutoronchiumu douitai chikyukagaku (Sulfur and strontium isotopic systematics of Lake Biwa), *Taisekigaku Kenkyu* (Journal of Sedimentological Society of Japan), 53: 88-90. [in Japanese]
Nawamoto, N., M. Horigome, T. Ito, T. Nakano, Y. Kajiwara, and H. Noda
2001 Ibarakiken tamatsukurimachi shimousasougunsan toukyouhotate no iou sutoronchiumu douitaisosei (Sulfur and strontium isotopic compositions of Mizuhopecten tokyoensis from the Shimosa Group, Tamatsukuri, Ibaraki Prefecture), *Taisekigaku kenkyu* (Journal of Sedimentological Society of Japan), 53: 66-67. [in Japanese]
Kaiho, K., Kajiwara, Y., Miura, Y., Nakano, T., Kawahata, H., Tazaki, K., Ueshima, M., Chen, Z. and Shi, G-R.
2001 End-Permian catastrophe by a bolide impact: gigantic release of sulfur from mantle. *Geology*, 29: 815-818.

General Reports

Nakano, T., Nishikawa, M., Shin, G., Hosono, T. and Yokoo, Y.
2005 Source identification of the "perfect Asian dust storm" in April 2001 using Sr-Nd isotopes. Fourth ADEC Workshop P2-12, 285-288.
Ito, M., Saito, T., Nakano, T., Ichikawa, Y., Saeki, T., Kubo, Y, Takano, S. and Nakamura, Y.
2004 Sedimentation process and sedimentary sequence of the Kazusa Group. 111th kengaku ryokou annaisho, the Geological Society of Japan, 109-131. (in Japanese)
Nakano, T.
2002 "Kousa tokutei no tameno strontium douitai bunnseki shuhou no ouyou" (Chugoku hokutou chiiki de hassei suru kousa no sanjigenteki yusou kikou to kankyou fuka ni kansuru kenkyu) Report of NIES Earth Environmental Studies. 15-25. (in Japanese)
Satake, K., S. Kojima, T. Takamatsu, J. Shindo, T. Nakano, K. Tsunoda, S. Aoki, T. Fukuyama, S. Hatakeyama, K. Ikuta, M. Kawashima, Y. Kohno, K. Murano, T. Okita, and H. Taoda
2001 Acid rain 2000 – Conferense summary statement – looking back to the past and thinking of the future. *Water, Air, and Soil Solution*, 36-49.
Nakano, T.
2001 "Okuaizu no meisui" (Okuaizu no shizen hakken project) Prec Kenkyu jo, 27-33. (in Japanese)

Research Activities

Field Research in Japan (2004)

May 27-29, 2004	Shiga Prefecture (Water quality research of Yasu river)
Sep. 1-2, 2004	Osaka Prefecture (Water quality research of Yodo river)
Sep. 27, 2004	Shiga Prefecture (Water quality research of Ado river)
Sep. 27 to	Okinawa Prefecture (Water quality research of river in October 5, 2004 Iriomote island)
Nov. 30 to	Shiga Prefecture (Water quality research of inflowing)
Dec. 1, 2004	rivers into Lake Biwa
Feb. 10-11, 2004	Shiga Prefecture (Water quality research of Lake Biwa and inflowing rivers)

Social Activities and Public Lectures

Public Lectures (2002-2003)

July 2002 "Sekkaigan no chikyuukagakuteki jouhou to shigen kankyou mondai eno tekiyou" (Geochemical information and application of limestone to resource and environmental problems) Sekkai Kougyo kai, Tokyo.

June 2003 "Rock fingerprint: shigen to kankyou wo tsunagu tracer" (Rock-fingerprint: tracer connecting resource and environment) Yokohama National University, Yokohama.

January 2004 "Douitai fingerprint: shigen to kankyou wo tsunagu tracer" (Rock-fingerprint: material tracer to read earth environment) The Institute of Electronics, Information and Communication Engineers, Ishikawa National College of Technology, Kanazawa.

June 2004 "Rock fingerprint to Chikyu-kankyo gaku" 11th SELIS seminor of Nagoya University COE, University of Nagoya, Nagoya.

September 2004 "Rock fingerprint wo mochite busshitu junkan wo yomu: kankyo tracerbility gaku" Biogeochemistry kenkyukai, Kyoto.

Social Activities

2001-2003 Visiting Researcher of National Institute for Environmental Studies

University Lectures

2001 An intensive lecture at Okayama University

2001 A special lecture at Waseda University

2002 An intensive lecture at Tohoku University

2003 An intensive lecture at Tokyo Agriculture-Technology University

2004 An intensive lecture at Yokohama National University

2001-2004 An intensive lecture at Chiba University

• Committee Work for other organizations

2001-2003 Editorial member of the Society of Resource Geology

2001-2003 Member of the Committee for the Society of Resource Geology

2001-2003 Visiting Scientist of the National Institute for Environmental Studies

NAKASHIZUKA, Tohru (ASANO, Toru) — Professor

Born in 1956.

Curriculum Vitae

Academic Career

Graduate School of Science, Osaka City University, D. Course (1983)

Graduate School of Science, Chiba University, M. Course (1980)

Department of Biology, Faculty of Science, Chiba University (1978)

Professional Career

Professor, Research Institute for Humanity and Nature (2001)

Professor, Center for Ecological Research, Kyoto University (1995)

Senior Researcher, Forestry and Forest Products Research Institute (1994)

Senior Researcher, Japan International Research Center for Agricultural Sciences (1993)

Senior Researcher, Tropical Agricultural Research Center (1992)

Senior Researcher, Forestry and Forest Products Research Institute (1989)

Researcher, Forestry and Forest Products Research Institute (1985)

Higher Degrees

D. Sc. (Osaka City University, 1983)

M. Sc. (Chiba University, 1980)

Fields of Specialization / Background

Plant Ecology, Forest Ecology

Academic Society Memberships

Ecological Society of Japan, The Botanical Society of Japan, Japanese Forestry Society, International Association of Vegetation Science, International Association for Landscape Ecology, American Society of Ecology, Japanese Association of Historical Botany, Japan Society of Tropical Ecology, The Japanese Society of Forest Environment, Ecology and Civil Engineering Society

Major Publications

Books

Nakashizuka, T.

2004 "Mori no Sukecchi (Sketch of Forests)". Tokai Daigaku Shuppann-kai, pp. 236.

Nakashizuka, T., Sakai, S. & Chong, L.

2004 Lambir Hills National Park Canopy Crane, Malaysia. Basset, Y., Horlyck, V. & Wright, S. J. (eds.), "Studying Forest Canopies from Above: The International Canopy Crane Network", 120-125.

Nakashizuka, T.

2004 "Mori no Hozen Seitai (Conservation Ecology of Forests)". In Koike, T (ed.), "Jumoku Seiri-Seitai-gaku (Eco-physiology of Trees)", 1-36.

Nakahsizuka, T.

2004 "Seibutu no Tayousei no Ba tositeno Shinrin (Forest as a space of Biodiversity)" In Suzuki, K. (ed.) "Shinrin Hogo-gaku (Forest Protection)", Asakura Shoten, 7-15.

Articles

Kenta, T., Isagi, Y., Nakagawa, M., Yamashita, M., Nakashizuka, T.

2004 Variation in pollen dispersal between years with different pollination conditions in a tropical emergent tree. Molecular Ecology, 13, 3575-3584.

Kurokawa, H., Kitahashi, Y., Koike, T., Lai, J & Nakashizuka, T.

2004 Allocation to defense or growth in dipterocarp forest seedlings in Borneo. Oecologia, 140: 261-270.

Manfroi, O. J., Kuraji, K., Tanaka, N., Suzuki, M., Nakagawa, M., Nakashizuka, T. & Chong, L.

2004 The stemflow of trees in a Bornean lowland tropical forest. Hydrological processes, 18: 2455-2474.

Marod, D., Kutintara, U., Tanaka, H. and Nakashizuka, T.

2004 Effect of drought and fire on seedling survival and growth under contrasting light conditions in a seasonal tropical forest. Journal of Vegetation Science 15: 691-700.

Nakagawa, M. and Nakashizuka, T.

2004 Relationship between physical and chemical characteristics of dipterocarp seeds. Seed Science Research 14: 363-369.

Nakashizuka, T.

2004 International activities on biodiversity studies: DIVERSITAS and DIWPA. Proceedings of the 1st EAFES International Congress, 169-170.

Nakashizuka, T. & Chong, L.

2004 The long-term canopy research in Lambir Hills National Park, Sarawak, Malaysia. Proceedings of the 1st EAFES International Congress, 170-171.

Masumori, S., Nakashizuka, T. & Suzuki, K.

2004 Dai 12 Kai Baioriforu Jogujakaruta Shuukai (The 12th Bio-Refor Meeting in Yok Yakarta). Nettai Rinngyo (Tropical Forestry), 61: 69-72.

Makita, A. Abe, M., Miguchi, H. & Nakashizuka, T.

2004 Towada-ko Nan-gan-iki niokeru Issei-kaika 8 nenn-go no Chishima-zasa Kotaigun no Doutai – Tokuni Hi-kaika Shuudan ni Chumoku site – (Population dynamics of *Sasa kurilensis* for 8 years after mass flowering to the south of Lake Towada, with special reference to the non-flowered population). Bamboo Journal, 21: 57-65.

Asano (Nakashizuka), T.

2004 Nettairin no Rinkan ni okeru Seitai-ken Ki-ken Sougo-sayou no Mekanizumu no Kaimei (Mechanisms of Atmosphere-ecosphere interaction in tropical forest canopy). Sennryaku-teki Souzou Kenkyu Suishin Jigyo, Saishu Houkoku-sho (Final Report of CREST), Chikyu Hendou no Mekanizumu (Mechanisms of Global Change), 1-67.

Activities in Academic Societies

Steering Committee of Ecological Society of Japan (2003-), Executive Committee of Ecological Society of Japan (2002-), Steering Committee of Japan Society of Tropical Ecology (1998-), Editorial Board of the Journal of Plant Science (1999-), Steering Committee of Japanese Branch of International Society of Landscape Ecology (2001-), Associate Editor of EcoScience (Canada, 2003-), Secretary General of DIVERSITAS Western Pacific Asia (1998-2001), Steering Committee of Global Canopy Program (1999-), Japanese Technical Committee of GBIF (2000-), Science Committee of DIVERSITAS (2002-)

Oral Presentations

Nakashizuka, T.

2004 Ajia no Shinnrinn ni okeru Seibutu Tayousei to Jizoku-sei. (Biodiversity and sustainability of forests in Asia), Nihon Ringakkai 90-shuunenn Kinen Sinpojium, "Ajia no Shinrin to Kankyo" (90th Anniversary Sympojium of Japanese Society of Forestry, on Forests and Environment in Asia), April 1, 2004.

Nakashizuka, T.

2004 Rei-ontai Shinrin no Doutai wo kanngaeru (Dynamics of cool-temperate forests). Sinpojiumu "Shinrin Doutai wo Kangaeru" (Symposium on Forest Dynamics), Hokkaido University, December 8, 2004.

Nakashizuka, T.

2005 Nishi-ajia Taihei-you no Seibutsu Tayou-sei ni kannsuru DIWPA oyobi Chikyu-ken no Torikumi (Approaches of DIWPA and RIHN on biodiversity in western Pacific and Asia). Sinpojiumu "Seibutsu Tayousei Kansoku Kenkyu Kyoten Keisei no koremade to korekara" (Symposium on Cores of Biodiversity Observations and Researches), Kyushu University, February 11, 2005.

Nakashizuka, T.

2005 Shinrin Riyou to Seibutu Tayou-sei (Forest utilization and biodiversity). Sinpojiumu on "Kankyo Henka to Seibutu-ken no Mirai" (Environmental Change and Future of Biosphere), Tohoku University, March 1, 2005.

Research Activities

Field Research in Japan

Kita-ibaraki, Ibaraki: Researches on dynamics of trees and forests (May 2004)

Shirakami, Aomori: Monitoring of beech forest dynamics (June, Sept. 2004)

Ohdai, Nara: Effect of deer on forest regeneration (June, July, Aug., Sept. and Oct., 2004)

Ohtaki, Nagano: Vegetation change after debris avalanche (Aug., 2004)

Field Research in Foreign Countries

Sarawak, Malaysia: Canopy processes of tropical rain forest (May, July, Aug., & Dec. 2003, Jan. 2004)

Kanchanaburi, Thailand: Dynamics of tropical seasonal forest (Nov. 2004)
Sabah, Malaysia: Biodiversity of tropical rain forests (Nov. 2004)

Supervision and Host (Number of DC Students and JSPS Research Fellows)
Special Collaborative Researcher of RHIN (4 graduate students from Kyoto University)
JSPS Research Fellow (1)

Social Activities and Public Lectures
Social Activities
Working Group for "Water and Life", Kansai Forum for Environment (2002-), Investigation Committee on the structure and dynamics of the beech forests in Shirakami World Natural Heritage (2001-2002), Consulting Committee, Nature Conservation Society Japan (2002-), Steering committee for "Koshiji Mizu to Midori no kai", (2002-), Steering committee for "Shizen Haishoku Kyokai", (2002-), Working group for Ecosystem and Biodiveristy, Japanese Council for Science and Technology (2003-)

NAKAWO, Masayoshi — Professor

Born in 1945.

Curriculum Vitae
Academic Career
Department of Geophysics, Faculty of Science, Hokkaido University, D. Course (1977)
Department of Geophysics, Faculty of Science, Hokkaido University, M. Course (1974)
Department of Physics, Faculty of Science, Kyoto University (1969)
Professional Career
Adjunct Professor, Nanjing University (2003)
Professor, Research Institute for Humanity and Nature (2001)
Associate Professor, Research Institute for Humanity and Nature (2001)
Adjunct Professor, Hunan Normal University (1996)
Associate Professor, Institute for Hydrospheric-Atmospheric Sciences, Nagoya University (1993)
Head of Department, Second Department, Nagaoka Institute of Snow and Ice Studies, National Institute for Disaster Prevention and Earth Sciences (1987)
Associate Professor, Department of Applied Physics, Faculty of Engineering, Hokkaido University (1987)
Assistant Professor, Department of Applied Physics, Faculty of Engineering, Hokkaido University (1981)
Research Associate, Division of Building Research, National Research Council of Canada (1977)
Research Associate, Institute of Low Temperature Science, Hokkaido University (1970)
Higher Degrees
D. Sc. (Hokkaido University, 1977)
M. Sc. (Hokkaido University, 1974)
Fields of Specialization / Background
Glacio-climatology, Snow Hydrology
Academic Society Memberships
Japanese Society of Snow and Ice, Japan Society of Hydrology and Water Resources, Meteorological Society of Japan, International Glaciological Society, International Association of Hydrological Sciences, American Geophysical Union

Major Publications

Articles

Nakawo, M., and K. Fujita

2005 "Deposition History of Dust Particles and Its Impact on Glaciers." *Proceedings of the Fourth ADEC Workshop*, 121-124.

V. Konovalov and Masayoshi Nakawo

2005 "Analogous simulation of the annual runoff of Heihe River (China, Qilianshan)". *Bulletin of Glaciological Research*, 22, 19-29.

Activities in Academic Societies

July, 2004

Nakawo, M. Historical evolution of the adaptability in an oasis region to water resource changes. 4th International Symposium on Tibetan Plateau, Lhasa

2003, May~present

Council member / Chair of Academic Committee, Japanese Society of Snow and Ice

Research Activities

Field Research in Foreign Countries

August-September, 2004 China (Field Investigations on the Oasis Project)

Supervision and Host (Number of DC Students and JSPS Research Fellows)

Vice supervisor (1)

Social Activities and Public Lectures

Public Lectures

March, 2005 Global issue, and water circulation in arid and semi-arid region central Eurasia. Special Lecture at Lanzhou University, Lanzhou

Nakawo, M. Hydrology in arid region -a case study in the Oasis Project-. IHP Training Cource, Hydrology in Asia, Kuala Lumpur

Social Activities

2003~present Japanese Representative for International Commission on Snow and Ice

2002~present member, Japan National Committee for Polar Science, Science Council of Japan

OSADA, Toshiki — Professor

Born in 1954.

Curriculum Vitae

Academic Career

Department of Tribal & Regional Languages, Faculty of Arts, Ranchi University (India), D. Course (1990)

Department of Linguistics, Faculty of Arts, Hokkaido University, M. Course (1984)

Department of Linguistics, Faculty of Arts, Hokkaido University (1981)

Professional Career

Professor, Research Institute for Humanity and Nature (2003)

Professor, Department of Arts, Kyoto University of Arts and Design (2001)

Research Associate, International Research Center for Japanese Studies (1992)
Temporary Teacher, Shukutoku Sugamo High School (1991)

Higher Degrees

Ph. D. (Ranchi University, 1991)
M. A. (Hokkaido University, 1984)

Fields of Specialization / Background

Linguistics, South Asian Studies

Academic Society Memberships

The Japanese Society of Linguistics, The Japanese Society of South Asian Stuides

Major Publications

Books

2005
OSADA Toshiki
Studies on the Indus Civilization: Retrospect, Prospect and Bibliography. (In Japanese) Research Institute for Humanity and Nature.
OSADA Toshiki (ed.)
Occasional Paper 1: Linguistics, Archaeology and the Human Past. Research Institute for Humanity and Nature.

Articles

2004
OSADA Toshiki
"Language situation in the world: in the case of India", *Kokubungaku* (Japanese Literature) 49•7: 139-145. (In Japanese)
OSADA Toshiki
"Looking for the Mundari language (1)", *Gengo* (Language) 33•7: 90-96. (In Japanese)
OSADA Toshiki
"Looking for the Mundari language (2)", *Gengo* (Language) 33•8: 94-99. (In Japanese)
OSADA Toshiki
"Looking for the Mundari language (3)", *Gengo* (Language) 33•9: 96-101. (In Japanese)
OSADA Toshiki
"Looking for the Mundari language (4)", *Gengo* (Language) 33•10: 88-93. (In Japanese)
OSADA Toshiki
"Looking for the Mundari language (5)", *Gengo* (Language) 33•11: 138-144. (In Japanese)
OSADA Toshiki
"Looking for the Mundari language (6)", *Gengo* (Language) 33•12: 96-101. (In Japanese)
OSADA Toshiki
"The 6th Havard Roundtable", Report of ILCAA (In Japanese)
Jeewan Singh Kharakwal, Azusa Yano, Yoshinori Yasuda, V. S. Shinde, Toshiki Osada 2004 "Cord impressed ware and rice cultivation in South Asia, China and Japan: possibilities of inter-links" *Quaternary International* 123-125: 105-115.

Activities in Academic Societies

OSADA Toshiki

May 2004 — A creation myth in Munda: A comparative study. Paper read at the 6th Harvard Roundtable, Harvard University.

February 2005 — Panel discussant, Symposium on Monotheism and Polytheism held in Tohoku University.

TAKASO, Tokushiro — Professor

Born in 1954.

Curriculum Vitae

Academic Career

Department of Biology, Graduate School of Science, Tokyo Metropolitan University, D. Course (1981)
Department of Biology, Graduate School of Science, Chiba University, M. Course (1978)
Department of Horticulture, Faculty of Agriculture, Shizuoka University (1976)

Professional Career

Visiting Professor, Research Institute for Humanity and Nature (2001)
Professor, Tropical Biosphere Research Center, University of the Ryukyus (1997)
Postdoctoral Fellow, Department of Biology, University of Victoria (1990)
Postdoctoral Fellow, Harvard Forest, Harvard University (1988)
Postdoctoral Fellow, Harvard Forest, Harvard University (1986)
Research Fellow, Japan Society for the Promotion of Science (1985)
Research Fellow, Japan Society for the Promotion of Science (1981)

Higher Degrees

Ph. D. (Tokyo Metropolitan University, 1982)
M. Sc. (Chiba University, 1978)

Fields of Specialization / Background

Plant Morphology

Academic Society Memberships

The Botanical Society of Japan, The Japanese Society for Plant Systematics, The Japanese Society of Plant Physiologists, The Botanical Society of America

Major Publication

None in special

Supervision and Host (Number of DC students and JSPS Research Fellow)

RONPAKU (Dissertation Ph.D.) Fellow from Japan Society for the Promotion of Science (1)

Social Activities and Public Lectures

Public Lectures

March 10, 2005 Title: Nature in Iriomote island
Venue: Toyohara community center
February 4, 2005 RIHN Monthly Open Seminar
Title: Nature and life in the subtropical island Iriomote
November 24, 2004 Meeting on the promotion of environmental education
July 23, 2004
Title: Research on natural and cultural resources in Yaeyama region

SAITO, Kiyoaki — Professor

Born in 1945.

Curriculum Vitae

Academic Career

Department of Education, Faculty of Education, Kyoto University (1971)

Department of Agricultural Biology, Faculty of Agriculture, Kyoto University (1969)

Professional Career

Professor, Research Institute for Humanity and Nature (2004)

Senior Staff Writer, Staff Writer, The Mainichi Newspaper (2003~1971)

Fields of Specialization / Background

Study of Nature, Journalism

Academic Society Memberships

The International Society of Volunteer

Major Publications

Articles

Saito, Kiyoaki

2004 The Japanese society from the view point of Sumiwake (habitat segregation). Economist, May 25th, pp50-53. (in Japanese)

2004 Sumiwake (habitat segregation) was born from the Japanese view of Nature. Genshiryokubunka, 8: 3-9. (in Japanese)

2004 Memorial address to biochemist Yasutomi Nishizuka. The Mainichi News Paper, Nov. 20th. (in Japanese)

2005 Noh, Tea ceremony and the Antarctic. Kanze, Feb.. (in Japanese)

Co-authored

Iwatuki, Kunio Watanabe, Hiroyuki Saito, Kiyoaki

2004 Discussions about Japanese Univercity garden and forest. Ecosophia 13: 2-15. (in Japanese)

Activities in Academic Societies

Member, Editorial Board for Journal of Volunteer Studies (The International Society of Volunteer)

Member, Editorial Board for Ecosophia (The Reseach Society of Ethno-Natural History)

Research Activities

Field Research in Foreign Countries

Augst, 2004 China (Research on the Oasis project)

Social Activities and Public Lectures

Social Activities

Member, Japanese National Committee for Antarctic Research

Public Lectures

September, 2004 Global Enviroment from the view point of the Antarctic. Kyoto Heiannomori Hotel (in Japanese)

SATO, Yo-Ichiro — Professor

Born in 1952.

Curriculum Vitae

Academic Career

Department of Agronomy, Kyoto University, M. Course (1979)

Faculty of Agriculture, Kyoto University (1977)

Professional Career

Professor, Research Institute for Humanity and Nature (2003)

Assoc. Prof., Shizuoka University (1994)

Research Associate, National Institute of Genetics (1983)

Higher Degrees

D. Agr. (Kyoto University, 1986)

M. Agr. (Kyoto University, 1979)

Fields of Specialization / Background

Genetics, Ecological Genetics, DNA archaeology

Academic Society Memberships

J. Soc. Breeding, Society of Tropical Ecology

Major Publications

Books

Yoichiro, Sato

2004 Kusunoki to nihonjin. (*History of Japanese camphor trees*). Tokyo: Yasakasyobou. (in Japanese)

Yoichiro, Sato and Ryuji Ishikawa (eds.)

2004 Sannai-maruyama iseki syokubutu no sekai: DNA koukogaku no siten kara. (*Flora of Sannnai-maruyama site judged by the remains excavated*). Tokyo: Syoukabou. (in Japanese)

Takeshi, Umehara (eds.)

2004 DNA kara mita jyomon noukou Jyomonjin no sekai: Nihonjin no genzou wo motomete. (*Japan Agriculture Scope based on DNA analysis*). Tokyo. Kadokawasyoten. (in Japanese)

Articles

Yoichiro, Sato

2004 Syutudosuru ibutu no DNA bunseki: Sono genjyo to korekara. "DNA analysis for plant remains excavated" *Gekkan Bunkazai* 4: 26-29. (in Japanese)

Yoichiro, Sato

2004 Ine no kigen ni kansuru DNA koukogaku kotohajime. "DNA archaeology on the origin of rice" *Seimei no Kagaku Iden* 9: 3, 34-39. (in Japanese)

Yoichiro, Sato

2004 Koshihikari wo koeru hinsyu wa naze sodatanaika: Nouka ga mouitido hinsyu wo jibun no mononi. "Why new rice varieties overcomes Koshihikari does not released?" *Gendainougyou* 2. (in Japanese)

Yoichiro, Sato

2004 Saibaisyokubutu no torai kara mita ikutumono nihon. "Complexity of cultivated plants in Japan archiperago" *Kikan Touhokugaku* 2. (in Japanese)

Yoichiro, Sato

2005 Toro no ine. "Rice in the Toro relics" *Kikan Sizuoka no bunka* 80: 30-32.

Umemoto, T., Sato, Y. I., et al.

2004 Natural variation in rice starch synthase IIa affects enzyme and starch properties, Func. *Plant Biol.* 31: 671-684.

Activities in Academic Societies

September 2004 Ine no kigen (Origin of rice.). Shinpojiumu: Ikusyu gakkai (Symposium on Japan society of breeding) [in Japanese]

August 2004 Yasei ine towa donna ine ka? (What is eild rice?). Shinpojiumu: Yasei ine oosaka kokusai kaigi (International symposium on wild rice) [in Japanese]

Awards

Dai 17 kai Hamada Seiryo syo in 2004 (Award for The 17th Prize of Hamada Seiryo in 2004)

Research Activities

Field Research in Foreign Countries

November 2004 Indonesia (Wild-rice observations in Kalimantan)

October 2004 China (Observations for rice and corn in Yunnan)

May 2004 China (Observations for rice and corn in Yunnan)

WADA, Eitaro — Professor

Born in 1939.

Curriculum Vitae

Academic Career

Department of Chemistry, Faculty of Science, Tokyo University of Education, D. Course (1967)

Department of Chemistry, Faculty of Science, Tokyo University of Education, M. Course (1964)

Department of Chemistry, Faculty of Science, Tokyo University of Education (1962)

Professional Career

Program Director of Ecosystem Change Research Program, Japan Agency for Marine-Earth Science and Technology, Frontier Research Center for Global Change (2004-)

Professor, Research Institute for Humanity and Nature (2001-2004)

Director of Center for Ecological Research, Kyoto University (1996-1999)

Professor, Center for Ecological Research, Kyoto University (1991-2001)

Director of Department of Social and Natural Environmental Research, Mitsubishi Kasei Institute of Life Sciences (1989-1991)

Research Associate, Department of Marine Biochemistry, Ocean Research Institute, The University of Tokyo (1967-1976)

Higher Degrees

D. Sc. (Tokyo University of Education, 1967)

M. Sc. (Tokyo University of Education, 1964)

Fields of Specialization / Background

Biogeochemistry, Isotope Ecology

Academic Society Memberships

Ecological Society of Japan, Geochemical Society of Japan, Oceanographic Society of Japan

Awards

Receive 'Professor Emeritus' from the Research Institute for Humanity and Nature. (November, 12)

Major Publications

Books

Wada, Eitaro

2005 "Ryuikiken o donoyou ni miruka – busshitsujunkan no tachiba kara' Shizen to kyosei shita ryuikiken" *Toshi no saisei* pp. 177-186. Tokyo: Sankaidou. (in Japanese)

Articles

Kohzu, A., Kato, C., Iwata, T., Kishi, D., Murakami, M., Nakano, S., Wada, E.,

2004 "Stream food web fueled by methane-derived carbon" In: *Aquat. Microb. Ecol.*, 36, pp. 189-194.

Wada, Eitaro

2004 "Material cycles in nature -stable isotopes with special reference to environmental and ecological science" Tokyo: *Gendaikagaku* March, pp. 14-19. (in Japanese)

Kato, K., Iwata, T., Wada, E.

2004 "Prey use by web-building spiders: stable isotope analyses of trophic flow at a forest-stream ecotone" In: *Ecol Res* 19, pp. 633-643.

Timoshikin O. A., Coulter G., Wada, E., Suturin A. N., Yuma, M., Bondarenko N. A., Melnik N. G., Kravtsova L. S., Obolkina L. A. and Darabanov E. B.

2004 "In the concept of a universal monitoring system realistic? Landscape-Ecological investigations on Lake Baikal (East Siberia) as a possible Model" In: *Verh. Internat. Verein. Limnol.* 29. In press.

Kiyashiko S. I., Imbs A. B., Narita, T., Svetashev V. I. and Wada, E.

2004 "Fatty acid composition of aquatic insect larvae, Stictochironomus Piculus (Diptera: Chiromidae): evidence of feeding upon methanotrophic bacteria" Britain: *Comparative Biochemistry and Physiology—PartB* 139, pp. 705-771.

Nakano, Takanori, Tayasu, Ichiro, Wada, Eitaro, Igeta, Akitake, Houdo, Fujio and Miura, Yuuta

2004 "Sulfur and strontium isotope geochemistry of tributary rivers of Lake Biwa; implications for human impact on the decadal change of lake water quality" *Science of the Total Environment* Amsterdam: Elsevier.

Oral Activities in Academic Societies

(Symposium)

Wada,E.

2004 Jan. 2004 "Integrated manual on the interactive cycle between material cycles and human activities. Open Symposium on" Conservation of ecosystems in Asia. Tokyo: JSPS Kozai Kaikan.

Kohzu, A., Tayasu, I., Maruyama, A., Kohmatsu, Y., Hyoudo, F., Onoda, Y., Igeta, A., Matsui, K., Nakano, T., Wada, E., Takemon, Y. and Nagata, T.

2004 Korea: Symposium

Yamada, Y., Igeta, A., Nakajima, S., Mito, Y., Ogasawara, T., Wada, A., Ohno, T., Ueda, A., Hyodo, F., Yachi, S., Tayasu, I., Fukuhara, A., Tanaka, T. and Wada, E.

2004 "Shirokaki-ki no dakusuiryūshutsu ni yoru Biwako eno seigensofuka~hojou reberu no jikkenkekka yori~". Niigata: The Japanese Society of Limonology. (in Japanese)

(Special Lecture)

May 15, 2004 Ecological Lecture at Keiō University, Roppongi: 'Biwako-Yodogawa suikei no shindanhō' (in Japanese).

July 22, 2004 Lecture at Kawadukuri-kenkyūkai, Osaka: 'Biwako no suishitsu: shōkasen no hyōka ni tsuite' (in

Japanese).

Mar. 3, 2005 Lecture at the international symposium, "Birth of Socio-ecosystem science" at Nagoya University: 'Interface between matter cyclings and human dimentions'

Mar. 4, 2005 Lecture at the 21st Century COE Program, 'Prediction and evation of dramatic change in global ecosystem' at Hokkaidō University: 'Isotope biogeochemistry related to environmental changes and watershed'

(University Lecture)

Aug. 30-Sept. 2 2004 Nara University of Education

Sept. 22-24 2004 Kanazawa University, Faculty of Science

Nov. 26, Dec. 6 2004, Jan. 19, Jan. 22 2005 TŌHŌ University Faculty of Science, Department of Chemistry

Other Publications

Wada, Eitaro

2004 "Seibutsukai ni okeru $\delta^{15}N$, $\delta^{13}C$ no bunpu – sono 40nenshi". *Purojekuto 3-1 Wākingu Pēpā (Project 3-1 Working Paper Series)* Special Version [in Japanese] (in press)

Wada, Eitaro, Yamada, Y., Tayasu, I., Igeta, A., Nakano, T., Narin, B., Tanaka, T. and Yachi, S.

2005 "Biwako-Yodogawasuikei no shindanho – Ryuunyuu shokasen no juyosei ni tuite". *Purojekuto 3-1 Wākingu Pēpā (Project 3-1 Working Paper Series)* No. 12 [in Japanese]

Research Activities

Field Research in Japan

April 29-30 2004 Shiga Prefecture (Research on eastern part of Lake Biwa)

May 26-27 2004 Shiga Prefecture (Visit Takeo-Kasen)

Nov. 13-14 2004 Osaka prefecture (Visit Workshop on Osaka Bay)

Dec. 2004 Shiga prefecture (Water sampling on the Yodo River•Aisai)

Social Activities (Member of the committees in 2004)

Advisory committee, Global Observation System (Research and Development, Science and Technology, Ministry of Education, Culture, Sports, Science and Technology) / Administrative committee / research-planning committee of the Center for Ecological Research, Kyoto University / Joint researcher of the Research Institute for Humanity and Nature / Special committee for JSPS research fellowships for young scientists / Yodo River watershed committee (Ministry of Land, Infrastructure and Transport Kinki Regional Development Bureau) / Administrative committee of Foundation for Riverfront Improvement and Restoration (Ministry of Education, Culture, Sports, Science and Technology) / Advisory committee, Global Observation System (Ministry of Education, Culture, Sports, Science and Technology) / Advisory committee, CREST, R&D of Hydrological System Modeling and Water Resources System (Japan Science and Technology Agency) / EXPO 2005 Committee member of a award in environmental technology The 2005 World Exposition, Aichi, Japan / National Committee for MAB / Coordinating Committee for MAB (Japanese National Commission for UNESCO) / Evaluation committee for 21st Century COE Program (For the Yokohama University), (Ministry of Education, Culture, Sports, Science and Technology) / Councilor for ILEC (International Lake Environment) / Chairperson of the Japan BICER (Baikal Int'l Center for Ecological Research)

Editorial Board

A member of editorial board for "Isotope Practice and Environmental Health". (Germany) / A member of editorial board for "Science in Hand", (Russian Academy of Sciences, SB, Russia)

WATANABE, Tsugihiro — Professor

Born in 1953.

Curriculum Vitae

Academic Career

Department of Agricultural Engineering, Graduate School of Agriculture, Kyoto University, D. Course (1983)
Department of Agricultural Engineering, Graduate School of Agriculture, Kyoto University, M. Course (1979)
Department of Agricultural Engineering, Faculty of Agriculture, Kyoto University (1977)

Professional Career

Professor, Research Institute for Humanity and Nature (2003)
Associate Professor, Research Institute for Humanity and Nature (2001)
Associate Professor, Arid Land Research Center, Tottori University (2001)
Associate Professor, College of Agriculture and Bioscience, Osaka Prefecture University (1995)
Associate Professor, Faculty of Agriculture, Kyoto University (1989)
Research Assistant, Faculty of Agriculture, Kyoto University (1984)
Research Fellow, Japan Society for Promotion of Science (1983)

Higher Degrees

D. Agr. (Kyoto University, 1989)
M. Agr. (Kyoto University, 1979)

Fields of Specialization / Background

Irrigation and Drainage Engineering

Academic Society Memberships

Japanese Society of Irrigation, Drainage and Reclamation Engineering, Japan Society of Hydrology and Water Resources, Japanese Association for Water Resources and Environment, Japan Society of Civil Engineers, the Japanese Society for Arid Land Studies, International Commission on Irrigation and Drainage, International Water Resources Association, and International Society of Paddy and Water Environmental Engineering

Major Publications

Articles

Watanabe, Tsugihiro

2004 "Hydrological Cycle Research and Technology Development in the Century of Environment" *Journal of Japanese Society of Hydrology and Water Resources*, 17(3): 231-232. (in Japanese)

Kume, Takashi, Nagano, Takanori, Watanabe, Tsugihiro and Mitsuno, Toru

2004 "Effect of Leaching Irrigation on Soil Salinity Distribution in Poor Drainage Field", *Transaction of JSIDRE*, 233: 21-28. (in Japanese)

Kume, Takashi, Nagano, Takanori, Watanabe, Tsugihiro and Mitsuno, Toru

2004 "Analysis of Heterogeneous Soil Salinity Distribution in a Poor Drainage Field", *Transaction of JSIDRE*, 234: 19-26. (in Japanese)

Masumoto, Kentaro, Fuinawa, Katuyuki, Furukawa, Masanao, Nagano, Takanori and Watanabe, Tsugihiro

2004 Experimental studies for identifying the impacts of sea-level rise caused by global warming on groundwater environment in areas below sea-level., Journal of Japanese Desert Environment.

Watanabe, Tsugihiro

2005 "Safety of Food, Security and Soil and Warmer and Shock" 「Kagaku」 75(1): 98-102. (in Japanese)

Activities in Academic Societies

Administrative Works

2003- International Committee on Irrigation and Drainage. Member of Working Group on Irrigated Agriculture under Droughts and Water Shortage.

2003- Member of Editing Board of *Paddy and Water Environment*. International Society of Paddy and Water Environmental Engineering.

1998- Board Member, JAWRE (Japanese Association for Water Resources and Environment).

Oral Presentations

Watanabe, Tsugihiro, Nagano, Takanori and Hoshikawa, Keisuke

2004 "Development of Water Balance Model for Assessing Climate Change Impacts on Irrigated Agriculture in Arid Area" Annual Report Meeting of Arid Land Research Center, Tottori University, Tottori (in Japanese)

Kume, Takashi, Nagano, Takanori, Watanabe, Tsugihiro and Mitsuno, Toru

2004 "Evaluation of Salt Leaching Irrigation by Salinity Distribution Measurements", Annual Meeting of JSIDRE, Sapporo (in Japanese)

Hoshikawa, Keisuke and Watanabe, Tsugihiro

2004 "Development of Water Balance Model of Irrigation District Focusing on Water Management and Cropping Pattern" Annual Meeting of JSHWR, Muroran (in Japanese)

Hoshikawa, Keisuke and Watanabe, Tsugihiro

2004 "An evaluation model of impact of crop and irrigation management to water, balance in irrigated agriculture in arid zones" Western Pacific Geophysics Meeting, Honolulu, Hawaii

Research Activities

Field Research in Foreign Countries

May, June to July, October to November, November 2004, and January to February 2005
Turkey (Studies on Impact of climate change on agricultural production)

July 2004 and February 2005
China (Studies on water balance structure of large-scale irrigation scheme)

September 2004 Russia (Studies on irrigated agriculture under droughts and water shortage)

Other Academic Activities

2000 to date Research Collaborator, JSPS-CAS Core-University Program Researches on Combating Desertification and Developmental Utilization in Inland China, Arid Land Research center of Tottori University.

2000 to present Joint Researcher, Arid Land Research Center of Tottori University.

2001 to date Head of Agriculture and Irrigation Sub-Group of the Research Project on "Improving the Sustainability in Utilizing and Controlling Water in the Yellow River Basin", the Core Research for Evolutional Science and Technology Japan Science and Technology.

Social Activities and Other Activities

Lectures

September 2004 Lecture "Field Irrigation and Global Environment", 7th Central Lecture Course of JSIDRE, Tokyo

December 2004 Lecture "Research Projects of RIHN and Irrigation Research in Water-related Research Projects", Irrigation and Drainage Seminar of Kyoto University, Kyoto

January 2005 Lecture "Development of Irrigation Systems in the Lake Biwa Basin", Human Impact Seminar, Kyoto University and RIHN, Ohtsu

Committee Work for Other Organizations

2005 to date Member of the Committee on Evaluation of Independent Administrative Institutions, Ministry of Agriculture, Forestry and Fisheries.

2004 to date Member of the Working Group for Environment of Lake Biwa and Rivers in the Lake Biwa Basin, Ministry of Land Infrastructure and Transportation.

2004 to date Member of the Committee of Society Name, JSIDRE.

2004 to date Member of Organizing Committee of PAWEES2005, PAWEES.

2003 to date Member of the Committee on Evaluation of Independent Administrative Institutions, Ministry of Foreign Affairs.

2003 to 2005 Extra member of the Committee on Evaluation of Independent Administrative Institutions, Ministry of Agriculture, Forestry and Fisheries.

2003 to date Member of Research Liaison Committee for Social Environmental Engineering, The Science Council of Japan.

2003 to 2005 Member of the Committee on Strategic Environmental Impacts Assessment, Advice Center for Rural Environment Support.

2003 to date Member of the Committee on Technical Research, Advice Center for Rural Environment Support.

2002 to date Member of the Committee for Promotion of Groundwork in Shiga Prefecture, Federation of Land Improvement Organizations of Shiga Prefecture.

1999 to date Member of the Committee for Promotion of ICID Activities, Japan Institute of Irrigation and Drainage.

1999 to date Member of the Committee on Improvement of Rural Area, Osaka Prefecture.

YUMOTO, Takakazu — Professor

Born in 1959.

Curriculum Vitae

Academic Career

Department of Botany, Graduate School of Science, Kyoto University, D. Course (1987)

Department of Botany, Graduate School of Science, Kyoto University, M. Course (1984)

Faculty of Science, Kyoto University (1982)

Professional Career

Professor, Research Institute for Humanity and Nature (2003)

Associate Professor, Center for Ecological Research, Kyoto University (1994)

Lecturer, Faculty of Science, Kobe University (1992)

Lecturer, College of Liberal Arts, Kobe University (1992)

Research Assistant, College of Liberal Arts, Kobe University (1989)

Research Fellow, Japan Society for Promotion of Science (1987)

Higher Degrees

D. Sc. (Kyoto University, 1987)

M. Sc. (Kyoto University, 1984)

Fields of Specialization / Background

Plant Ecology, Tropical Ecology

Academic Society Memberships

The Ecological Society of Japan, The Botanical Society of Japan, The Japan Society of Tropical Ecology, Japan

Association for African Studies, The Society for the Study of Species Biology, Japanese Association of Historical Botany

Major Publications

Articles

Imamura, A. and Yumoto, T.

2004 "The time of urea treatment and its effects on the succession of the ammonia fungi in two warm temperate forests of Japan" *Mycoscience* 45: 123-130.

Imamura, A. and Yumoto, T.

2004 "Recovery of mycorrhizas of a fungus, *Cenococcum geophilum*, after urea treatment in warm temperate forests in Japan" *Mycoscience* 45: 357-361.

Kanetani, S., Ikegame, K., Tetsuka, K., Terakawa, M. and Yumoto, T.

2004 "A new population of *Pinus armandii* Franch. var. *amamiana* (Koidz.) Hatusima on Tanega-shima Island, southwestern Japan" *Japanese Journal of Conservation Ecology* 9: 77-82. (in Japanese)

Kitamura, S., Suzuki, S., Yumoto, T., Poonswad, P., P. Chuailua, Plongmai, K., Noma, N., Maruhashi, T. and Suckasam, C.

2004 "Dispersal of *Aglaia apectabilis*. A large-seeded tree species in a moist evergreen forest in Thailand" *Journal of Tropical Ecology* 20: 421-427.

Kitamura, S., Yumoto, T., Poonswad, P., Noma, N., P. Chuailua, Plongmai, K., Maruhashi, T. and Suckasam, C.

2004 "Pattern and impact of hornbill seed dispersal at nest trees in a moist evergreen forest in Thailand" *Journal of Tropical Ecology* 20: 545-553.

Tsujino, R. and Yumoto, T.

2004 "Effects of sika deer on tree seedlings in a warm temperate forest on Yakushima Island, Japan" *Ecological Research* 19: 291-300.

Tsujino, R., Noma, N. and Yumoto, T.

2004 "Growth of the sika deer (*Cervus nippon yakushimae*) population in the western lowland forests of Yakushima Island, Japan" *Mammal Study* 29: 105-111.

Yumoto, T.

2004 "The first step for field work is Botanical Garden" *Eco-sophia* 13: 22-27. (in Japanese)

Activities in Academic Societies

Editorial board of Japanese Journal of Historical Botany (2003-)

Steering committee member of the Japan Society of Tropical Ecology (1998-)

Editorial board of Japanese Journal of Conservation Ecology (1996-)

Research Activities

Field Research in Japan

October, 2004 Kagoshima Prefecture (Research on endemic pine, *Pinus amaniana*, in Tanegashima Island)

July, 2004 Gunma Prefecture (Research on endemic plant, *Japonolirion osense*, on Mt. Shibutsu)

July, 2004 Hokkaido Prefecture (Research on endemic plant, *Japonolirion osense*, on Mts. Teshio)

May, 2004 Kagoshima Prefecture (Research on reproductive biology on, *Myrica rubra*)

Field Research in Foreign Countries

June, 2004 Russia (Research on bumble bees and vegetation)

Supervision and Host

5 graduate students from Graduate School of Science, Kyoto University

1 graduate student from Graduate School of Agriculture, Kyoto University

1 graduate student from Graduate School of Environmental Sciences, University of Shiga Prefecture

Social Activities and Public Lectures

December, 2004 Intensive series of lectures on "Introduction to Ecology" in Faculty of Horticultures, Chiba University (Chiba University, Matsudo-shi)

October, 2004 Intensive series of lectures on "Wildlife Managements" in Faculty of Agriculture, Gifu University (Gifu University, Gifu-shi)

September, 2004 Intensive series of lectures on "Biotic Interactions and Mutualism" in Graduate School of Environmental Sciences, University of Shiga Prefecture (University of Shiga Prefecture, Hikone-shi)

August, 2004 Yakushima Fieldwork Course (Kamiyaku-cho and Kyoto University 21st Century COE, Kamiyaku-cho)

July, 2004 Lecture in Hanshin Senior College on "Introduction to Tropical Rainforests" (Association of Enrichments to Senior Lives in Hyogo Prefecture, Amagasaki-shi)

June, 2004 Public Lecture in TEPCO Electric Energy Museum on "Ecology in Tropical rainforests" (Tokyo Electric Power Company, Shibuya-ku)

May, 2004 Lecture in The University of the Air on "Conservation Biology" (The University of the Air, Kyoto)

CHEN, Jianyao — Invited Research Fellow

Born in 1966. (P. R. China)

Curriculum Vitae

Academic Career

Department of Earth Science, Chiba University, PhD in Regional Environmental Science (2003)

Department of Hydrology, Institute of Geography, Chinese Academy of Sciences (CAS), PhD in Hydrology and Water Resource (1999)

International Institute for Aerospace and Earth Science (ITC), the Netherlands, M. Sc. in Remote Sensing and GIS (1995)

Department of Hydrology, Institute of Geography, Chinese Academy of Sciences (CAS), M. Sc. in Hydrology and Water Resource (1990)

Department of Geography, Nanjing University, B. Sc. (1987)

Professional Career

Visiting Professor, Research Institute for Humanity and Nature (RIHN), Sept-Dec, 2004

Professor, School of Geography and Planing, Zhongshan (Sun Yat-sen) University (2004)

Research Fellow, in Research Institute for Humanity and Nature (RIHN) (2003)

Associate Professor, Department of Hydrology, Institute of Geography, CAS (1997)

Assistant Professor, Department of Hydrology, Institute of Geography, CAS (1990)

Higher Degrees

Ph. D (Chiba University 2003, CAS 1999)

M. Sc. (ITC 1995, CAS 1990)

Fields of Specialization / Background

Hydrology, Physical Geography, Isotopic Hydrology, Groundwater, RS and GIS

Academic Society Memberships

Chinese Geographical Union, IAHS

Major Publications

Articles

Chen JY, Tang CY, Sakura S, Kondoh A, Shen YJ and Song XF

2004 Measurement and analysis of redistribution of soil moisture and salute in a maize field in the lower reach of the Yellow River, *Hydrological Processes* 18: 2263-2273.

Shen YJ, Zhang YQ, Kondoh A, Tang CY, Chen JY, Xiao JY, Sakura Y, Liu CM, Sun HY

2004 Seasonal variation of energy partitioning in irrigated wheat and maize farmland, *Hydrological Processes* 18: 2223-2234.

Tang CY, Chen JY, Shindo S, Sakura Y, Zhang WJ, Shen YJ

2004 Assessment of groundwater contamination by nitrates associated with wastewater irrigation: A case study from Shijiazhuang region, China, *Hydrological Processes* 18: 2303-2312.

Chen JY, Tang CY, Shen YJ, Sakura Y, Kondoh A

2004 Nitrate pollution of groundwater in a wastewater irrigated field of Hebei Province, In *Risk Assessment of Waste Water Re-Use on Groundwater Quality*, Joop Steenvoorden (ed.). Red-book of IAHS, 285: 23-27.

Tang CY, Chen JY, Shen YJ

2004 Long-term effect of wastewater irrigation on nitrate in groundwater in the North China Plain. In *Risk Assessment of Waste Water Re-Use on Groundwater Quality*, Joop Steenvoorden (ed.). Red-book of IAHS, 285: 34-40.

Chen JY, Tang CY, Sakura S, Kondoh A, Yu JJ, Shimada J, Tanaka T

2004 Spatial geochemical and isotopic characteristics associated with groundwater flow in the North China Plain, *Hydrological Processes* 18: 3133-3146.

Chen JY, Fukushima Y, Tang CY, Taniguchi M

2004 Water environmental problems occurred in the lower reach of the Yellow River. *Journal of Japan Society of Hydrology & Water Resources*. Vol. 17(5): 555-564 (In Japanese).

Activities in Academic Societies

Oral Presentations

Chen JY, Tang CY, Fukushima Y, Makoto T.

2004 Water resources use in the lower reach of the Yellow River over the last 50 years. Oral presentation, 2nd International Workshop on Yellow River Studies, Kyoto

Chen JY, Taniguchi M, Miyaoka K, Onodera S, Ishitobi T, Liu GQ, Fukushima Y.

2004 On identification of impact zone of groundwater from the Yellow River in the delta area by using CDT data. Poster presentation, 2nd International Workshop on Yellow River Studies, Kyoto

Chen JY, Fukushima Y, Taniguchi M.

2004 Hydro-environmental problems in the North China Plain. Annual meeting of commission of Hydrology, Chinese Society of Geography, Beijing

Research Activities

Field Research in Foreign Countries

2004 May and Sep. Field survey and water sampling in the delta of the Yellow River, China

2004 Oct. Data collection related to the Yellow River Project in Beijing, China

CITRAKON, Songkran — Invited Research Fellow

Born in 1944.

Curriculum Vitae

Academic Career

Faculty of Agriculture, Hokkaido University, D. Course (1992-1995)

Faculty of Plant Biology, Birmingham University, United Kingdom, M. Course (1978-1079)

Faculty of Agriculture, University of the Philippines (1963-1967)

Professional Career

Visiting Professor, Research Institute for Humanity and Nature (2004)

Assistant Director, Biotechnology Research and Development Office, Department of Agriculture (2003-present)

Assistant Director, Rice Research Institute, Department of Agriculture, Ministry of Agriculture and Cooperatives (1973-2003)

Breeding Division, Rice Department, Ministry of Agriculture (1968-1973)

Higher Degree

D. Agr. (Hokkaido Univ.)

Fields of Specialization / Background

Academic Society Memberships

Major Publications

Books

CHITRAKON, Songkran, C. Vutiyano

1996 Rice Genetic Resources in Thailand. In *Thai text book: Diversity in Life* p. 56-70, 1996.

CHITRAKON, Songkran

1995 Characterization, evaluation and utilization of wild rice germplasm in Thailand. 142pp. Phd. Thesis, Hokkaido University, 1965.

Research Activities

Participation

2004, Oct. 1, 04 to 2005, Jan. 31, 05 Seminar to RIHN: Plant Genetic Resources and Rice Cultivation in Thailand

2004, Nov. 5-6 Attending a conference in Tsukuba: World Rice Research Conference 2004

2004, Nov. 12 Seminar to the conservation meeting at RIHN: *In-situ* Conservation of Wild Rice in Prachin Buri, Thailand

2004, Dec. 7, 04 Submission a draft article to Prof. Sato: Genetic erosion in plant and *In-situ Conservation* on wIld Rice

2004, Dec. 22, 04 Seminar to the Wild Rice Club in Osaka: Wild Rice Genetic Resources Conservation

2005, Jan. 14 Completion of editing the proceeding on International Wild Rice Conservation Meeting held in Loas (9 papers).

2005, Jan. 22 Seminar to the Farmer Association in Shizuoka: General Facts and Rice Cultivation in Thailand

2005, Jan. 25 Advice to MOA establishment between RIHN and LAOS, RIHN and Thailand

HANNAN, Md. Abdul — Visiting Professor

Born in 1964.

Curriculum Vitae

Academic Career

The United Graduate School of Agricultural Sciences, Tottori University, Japan, D. Course 1998.

Faculty of Life and Environmental Sciences, Shimane University, Japan, M. Course 1995.

Department of Zoology, University of Dhaka, Bangladesh, M. Course 1987.

Department of Zoology, University of Dhaka, Bangladesh 1986.

Professional Career

Visiting Professor, Research Institute for Humanity and Nature (RIHN), (April 1, 2004-March 31, 2005.)

Responsibility: Conducting research under the topic of "Studies on the Partnership between Pollinators and Wild and Cultivated Plants in Subtropical Islands, Iriomote".

Visiting Foreign Researcher (Visiting Professor), Tropical Biosphere Research Center, Iriomote Station, University of the Ryukyus, Japan. (2003-2004)

Research fellow, Center for Natural Resource Studies, Bangladesh. (2000-2003)

Research fellow, Bangladesh Centre for Advanced Studies, Dhanmondi, Dhaka (1998-2000)

Senior Research Officer, Mitra and Associates, Mohammedpur, Dhaka-1207, 1992

Research Officer, Associates for Communication Options, Dhanmondi, Dhaka-1209, Bangladesh, 1992

General Science Teacher, Place: Onnesha International School, Banani, Dhaka, 1991-1992

Higher Degrees

Ph. D. (Tottori University, 1998)

M. Sc. (University of Dhaka, 1995)

Academic Society Memberships

Asian Apicultural Association, Member, BRGB (Biodiversity Research Group Bangladesh), SISG (Social Insect Specialist Group) IUCN/SSC, Anet (International Network for the Study of Asian Ants), Japanese Journal of Entomology, Chugaku Branch (Chugaku Kantyu), International Commission for Plant-Bee Relationships (ICPBR), Shinshu Entomological Society, Japan (*New Entomologist.*)

Major Publications

Books

2003 Pollination Ecology, Bangla Academy (National Institute of Language), Dhaka-1000, Bangladesh, 2003.

Articles

Hannan, M. A.

2003 Ants of Bangladesh. *ANeT Newsletter*. 6: 10-14.

Hannan, M. A.

2004 Visions Towards the Beekeeping in Bangladesh. *Honeybee Science*. Tamagawa University, Japan. 25(2): 76-80. (In Japanese, summary in English)

Maeta, Y., R. Miyanaga and M. A. Hannan

2004 Discovery of the six bee species from southwestern islands, Japan (Hymenoptera, Apoidea). *Chugaku Kantyu* 17: 27-30.

Maeta, Y. and M. A. Hannan

2004 Nest architecture of *Megachile yaeyamaensis* Yasumatsu et Hirashima (Hymenoptera, Megachidae). *Chugaku Kantyu* 17: 35-38.

Hannan, M. A.

2004 Addition of Two Species to the List of Bangladesh ants. ANet Newsletter. 7: 13-14.

Hannan, M. A., Maeta, Y. and K. Kitamura

2005 Nest architecture of *Megachile* (*Megachile*) *igniscopata* (Hymenoptera, Megachidae). *Chugaku Kantyu*. (In press)

Hannan, M. A. and Y. Maeta

2005 Nectar Robber of *Tabebuia rosea* DC (Leguminosae) in the Iriomote Island, Japan. *Chugaku Kantyu*. (In press)

Hannan, M. A.

2005 Bee Plants in Bangladesh, 6th AAA (Asian Apicultural Association) Proceedings, Japan. *Chugaku Kantyu*. (In press)

Hannan, M. A.

2000 Beekeeping and Apicultural Products in Bangladesh. *Honeybee Science*. Tamagawa University, Japan. 21(4): 154-158. (In Japanese, summary in English)

Hannan, M. A., Maeta, Y. and K. Hoshikawa

1997 Colony development of two species of Japanese bumblebees *Bombus* (*Bombus*) *ignitus* and *Bombus* (*Bombus*) *hypocrita* (Hymenoptera; Apidae) *Japanese Journal of Entomology* 65(2): 343-354.

Hannan, M. A., Maeta, Y. and K. Hoshikawa

1998 Feeding behavior and food consumption in the colonies of *Bombus* (*Bombus*) *ignitus* (Hymenoptera; Apidae) *Entomological Science* 1(1): 27-32.

Hannan, M. A. and A. Kabir

1996 Host preference of *Anisopteromalus calandrae* (Howard) (Hymenoptera; Pteromalidae) *Journal of Asiatic Society, Bangladesh, Science* 22(1): 43-47.

Ahmed, K. N., Hannan, M. A. and M. Khatun

1995 A Note on the Predacious Mite, *Pyemotes ventricosus* (Newp.) (Acarina; Pyemotidae) Attacking *Tribolium* Larvae, *Bangladesh Journal of Zoology* 23(1): 117-118, 1996.

Ahmed, K. N., Khatun, M. and M. A. Hannan

1994 Notes on the Life History of the Flat Grain Beetle, *Cryptolestes pusillus* (Schon.) (Coleoptera: Cucujidae), *Journal of Asiatic Society, Bangladesh, Science* 20(1): 83-86, 1994.

Column

2005 Grass Biodiversity as Animal Feed, The Bangladesh Observer
Under Water Biodiversity, The Bangladesh Observer

2004 Sustainable Use of Natural Resources: Banana Plant as a Source of Fiber (Manila hemp), The Bangladesh Observer
Edible Aquatic Weeds, The Bangladesh Observer

2003 Needs of Environmental Research to Conserve Biodiversity, The Bangladesh Observer
Plant Biodiversity-Bonsai, The Bangladesh Observer
Continental Island Iriomote, The Bangladesh Observer

2003 Insects (Kit-Potanga Chena) a series, The Daily Janakntha, The Bangladesh Observer
Gene and Social Insects, The Bangladesh Observer
Beneficial Insect Strepsiptera, Bangla Academy Science Journal
Insects Beneficial or Harmful, The Bangladesh Observer
Bee Research in Asia, The Bangladesh Observer
Orchids for Pleasure, The Bangladesh Observer

Other Publication

Guide to the environmentalconservation act 1995 and rules 1997, Published by Bangladesh Centre for Advanced

Studies (BCAS), Dhaka, Bangladesh. 1999.
Biodiversity Chapter, State of Environment, Bangladesh, UNEP, 2001.

Awards
Monbusho scholarship awarded (1993-1998)

Research Activities
Seminar/conference Attended
6th AAA (Asian Apicultural Association) International Conference and World Apiexpo 2002, Bangalore, India
XIV International Congress of IUSSI (International Union for the Study of Social Insects), held from 28 July - 3 August, 2002 at Hokkaido, Japan.
Field Research in Japan
Iriomote island, A research work was conducted in the Research Institute for Humanity and Nature (RIHN) on the Partnership between Pollinators and Wild and Cultivated Plants in Subtropical Islands, Iriomote.

HILL, David Anthony — Invited Research Fellow

Born in 1958. (England)

Curriculum Vitae
Academic Career
Sub-Department of Animal Behaviour, University of Cambridge, England. Post-graduate Research Student (1980)
Departments of Psychology and Zoology, University of Reading, Undergraduate Student (1977)
Professional Career
Visiting Foreign Researcher, Research Institute for Humanity and Nature (2004-2005)
Lecturer, School of Life Sciences, University of Sussex, Brighton, England (since 1995)
Senior Research Assistant, Department of Anatomy, University of Hong Kong (1994-1995)
Royal Society Return Fellow, University of Edinburgh, Scotland (1992-1993)
JSPS Post-Doctoral Research Fellow, Center for African Area Studies, Kyoto University (1990-1991; 1991-1992)
Royal Society/JSPS Post-Doctoral Research Fellow, Center for African Area Studies, Kyoto University (1987-1989)
Higher Degree
PhD. (University of Cambridge, U. K., 1985)
Fields of Specialization / Background
Primate social behaviour; Behaviour, ecology and conservation of mammals (especially bats) in woodland habitats
Academic Society Memberships
Association for the Study of Animal Behaviour, Primate Society of Great Britain, Primate Society of Japan, Society for Conservation Biology

Major Publications
Articles
Hill, D. A. & Greenaway, F.
2005 Effectiveness of an acoustic lure for surveying bats in British woodlands. **Mammal Review**, 35(1): 116-122. (in press)
Fukui, D.; Maeda, K.; Hill, D. A.; Matsumura, S. & Agetsuma, N.
2005 Geographical variation in the cranial and external characters of the little tube-nosed bat, *Murina silvatica* in

Japanese archipelago. **Acta Theriologica**.

Hill, D. A.

2004 Effect of demographic variation on kinship structure and behavior in cercopithicines. In: **Primate Kinship**. Chapais, B. & Berman, C. M. (eds) Cambridge University Press.

Hill, D. A.

2004 Intraspecific variation. In: **How Societies Arise: the Macaque Model**. Thierry, B.; Singh, M. & Kaumanns, W. (eds) Cambridge University Press.

Fukui, D.; Agetsuma, N. & Hill, D. A.

2004 Acoustic identification of eight species of bat (Mammalia: Chiroptera) inhabiting forests of southern Hokkaido, Japan: Potential for conservation monitoring. **Zoological Science, 21:**. 947-955.

Activities in Academic Societies

2003 **National Bat Conference, University of Reading, UK** Presentation: "Chatting with mystery bats: from impersonation to identification"

2001 **XVIIIth Congress, International Primatological Society, Adelaide, Australia**. Two presntations: "Male mobility in Japanese macaques" and "Macaques perceived as pests: A growing problem in primate conservation" (with A. Eudey)

Wenner-Grenn Workshop on Macaque Socio-ecology and Evolution, University of Mysore, India Presentation: "Influence of demographic variation on social relationships and social structure in macaques: A confounding factor in the search for interspecific differences?"

Awards

1996 Daiwa Anglo-Japanese Foundation Prize for collaborative research

1996 Primate Society of Japan Award for Research

Research Activities

Field Research in Japan

July-November 2004 - Comparative species composition and activity of insectivorous bats in natural broad-leaved forests and conifer plantations in Yakushima

Field Research in Foreign Countries

None during my time at RIHN

Social Activities and Public Lectures

Public Lectures

August 2004 - Conservation of woodland bats in England and Japan, Yamaguchi University

December 2004 - Methods for surveying bats in woodland habitats. Ryukoku University

INOUE, Takashi — Visiting Professor

Born in 1952.

Curriculum Vitae

Academic Career

1972 School of Law, Waseda University

Professional Career

Executive Producer, NHK Tokyo Head Office, Special Programs Center (2003-present)
Executive Manager, Cultural Programme, NHK Enterprises 21, Inc. (2001)
Executive Producer, NHK Enterprises 21, Inc. (2000)
Senior Producer, NHK Tokyo Head Office, Programme Production Department (1998)
Senior Producer, NHK Tokyo Head Office, Special Programme Department (1993)
Senior Producer, NHK Tokyo Head Office, Programme Production Department (1990)
Programme Director, NHK Head Office, Programme Production Department (1981)
Progremme Director, Yamaguchi Bureau, NHK (Nippon Hoso Kyokai; Japan Broadcasting Corporation) (1976)

Higher Degree

B. L. (Waseda University, 1976)

Fields of Specialization / Background

Television documentary production (in the field of civilization/history)

Major Publications

Books

NHK Silk Road 2005 Project 2005 Sin Silk Road 1. Tokyo: NHK syuppan
NHK Silk Road 2005 Project 2005 Sin Silk Road no tabi 1. Tokyo: kodansha

KHARAKWAL, Jeewan Singh — Visiting Professor

Born in 1966. (India)

Curriculum Vitae

Academic Career

Approved Ph. D. supervisor of JRN Rajasthan Vidyapeeth University, Udaipur, India
Doctor of Philosophy course on *Archaeological Explorations in Kumaun Himalayas* (1994)
Master of Arts: Ancient History Culture and Archaeology from Kumaun University, Nainital, India (1989)

Professional Career

Visiting Professor, Research Institute for Humanity and Nature
Asstt. Professor, Department of Archaeology, Institute of Rajasthan Studies, Rajasthan Vidyapeeth University Udaipur, India (2004)
Research Associate in Department of Archaeology, Rajasthan Vidyapeeth University, Udaipur, India (1996)
Research Assistant (with Prof. D. P. Agrawal, Physical Research Laboratory, Ahmedabad, India): *Archaeological Studies in Uttarankhand*. A research project sponsored by Indian Council of Historical Research, Delhi, India (1991)
Research Assistant (with Prof. Diwa Bhatt, Kumaun University, India): *Continuity and Transition in Himalayan Cultural Life*. A research project sponsored by University Grant Commission, Delhi, India (1990)

Higher Degree

Ph. D. (Rajasthan Vidyapeeth University)

Fields of Specialization / Background

Ancient Metal Technology, Agriculture, Rock Art and Traditional Science

Academic Society Memberships

Indian Society for Prehistoric and Quaternary Studies, Pune.
Indian Archaeological Society, Delhi.
Indian Rock Art Society, Agra, India.

PAHAR (Peoples Association for Himalayan Area Research), Nainital, India.

Member of Indo-Pacific Prehistory Association.

Executive Member of History of Science and Technology Book Project Series on South Asia, Care Lok Vigyan Kendra, Almora, India.

Member of alumni association of visiting scholars of International Research Centre for Japanese Studies, Kyoto.

Major Publications

Books

Co-author

J. S. Karakwal, D. P. Agrawal

2003 ***South Asian Bronze and Iron Ages***. Delhi: Aryan Books International.

J. S. Karakwal, D. P. Agrawal

2002 ***South Asian Prehistory***. Delhi: Aryan Books International.

1998 ***Central Himalayas an Archaeological Linguistic and Cultural Synthesis***. Delhi: Aryan Books International.

Articles

Kharakwal, J. S.

2005 Indus Civilization: An Overview. *Occasional Papers 1* (Indus Project). (Ed.) T. Osada. Kyoto: Research Centre for Humanity and Nature. Pp 41-86.

Kharakwal, J. S., L. Pandey, J. Meena, L. C. Patel and H. Chaudhary

2005 Recent advances in the archaeology of Rajasthan. In *Sodh Patrika* (Ed.) L. Pandey. Udaipur: Institute of Rajasthan Studies.

Kharakwal, J. S. D. P. Agrawal and Diwa Bhatt

2003-2004 The archaeology of Banasur fort, Lohaghat. *Purattatva* 34: 160-165.

Kharakwal, J. S., A. Yano, Y. Yasuda, V. S. Shinde and T. Osada

2004 Cord Impressed Ware and Rice cultivation in India, China and Japan. *Quaternary International* 123-125: 105-115.

Kharakwal, J. S., M. L. Sharma and Madan L. Meena

2002 Discovery of ancient smelting sites near Ganeshwar, district Sikar, Rajasthan. Sodh Patrika 53(1-4): 92-104.
Co-author with D. P. Agarwal 2002. Outstanding problems of Early Iron Age in India. In *Tradition and Innovation in the History of Iron Making*, (eds.) Girija Pandey and Ian af Geijerstam. Nainital: Pahar. Pp. 3-20.

Co-author

Co-author with R. K. Mohanty, A. Mishra, P. P. Joglekar, P. K. Thomas and T. Panda. Purani Marmi:

2000 A Late Ahar Culture Settlement in Chittorgarh District, Rajasthan. *Puratattva* 30: 132-141.

Kharakwal, J. S.

1999 The Archaeology of Kumaon Region, North India, *Bulletin of the Deccan College Post-Graduate and Research Institute, Pune* 58-59: 161-174.

Kharakwal, J. S.

1999 Exploration in District Almora. *Indian Archaeology: A Review* PP 170-172.

Kharakwal, J. S and V. S. Shinde

1998 The Archaeology of Kumbhalgarh, In *Souvenir* pp. 49-53. Udaipur: Maharana Kumbha Sangeet Parishad.

Kharakwal, J. S. and Anita Rane

1997 Cup-Marks and Gaychole Game, in *Himkanti* (B. M. Khanduri and V. Nautiyal Eds.). Delhi: Book India Publishing Co. Pp 155-160.

Co-authored

Kharakwal, J. S., V. N. Misra, V. Shinde, R. Mohanty and L. Pandey

1997 Excavation at Balathal, Udaipur district, Rajasthan (1995-97), with Special Reference to Chalcolithic Architecture. *Man and Environment* 22(2): 35-39.

Kharakwal, J. S. and Deep Harbola

1996 Kumaon mai Mahapasankalain Savagar Parampara. *Pragdhara* 6: 169-76.

Kharakwal, J. S., V. N. Misra, V. Shinde, R. Mohanty, K. Dalal, A. Misra and L. Pandey

1995 Balathal excavations their contribution to the Chalcolithic and Iron Age Cultures of Mewar. Rajasthan. *Man and Environment* 29(1): 57-80.

Kharakwal, J. S., D. P. Agrawal, S. Kusumgar, M. G. Yadav, M. Pant and V. D. Gogte

1995 Was Kumaon the Source of Early Iron in North India? *Man and Environment* 20(1): 81-85.

Kharakwal, J. S., D. P. Agrawal, S. Kusumgar and M. G. Yadav

1995 Cist Burials of Kumaon Himalayas. *Antiquity* 69(264): 550-54.

Kharakwal, J. S., D. P. Agrawal

1994 Use of Scientific Techniques in Indian Rock Art Studies. *Purakala* 5(1-2): 67-69.

Kharakwal, J. S., L. Pandey

1994 Balathal Utkhanan: Prarambhik Rapat (in Hindi). *Sodh Patrika* 45(1): 62-74.

Kharakwal, J. S.

1994 *Archaeological Explorations in Kumaun Himalaya.* Unpublished Ph. D dissertation carried out in Deccan College, Pune under the guidance of Prof. V. N. Misra, University of Poona.

Kharakwal, J. S.

1993a Memorial Stones vis-à-vis Birkhamb of Kumaon, Uttar Pradesh. *Bulletin of Deccan College Post Graduate and Research Institute Pune* 53: 303-13.

Kharakwal, J. S., D. Bhatt and M. Pant

1993b Madhya Hiamalaye Kshetra Kumaon; Puratattva and Paramparain (in Hindi). *Sodh Patrika* 44: 64-77.

Kharakwal, J. S.

1992 Mahasmiya Sanskriti ke Avses (in Hindi). *PAHAR* 5-6: 16-17.

Co-authored

Kharakwal, J. S., D. P. Agrawal, and D. Bhatt

1992 Savagar tatha Mridbhand (in Hindi). *PAHAR* 5-6: 12-15.

Kharakwal, J. S., Agrawal, D. Bhatt and S. Malaiya

1991 Archaeology of Kumaon Problems and Prospects. *Man and Environment* 16(1): 59-63.

Book Reviews

Kharakwal, J.

2002 The Origins of Pottery and Agriculture Edited by Yoshinori Yasuda. Published by Roli Books, Delhi, India 2002. *Sodh Patrika* 53(1-4): 120-123.

Kharakwal, J.

2002 Socio-Economic Conditions in Rajasthan (based on documents) (1650-1750 AD) by B. M. Jawalia 2002. *Sodh Patrika* 53(1-4): 117-119.

Popular Articles

1999 Birkhambh, *Sri Ram singh Dhauni Smarika*, Jhaldungra, Almora.

1999 Ghatol tehsil main Prachin Dhatu Khanan ke Avses, *Dainik Bhaskar*, 9th Septmeber, Udaipur.

1998 Tharu and Boxa Tribes, *Rastradoot* 31st August, Udaipur.

1997 Rangmahal Sanskriti, *Rajasthan Patrika* 14th October, Jaipur.

1996b Tamrpasankalin Sanskritiyan aur Mewar ka Prachintam Gaon: Balathal. *Rajasthan Patrika* 5th September: 11, Jaipur.

1996a Moti Mahal: Udaipur mai Maharanaon ka Prachintam Bhawan. *Rajasthan Patrika* 22August: 10, Jaipur.

Editorial Work

Co-editor

Sodh Patrika, a biannual research journal of humanities published from the Institute of Rajasthan Studies, J. R. N Rajasthan Vidyapeeth University, Udaipur, India.

Member of Editorial board

PAHAR, Nainital.

Awards/Fellowships

Fellowship: *Japan Society for Promotion of Science*: Worked as Visiting Fellow (January 2001 to April 2002) at the International Research Center for Japanese Studies, Kyoto, Japan.

Research Activities

Field Research in Foreign Countries

Excavations

2003 Worked as co-director in the excavation of iron smelting site: Iswal, Udaipur, India.

2002 Participated in excavation at Gilund and exploration of Mesolithic sites around.

1993-2000 Excavations of a Chalcolithic site at Balathal, India belonging to Ahar Culture for seven consecutive seasons.

1992-93 and 1996-97 Participated in the excavations of a Harappan site at Padri in Gujarat, India.

1991-92 Excavations of a Megalihtic habitation site at Bhagimohri in Maharasthra, and in Upper Palaeolithic excavations at Mehtakheri in Madhya Pradesh, India.

1991-92 Attended Neolithic excavations of ash-mounds at Budihal in northern Karnataka, India.

1990-91 Participated in Megalithic excavations of Cist Burials at Ladyura in Almora district of Kumaun, India.

Social Activities and Public Lectures

2004 Indus Civilization: an overview. Paper presented on 12th June in Research Institute for Humanity and Nature, Kyoto, Japan.

2003 Balathal: the Oldest Village of Mewar, Paper presented at the national conference on *Personality of Village* at Kanore College, Udaipur, sponsored by Indian Council for Historical Research, Delhi, India from 27th and 28th February, 2003.

Archaeological Excavations in Mewar. Paper presented in a seminar titled *Ancient Cultures in Mewar* by B. N. College, Udaipur, India on the occasion of Hirak Jayanti on 18-20th December, 2003.

2002 Cord Impressed Ware and Rice Cultivation in different regions of Asia, paper presented in *Environmental Changes and Rise and Fall of Civilizations* (Japan).

Early Farming Cultures and their metal technology in Western India. Paper presented in the *Annual meeting of International Research Center for Japanese Studies, Kyoto* (Japan) 2002, March 13th.

Archaeometallurgical explorations in North Rajasthan. Paper presented in the National conference organised by Rajasthan Vidyapeeth, Udaipur, sponsored by ICHR and West Zone Culture Centre, Udaipur, India.

Traditional Knowledge, Rituals and Rice Cultivation with Special Reference to Central Himalaya. Paper presented in a National Seminar on *Traditional Knowledge System, held between 4th and 8th September, 2002, Binsar, Uttaranchal.* Organised by Lok Vigyan Kendra, Almora, INHERE, Mashi and Sponsored by Infinity Foundation, Princeton, USA and ICHR, Delhi.

2001 Archaeometallurgy in Rajasthan, paper presented in the *International Seminar on Asian Bronze Age Cultres*, held at Peking University, Beijing, China.

2000 Fresh Light on Sibi coins from Nagari, paper presented in the Seminar on the *Source Material of Early History of Rajasthan and Northern India*, Sponsored by Indian council for Historical Research, held at Rajasthan Vidyapeeth, India.

Bronze Age cultures in Rajasthan, paper presented in the *Indo-French international Seminar on Scientific Analysis of Art and Archaeological Objects*, New Delhi, India.

1999 Jodhpura-Ganeshwar Complex, Meluhha and Sociology of Metallurgy, paper presented in *XXXIII Annual Conference of Indian Society for Prehistoric and Quaternary Studies*, held at Deccan College, Pune, India.

1998 A Preliminary Archaeological Survey of Kumbhalgarh, paper presented in *Annual Conference on Maharana Kumbha*, held at Kumbha Sangeet Parishad, Udaipur, India.

1997 Development of Early Farming Cultures in Mewar with Special Reference to Balathal excavations, paper presented in *Annual Conference of Rock Art Society of India*, held at Kotputali, Rajasthan, India.

1997 The Archaeology of Uttarakhand, paper presented in *Annual Conference of Indian Society for Prehistoric and Quaternary Studies*, held at H. N. B. Garhwal University, Srinagar, Uttaranchal, India.

1996 Iron Age Pottery at Balathal, paper presented in *Annual Conference of Indian Society for Prehistoric and Quaternary Studies*, held at Gorakhpur University, Uttar Pradesh, India.

1995 The Iron Age of Rajasthan, paper presented in the seminar on *Source Material of the Early History of Rajasthan*, sponsored by Indian Council for Historical Research, held at Rajasthan Vidyapeeth, Udaipur, India.

1994 Active participation in World Archaeological Congress-3 held at Delhi, India.

Lectures

Oct. 2003 Recent Advances in Rock Art Research in India. Delivered in Department of Drawing and Painting, M. L. Sukhadia University, Udaipur in Refresher Course in Drawing and Painting.

August 2003 Archaeological Excavations in Southern Rajasthan. Delivered in Department of Archaeology, Rajasthan Vidyapeeth University, Udaipur in Refresher Course in History and Archaeology.

Jan. 2003 Recent Advances in the Archaeological Studies in Rajasthan. Delivered in the Department of Geology, M. L. Sukhadia University, Udaipur (for participants of Refresher Course in Geology).

Jan. 2003 Role of Geology in Archaeology. Delivered in the Department of Geology, M. L. Sukhadia University, Udaipur (for participants of Refresher Course in Geology).

Sep. 2002 Bronze Age Cultures of South Asia. Delivered at Academic Staff College, J. N. Vyas University, Jodhpur.

Apr. 1998 Methods of Archaeological Exploration and Data Collection, delivered in the workshop of Senior Teachers at L. M. T. College, Dabok, Rajasthan Vidyapeeth, Udaipur.

Sep. 2000 The Archaeology of South Rajasthan, lecture delivered in the workshop at LMTT College Dabok, Rajasthan Vidyapeeth, Udaipur.

Jun. 2000 Archaeological Sources for Writing History, paper presented in the workshop of schools lecturer's workshop, Vidya Bhawan, Udaipur.

SHEN, Weirong — Invited Research Fellow

Born in 1962. (China P. R.)

Curriculum Vitae

Academic Career

Language and Cultural Science of Central Asia, University of Bonn, Germany, D. Course (1998)

Comparative Religious Studies, University of Bonn, Germany, D. Course (1992-1998)

Chinese History, Nanjing University, M. Course (1986)

Professional Career

Invited Research Fellow, Research Institute for Humanity and Nature (2004)

Visiting Professor, Institute for Asian and African Studies, Humboldt University, Berlin, Germany (2001-2002)

Visiting Assistant Professor, History Department, Macalestr College, St. Paul, U.S.A. (2001)

Higher Degree

Ph. D. for Language and Cultural Science of Central Asia (University of Bonn, Germany)

Fields of Specialization / Background

Chinese, Tibetan History and Religion, Buddhist Studies

Major Publications

Monograph

I. German

2002 *Leben und historische Bedeutung des ersten Dalai Lama dGe 'dun grub pa dpal bzang po (1391-1474) — Ein Beitrag zur Geschichte der dGe lugs pa-Schule und der Institution der Dalai Lama*, Monumenta Serica Monograph Series XLIX, P. 1-476, ISBN 3-8050-0469-9, Styler Verlag, Institut *Monometa Serica*, St. Augustin, Germany, 2002.

II. Chinese

2001 *Huan hua wang mi mi zang xu (An Annotated Translation of Tantra of the Secret Nucleus rGyud gsang ba snying po), Nyingmapa Series: Sadhana Section 6*, P. 1-199, ISBN 962-8189-13-1, Hongkong: Vajrayana Buddhism Association Limited, 2001.

2001 *Huan hua wang mi mi zang xu shi — guang ming zang (An Annotated Translation of Mi-pham rgya-mtsho's Commentary on Tantra of the Secret Nucleus), Nyingmapa Series: Darsana Section 6*, P. 1-323, ISBN 962-8189-14-X, Hongkong: Vajrayana Buddhism Association Limited, 2001.

1996 *Yi shi dalai lama chuan* (Biography of the first Dalai Lama), P. 1-276, ISBN 957-8900-44-9, Monograph Series of Mongolian and Tibetan Studies 6, Taibei: Tangshan shuju, 1996.

Articles

Written in English

2003 "Magic Power, Sorcery and Evil Spirit: The Image of Tibetan Lamas in Chinese Literature during the Yuan Dynasty (1260-1366)". *Proceeding of Seminar on the Relationship between Religion and State (chos srid zung 'brel) in Traditional Tibet*, March 4-7, 2000, Lumbini, Nepal, P. 151-186, October, 2003.

"Notes on the four Tibetan *Si tu* conferred by the Ming emperor Yongle in 1413". *Proceeding of 8th Seminar of the International Association for Tibetan Studies*, August, 1998, Bloomington, Indiana (forthcoming).

1989 "The Thirteen Myriarchs of dBus and gTsang and the Mongol-Yuan Institution in Tibet", *Tibetan Studies*, Journal of the Tibetan Academy of Social Sciences, No. 2, Lhasa 1989, pp. 46-74.

Written in German

2005 "Der erster Dalai Lama dGe 'dun grub pa dpal bzang po (1391-1474)."
Die Dalai Lamas. Tibets Reinkarnation des Bodhisattva Avalokitesvara.
Hrsg. von Martin Brauen, Stuttgart: Arnoldscher Verlag, 2005.

1996 "Review of Alice Sarkoezi, *Political Prophecies in Mongolia in the 17-20th Centuries*". *Monumenta Serica* 44 (1996), St. Augustin, pp. 530-537.

Written in Japanese

2003 "On the history of the Gling tshang Principality of mDo khams during the Yuan and Ming Dynasties", *The Tōyōshi-Kenkyū* (The Journal of Oriental Researches), Vol. LXI, No. 4, March 2003, Kyoto, P. 76-114.

Written in Chinese

2005 "Xizangwen wenxian zhong de heshang moheyan jiqi jiaofa: yige chuangzao chulai de chuantong" (Hvashang Mahayana and his Teachings in Tibetan Literature: An Invented Tradition). *Xi Shixue* (New History), Vol. 16, No. 1, Taibei, March. pp. 1-50.

2004 "Xixia heishuicheng suojian zangchuan fojiao yiguiwenshu yanjiu I: menghuan shen yaomen (Studies on Chinese Texts of Yogic Practices of Tibetan Tantric Buddhism found in Khara Khoto of Xi Xia (Tangut) [I]: Quintessential Instruction on the Illusory Body of the Dream)." *Dangdai zangxue xueshu yantaohui lunwenji (Collected Papers of Symposium on Contemporary Tibetan Studies)*, Taibei: Mongolian and Tibetan Affairs Commission, 2004, pp. 382-473.

"Shen tong yaoshu yu zaikun: lun yuandai wenren bixia de fanseng xingxiang" (Magic Power, Sorcery and Evil Spirit: On Images of Tibetan Lamas in Chinese Literature during the Yuan Dynasty 1260-1366), *Hanxue yanjiu* (Chinese Studies), Vol. 21, No. 2, Taipei, December 2003.

2000 "Huangxiang yu xianshi: Xizan sishu zai xifang (Imagination and Reality: *The Tibetan Book of the Dead* in the West)". *Zhongyou da wen jie tuo*, P. 174-230, Hongkong: Vajrayana Buddhism Association Limited, 2000.

2000 "Xianggelila: Yige houxiandai shijie de shenhua" (Shangri-la: A myth in the post-modern world), *Duihua: In searching for Intercultural and Interreligious Understanding*, Beijing: Beijing University Press, August, 2000.

2000 "Jifenzun miyi zijietuo: Lun xizang sishu zhi lishi yuanliu" (Kar gling zhi khro: A Historical Survey of Developments of the Tibetan Book of the Dead), *Zhizhe xinyan* (*Studies of Tibetology, mKhas pavi ston gsar*), Volum 2, Shijiazhuang: Hebei jiaoyu chubanshe, 2000.

2000 "Jianshu xifang shiye zhongde xizang xingxiang: yi zhiming zhuyi huayu zhongde yaomohua xingxiang wei zhongxin" (The Tibetan Image in the Western Vision with the emphasis on the demonized image in the discourse of Colonialism), Proceeding of the conference of Tibetan studies, May, 1999, Taibei 2000, pp. 135-166.

1999 "Guanyu yishi dalai gendunzhu de sanzhong chuanji" (On three biographies of the first Dalai Lama dGe 'dun grub), *Zhizhe xinyan* (Studies of Tibetology, mKhas pavi ston gsar), Volum 1, Beijing: Beijing Press, 1999, pp. 179-210.

1999 "Ming feng situ suoba toumu lazanxiao kao" (On *Si tu* So pa headman lHa btsan skyabs conferred by the Ming), *Gugong xueshu jikan* (*The Academic Quarterly of the National Palace Museum*), Vol. 17, No. 1, Taibei 1999, pp. 103-136.

1997 "Yishi dalai lama chuanlue" (A brief biography of the first Dalai lama), *Fojiao yu zhongguo chuantong wenhua* (Buddhism and Chinese Traditional Culture), I, II, ed. by Wang Yao, Beijing: Zongjiao wenhua chubanshe, 1997, II, pp. 809-878.

1996 "Zhashe lunbu si jiansi shizhu kao" (On the founding patron of the bKra shis lhun po monastery), *Neilu yazhou lishi wenhua yanjiu — Han Rulin xiansheng jinian wenji* (Researches about the Culture and History of Inner Asia in Honor of Mr. Han Rulin), Nanjing: Nanjing daxue chubanshe, 1996, pp. 525-543.

1998 "Xifang houxiandai zhuyi sichao he dangdai xizang wenti" (The post-modern trend of thought in the West and the contemporary Tibet issue) (co-author with Dr. Chang Jiunn Yih), *Chinese in Bonn*, 12/1995, pp. 5-6: English summery: "World gives closer look to the situation in Tibet", *The Free China Journal*, March 20, 1998.

1995 "Tubo qixianchen shiji kaoshu" (On the Life and Works of the Seven Wise Ministers (*mdzangs blon mi bdun*) of the Tibetan Kingdom), *Zhongguo Zangxue* (China Tibetology), 1/1995, Beijing, pp. 29-43.

1995 "Mingdai wusizang dazifawang shijiayeshi shiji kao" (Notes on the life of Byams chen chos rje Shakya ye shis, the great Dharma-king of Compassion during the Ming), *Liangan mengguxue zangxue xueshu yantaohui*

wenji (Proceedings of the conference of Mongolist and Tibetologist from both PRC and ROC), Taibei: Mengzang weiyuanhui, 1995, pp. 273-314.

1995 "Lun wusizang shisan wanhu de jianli" (On the establishment of the Thirteen Myriarchs of dBus and gTsang), *Yuanshi lunchong* (Forum on Yuan History), No. 5, Beijing: Zhonghua shuju, 1995, 76-96.

1994 "Lianbang deguo de xizangxue yanjiu he jiaoxue" (Research and Teaching in the field of Tibetology in the Federal Republic of Germany), Taibei: Commission for Mongolian and Tibetan Affairs, 1994, pp. 1-65.

1992 "Yuanchao dui xizang de tongzhi jiqi dui houshi de yingxiang" (The Mongol-Yuan Control over Tibet and its impact on the later history of Tibet). *Xizang yu zhongyuan guanxi guoji xueshu yantaohui lunwenji* (Proceeding of International Conference of Tibet in the Historical China Proper), Taibei: Mengzang weiyuanhui, 1992, pp. 79-101.

1990 "Yuandai guoshi danba zushu kao" (On the Identification of the *guo shi* Dam pa in Yuan time), *Yuanshi ji beifang minzushi yanjiu jikan* (Studies in the History of the Yuan Dynasty and of the Northern Nationalities), No. 12, Nanjing 1990.

1990 "Wusizang shisan wanhu kao" (On the Identifications of the Thirteen Myriarchs of dBus and gTsang), *Lishi dili* (Historical Geography), No. 7, Shanghai: Shanghai renmin chubanshe, 1990, pp. 112-125.

1989 "Yuandai gamapa yanjiu erti" (Two Studies about Karma-pa lamas in the Yuan court), *Zhongguo zangxue* (China Tibetology), 4/1989, Beijing.

1989 "Yuandai xizang foxue dashi budun de shenping he zhushu" (The Life and Works of the great Tibetan Buddhist master Bu ston Rin chen grub), *Yuanshi ji beifang minzushi yanjiu jikan* (Studies in the History of the Yuan Dynasty and of the Northern Nationalities), No. 11, 1989, Nanjing, pp. 29-42.

1988 "Lun yuan yu yuan yiqian de shalupei" (On the Zhal lu School until Yuan time), *Zhongguo zangxue* (China Tibetology), 3/1988, Beijing, pp. 62-76.

1988 "Xizang de shixue he lishi wenxian" (On the Tibetan Historiography and the Tibetan Historical Literature), *Shixueshi yanjiu* (Studies on Historiography), 2-3/1988, Beijing, 32-37, 41-49 (co-author with Prof. Yao Wang).

1988 "Jianlun Hanzang shiji" (Remarks on *Rgya bod yig tshang*), *Qinghai shehui kexue* (Social Sciences In Qinghai), 4/1988, Xining, pp. 95-101.

1988 "Yuanchao zhongyan zhengfu dui xizang de tongzhi" (The Administration of the Central Government of Mongol-Yuan Dynasty over Tibet), *Lishi yanjiu* (Historical Studies), 3/1988, Beijing, pp. 136-148.

1989 "Wusizang shisan wanhu he yuandai xizang xingzheng guanli tizhi" (The Thirteen Myriarchs of dBus and gTsang and the Mongol-Yuan Institution in Tibet), *Xizang yanjiu* (Tibetan Studies), 1-2/1988, Lhasa, pp. 54-61, 38-47 (English Translation, in *Tibetan Studies*, Journal of the Tibetan Academy of Social Sciences, No. 2, Lhasa 1989, pp. 46-74).

1988 "Pin Meiguo zangxuejia weili de mingchao de lama jingong" (Review of "Lama Tribute in the Ming Dynasty" contributed by American Tibetologist T. V. Wylie), *Xibei minzu yanjiu* (Studies on Northwestern Minorities), 2/1988, Lanzhou, pp. 217-226.

1986 "Xixia wangzu qianru xizang shijian xianyi" (When did the Tangut royal family move into Tibet?), *Ganshu minzu yanjiu* (Studies on the National Minorities in Ganshu Province), 2/1986, Lanzhou, pp. 62-63.

1985 "Qianshi Tubo sanlu" (Notes on *bod gyi chol kha gsum*), *Ganshu minzu yanjiu* (Studies on the National Minorities in Gansu Province), 3-4/1985, Lanzhou, pp. 97-104.

"Hanzang shiji sozai sangge chuan yizhu" (An annotated translation of the biography of Samgha in *rGya bod yig tshang*), *Yuanshi ji beifang minzushi yanjiu jikan* (Studies in the History of the Yuan Dynasty and of the Northern Nationalities), No. 9, 1985, Nanjing, pp. 89-93.

1984 "Guanyu muqali jiazu shixi" (Notes on the descendants of *Muqali*), *Yuanshi ji beifang minzushi yanjiu jikan* (Studies in the History of the Yuan Dynasty and of the Northern Nationalities), No. 8, 1984, Nanjing, pp.

116-120.

Translations

2003 L. Petech, *The Kingdom of Ladakh c. 950-1842 AD. Serie Orientale Roma*, LI. Roma 1977. *Ladake wangguo shi (950-1842)*. Beijing: Zhongguo bianjian shidi zhongxin, October, 2003.

1990 L. Petech, *Aristocracy and Government in Tibet (1728-1959)*, Roma 1973. *Xizang de guizu he zhengfu*, Beijing: Zhongguo zangxue chubanshe 1990.

1989 A. Ferrari, *mKhyen brtse's Guide to the Holy Places in Central Tibet*, Roma 1958. *Weizang shengjizhi yizhu, Guowai zangxue yanjiu yiwenji* (The Selected Works of the Tibetan Studies Abroad), No. 5, Lhasa: Xizang renmin chubanshe, 1989, pp. 359-558.

Awards and Scolarships

2002-2004 Post-doctoral fellowship, Japan Society for the Promotion of Science.

1995-1996 *Monomenta Serica* Scholarship for accomplishment of dissertation, Institute *Monumenta Serica*, St. Augustin, Germany.

1992-1995 The German Research Council (DFG) Fellowship for Participation in "Graduiertenkolleg der Universitaet Bonn: Interkulturelle religioese bzw. Religionsgeschichtliche Studien."

1990-1991 The Chinese National Committee of Education Scholarship for Exchange Scholar, University of Bonn.

Research Activities

2002-2005 Guest Research Associate at Graduate School of Letters, Kyoto University as Recipient of a two-year Postdoctoral Fellowship for Foreign Researchers from Japan Society for the Promotion of Science

2001-2002 Visiting Professor at Institute for Asian and African Studies, Humboldt University, Berlin, Germany

2001-2001 Visiting Assistant Professor at History Department, Macalester College, St. Paul, USA

2000 Coordinate Research Scholar at Harvard Yenching Institute with the Joint Project "The Correspondences between Tibetan Lama Theg chen chos rje and Chinese Emperors and Buddhist Monks during the Ming Dynasty" together with Prof. L. W. van der Kuijp of Sanskrit and Indian Studies Department.

1999-present Associate Research Scholar with the Project "Sino-Tibetan Relationships and Tibetan Buddhism in China during the Ming Period (1368-1644), International Research Institute [for Buddhist Studies], Lumbini, Nepal

1998-present Associate Research Scholar with the Project "The Chinese Ch'an Tradition and the Great Perfection Doctrine in Tibetan Buddhism: A Comparative Study", Vajrayana Buddhist Association, Hong Kong

1997-1998 Associate Research Fellow with the Project "Digitalization of the Archive Documents preserved in the Archive of Tibetan Autonomy Region, Lhasa" in Bonn University sponsored by German Research Council (DFG).

1986-1990 Lecturer, Nanjing University, Department of History
Ancient Chinese History, History of Northwestern Minorities, History of Sino-Inner Asian Communication, Tibetan History and Religion

Social Activities and Public Lectures

2004, May 29 "*hva shang* Mahāyāna and his teaching in Tibetan literature: An invented tradition" Guest Speech at Kansai Session of the 49th Conference of Japan Society for Oriental Studies, Otani University, Kyoto

SUGIMOTO, Takashige — Visiting Professor

Born in 1942.

Curriculum Vitae

Academic Career

Department of Geophysics, Faculty of Science, Kyoto University, D. Course (1971)
Department of Geophysics, Faculty of Science, Kyoto University, M. Course (1968)
Department of Geophysics, Faculty of Science, Kyoto University (1966)

Professional Career

Visiting Professor, Research Institute for Humanity and nature (2004-)
Visiting Professor, Center for Marine Environmental Studies (2004-)
Professor, Ocean Research Institute, Tokai University (2004-)
Professor, Ocean Research Institute, University of Tokyo (1988-2004)
Associate Professor, Ocean Research Institute,University of Tokyo (1980-1988)
Associate Professor, Faculty of Science, Tohoku University (1976-1980)
Lecturer, Faculty of Science, Tohoku University (1972-1976)
Research Associate, Faculty of Science, Tohoku University (1971)

Higher Degrees

D. Sc. (Kyoto University, 1974)
M. Sc. (Kyoto University, 1968)

Fields of Specialization / Background

Fisheries Oceanography, Coastal Oceanography/Geophysics

Academic Society Memberships

Japanese Societies for Fisheries Oceanography, Oceanographic Society of Japan and its Coastal Oceanography Research Committee, Marine Meteorological Society, etc.

Major Publications

Books

Sugimoto, Takashige

2004 T. Sugimoto: *Ocean Currents and Biological Resources*. (editor and author). Seizando-Shoten Ltd., 268pp. [in Japanese]

Articles

Sugimoto, Takashige

2004 Mishra, P., P. K. Mohanty and T. Sugimoto Environmental condition and strategies for sustainable management of Chilka lake, India. *Proc. 2nd International conference on Asia and Pacific coasts, Tokyo.*

2004 Mohanty, P. K., U. S. Panda, P. Mishra, H. Takada, T. Sugimoto Studies on coastal changes associated with tropical cyclones along the Orissa coast, East coast of India. *ib.*

2004 T. Sugimoto, T. Katsuhisa and H. Satoh Resuspended sediment and its effect on primary production in the inner Ariake Bay. *Bull. coastal Oceanogr.*, 42(1), 19-25. [in Japanese]

2004 T. Sugimoto, H. Imamoto and T. Yamashita Materials transport and environment in the river basin-estuary systems. *Ocean Monthly.*, 36(3), 177-180. [in Japanese]

2003 Mishra. P., P. K. Mohanty, H. Takada and T. Sugimoto Environmental Issues and constrains in lake Management". *Proc. 1st International Symp. Southeast Asian water environment*, Bangkok, 93-100.

2003 Komatsu T., M. Nakaoka and T. Sugimoto Changes in coastal ecosystem due to modifications of land use pattern. *Bull. Coastal Oceanogr.*, 40(2), 149-157.

2002 Sugimoto T. Physical and macroscopic views to the structure, variability and function of estuarine and coastal regions. *Bull. Coastal Oceanogr.*, 39(2), 91-93.

2001 Sugimoto T. International activities of monitoring marine living resources and coastal ocean *Bull. Coastal Oceanogr.*, 38(2), 73-77.

2000 Sugimoto T., K. Okunishi and H. Suwa Material transport from the mountain to the coastal ocean through the river - in relation to environment and disaster prevention. *Ocean Monthly*, 36(3), 177-180. [in Japanese]

Honors and Awards

1976 Okada Memorial Prize of the Oceanographical Society of Japan

Activities in Academic Societies

Council member of Oceanographic society of Japan (1982-)

President of Coastal Oceanography Research Committee in the Oceanographic society of Japan (2002-)

President of Japanese society of Fisheries Oceanography (1997-2001)

Member of Japan IGBP Special Committee in the Science Council of Japan (1998-)

Chairman of Japan IGBP-GLOBEC Sub-comittee in Science Council of Japan (1995-2003)

Member of Inernational IGBP WG-1 (2003-)

Research Activities

13 Nov., 2004 Workshop on the nutrient balance in the downstream and estuarine areas of Yodo River

Field Research in Foreign Countries

10-12 Dec., 2004 Field survey of the Chilka Lake Lagoon ecosysem in the east coast of India

Field Research in Japan

14 Nov., 2004 Field survey of downstream and estuary areas of the Yodo River

TAKAHASHI, Hiroshi — Visiting Professor

Born in 1948.

Curriculum Vitae

Academic Career

Department of Graphic Design, Faculty of Art and Design, Tama Art University (1969-1972)

Professional Career

Visiting Professor, Research Institute for Humanity and Nature (2004)

Adviser, The Institute of Cultural Communications, Ltd. (2002-present)

Adviser, Total Media Development Institute Co., Ltd. (2001-present)

President, The Institute of Exhibition Art and Technology., Ltd. (1999-2002)

Director, Total Media Development Institute Co., Ltd. (1989-2001)

Fields of Specialization / Background

Art and Design, Exhibition

Academic Society Memberships

The Japan Society for Exhibition Studies

Main Achievements

Major Publications

Articles

Hiroshi TAKAHASHI

2004 The subject of the historical representation study in Japanese historical study. *TENJIGAKU* The Japan Society for Exhibition Studies, No. 37: 2-13. (in Japanese)

Hiroshi TAKAHASHI

2002 "The exhibition of National Museum of Emerging Science and Innovation" *TENJIGAKU*. The Japan Society for Exhibition Studies, No. 33: 26-28. (in Japanese)

Hiroshi TAKAHASHI & Kyoichi SHIGEMORI

1999 "The method of concentrating people in exhibition space" *New edition of source book for facility planning and administration for Museums (theme hall & exhibition hall)* SOGO UNICOM, pp. 44-86. (in Japanese)

Miscellaneous

dialogue by Hiroshi TAKAHASHI & Mari SUZUKI

2001 "Museum in 21st century" LIFE LEARNING CULTURE & SPORTS INSTITUTION VOI-X, No. 26: 24-31. (in Japanese)

discourse by Hiroshi TAKAHASHI

2001 "Taking part from the planning of making exhibition to stimulate visitors' broad interest and continuous attraction" *AM BUSINESS*. SOGO UNICOM, No. 34: 9-10. (in Japanese)

discourse by Hiroshi TAKAHASHI

2001 "Plenty of surprise in the first Science Museum in the world to exhibit *The latest Science Technology*" *AM BUSINESS*. SOGO UNICOM, No. 37: 14-15. (in Japanese)

Planning and Designing Works of the Exhibition Space

2003 The Life and Environment Exhibition Hall, Kagoshima: Chief planner and quality control manager of designing and construction of the exhibition space

2002 Mt. Unzen Disaster Memorial Hall, Nagasaki: Chief planner and quality control manager of designing and construction of the exhibition space

2001 National Museum of Emerging Science and Innovation, Tokyo: General producer of basic planning and basic designing of the exhibition space

2000 Printing Museum, Tokyo: General producer of fundamental planning, basic planning and, designing and construction of the exhibition space

Awards

2004 Display Design Grand Prix of DDA for The Life and Environment Exhibition Hall, Kagoshima

2003 Best work prize of The Japan Society for Exhibition Studies Award for Printing Museum, Tokyo

2001 Special prize of Mainichi Art Award for Printing Museum, Tokyo

1978 Mainichi Art Award for "Uniting architecture and exhibition in The National Museum of Ethnology"

QI, Wuyun — Invited Research Fellow

Born in 1967. (China P. R.)

Curriculum Vitae

Academic Career

Department of Urban and Environmental Sciences, The Beijing University, D. Course (1993-1996)

Department of Resources and Environmental Sciences, The Beijing Normal University, M. Course (1990-1993)
Department of Geography, The Inner Mongolia Normal University (1986-1990)

Professional Career

Invited Research Fellow, Research Institute for Humanity and Nature (2005)
Associate Professor, Institute of Archaeology Chinese Academy of Social Sciences (2000-2005)
Lecture, Institute of Archaeology Chinese Academy of Social Sciences (1996-2000)

Higher Degrees

Ph. D. (The University of Beijing, 1996)
M. Sc. (The University of Beijing Normal, 1993)

Fields of Specialization / Background

Pollen analysis, Environmental changes, Environmental archaeology

Academic Society Memberships

Quaternary Research Association of China; Environmental Archaeology, Geological Society of China; Geography Information System Association of China; Science and technological Archaeology Association of China

Major Publications

Books

Qi Wuyun, etc.

2006 A study on the human and land relationship of prehistorical culture in the Upper Shu River. *The Science Press*. (in press) (in Chinese)

Yuan Jing, Liang Zhonghe and Qi Wuyun etc.

1999 Environmental Archaeology on the shell relics in the Jiaodong Peninsula. *The Social sciences literature press*. (in Chinese)

Ding Yaoqing, Qi Wuyun

1995 Lively Earth: a story of animals and plants. *Democracy and Construction*. (in Chinese)

Articles

Written in English

Qi Wuyun, Liang Zhonghe, Gao Libing, Jia Xiaobing, Wang Shuzhi, Wang Jinxia

2005 A Study on Human-Land Relationship of the Prehistoric Culture In the Upper Shu River Valley, Shandong, China in *The Collected Works of International symposium on GIS and Archaeology*, Kyoto. (in English)

Qi Wuyun, Liang Zhonghe, Gao Libing, Jia Xiaobing, Wang Shuzhi, Wang Jinxia

2005 A Study of Environmental Archaeology in the Upper Shu River Valley, Shandong, China. *Journal of East Asian Archaeology*, America. (in English)

Wuyun Qi, Kunihiko Endo, Guijin Mu, Hidehiro Sohma, Taisuke Murata, Kazuaki Hori, Masayoshi Nakawo

2003 Spore-pollen analysis of samples from the surface soil in the vicinity of lakes, at the end of Heihe river and their environmental indications in *Project Report on an Oasis-region*, Japan Vol. 3, No. 2: 23-32. (in English)

Guijin Mu, Kunihiko Endo, Hidehiro Sohma, Kazuaki Hori, Wuyun Qi, Taisuke Murata

2003 A Preliminary Study on the Evolution of the Tail-lakes Related to the Migration of the Lower-reaches Channels, Heihe, Inner Mongolia, China in *Project Report on an Oasis-region*, Japan, 2003 Vol. 3, No. 2, P11-22. (in English)

Kunihiko Endo, Hidehiro Sohma, Guijin Mu, Kazuaki Hori, Taisuke Murata and Wuyun Qi

2003 Reconstruction of paleoenvironments in the lower reaches of Heihe and Juyan Lake area — migration of river course and Juyan lakes in *Project Report on an Oasis-region*, Japan, 2003 Vol. 3, No. 2, P1-10. (in English)

Yuan Jing, Liang Zhonghe, Qi Wuyun, Jia Xiaobing

2002 Shell Mounds in the Jiaodong Peninsula: A Study in Environmental Archaeology. *Journal of East Asian Archaeology* Vol. 4, 1-4, America. (in English)

Written in Chinese

Qi Wuyun

2006 The impact of living environmental change on the prehistoric cultural evolution in the Upper Shu River, Shandong Province. Archaeology (in publishing). (in Chinese)

Qi Wuyun

2005 A study of ancient people's food structure based on isotope and trace elements test in Zhou Kunshu ed. *An Introduction of Environmental Archaeology*. The Sciences Press. (in Chinese)

Qi Wuyun

2005 A study on the human living environment based on pollen analysis at Dashanqian relic, Inner Mongolia in *The Corpus of Wang zhongshu*. (in Chinese)

Qi Wuyun, Zhou Chenghu, Wang Rongxun

2005 On the applications of geographical information system in the field of archaeological studies. *Chinese Archaeology* 4. (in Chinese)

Qi Wuyun, Liang Zhonghe, Jia Xiaobing

2004 A Comparative Study on the qualitative and quantitative analysis of the pollen samples and then human living environment at Jiaochangpu relic in Liaocheng city, Shandong province. *Archaeology and Culture Relic* (supplement). (in Chinese)

Qi Wuyun, Wang Jinxia, Liang Zhonghe etc.

2004 A Study on Ancient Diet Based on the Analysis of Excavated Human Bones from Upper Shu River in Shandong Province, *Chinese Archaeology* 2: 41-47. (in Chinese)

Qi Wuyun, Ma Ainai, Zhou Daliang, Xu Haipeng

2004 An essay on the trend of soil-hydro erosion based on GIS in the coming ten years in Beijing area. *The Journal of Resource and Environment in Arid Area* (4): 96-100. (in Chinese)

Qi Wuyun, Ma Ainai, Zhou Daliang, Xu Haipeng

2003 An assessment of soil-hydro erosion in Beijing area. *Journal of Soil and Water Conservation 10(3): 137-139.* (in Chinese)

Qi Wuyun, Kunihiko Endo, Mu Guijin, Hidehiro Sohma, Taisuke Murata, Kazuaki Hori, Masayoshi Nakawo

2003 Pollen analysis and its environmental significance based on the surface samples near the lake in the end of Heihe River. *Journal of Soil and Water Conservation 10(4): 137-139.* (in Chinese)

Qi Wuyun

2003 Sampling method for pollen analysis in archaeological studies. *China Cultural Relic News*, July, 11th. (in Chinese)

Qi Wuyun, Yuan jing, Liang Zhonghe, Jia Xiaobing

2002 A study on the human and land relationship based on the pollen analysis of shell relics in the Jiaodong Peninsula. *The Journal of Archaeology* 7: 70-79. (in Chinese)

Qi Wuyun, Yuan jing, Liang Zhonghe, Jia Xiaobing

2002 A comparative study of qualitative and quantitative analysis of pollen samples in the shell relics in the Jiaodong Peninsula in Institute of Archaeology, CASC ed. *Archaeology in China and World in the 21st century*. Chinese Social Sciences Press p603-612. (in Chinese)

Qi Wuyun

2001 A study on the pollen analysis of Wengjiabu relic in Rushan city, Shandongprovince. *The Journal of Archaeology* 6: 74-81. (in Chinese)

Qi Wuyun

2001 Pollen and environmental archaeology. *China Cultural Relic News*, March, 14th. (in Chinese)

Qi Wuyun and Liu Qingsi

1998 Analysis of core sediment and environmental changes since 600 years ago in the Daihai Lake. *The Journal of Chinese Geography* (supplement), 53: 76-82. (in Chinese)

Qi Wuyun, Liu Qingsi and Li Huazhang

1998 A study on the trend of environmental change in the future ten years in the Daihai Lake. *The Journal of Resource and Environment in Arid Area* 12(1): 44-51. (in Chinese)

Qi Wuyun and Liu Qingsi

1998 Pollen analysis and paleoclimatic changes since 2500 years ago based on the samples in the leisure park, Daihai Lake. *The Journal of Resource and Environment in Arid Area* 12(3): 21-27. (in Chinese)

Qi Wuyun, Xu Haipeng, Ma Ainai, Zhou Daliang

1997 A study of the impact of environmental changes on the soil-hydro erosion in diagnostic periods since mid-Holocene in Beijing area. *Journal of Basic Science and Engineering* 5(2): 146-154. (in Chinese)

Qi Wuyun, Xu Haipeng

1996 A study on the trend of environmental change in the coming ten years in Beijing area in the Steward Group to Commemorate Prof. Wang lailiang ed. *The Collected Works on Landform and Quaternary* The Ocean Press, p170-175. (in Chinese)

Liu Qingsi, Qi Wuyun

1996 An analysis on the sediment and environmental change since 3000 years ago based on the samples in the leisure park, Daihai Lake. *The Journal of Guizhou Normal University* 14(3): 25-32. (in Chinese)

Qi Wuyun and Liu Qingsi

1995 An Analysis of pollen in core sediment and its paleoclimatic changes since 600 years ago in the Daihai Lake in the subcommittee of landform and Quaternary, CGS ed. *Landform, Environment and Development.* Chinese Environmental Sciences Press p33-36. (in Chinese)

Activities in Academic Societies

February, 2005 A study of the human-land relationship in the Upper Shu River. Presentation (in Japanese) at The GIS Symposium "Reading the Historical Spatial Information in the World" -Studies for Human Cultures and Civilizations based on Geographic Information System- held in the International center of Japanese Culture Studies, Kyoto Japan at February 7-11, 2005.

June, 2004 A Study of Environmental Archaeology on the Prehistoric Culture. Paper presented at the Worldwide Conferences of the Society for East Asian Archaeology (SEAA) held in South Korea at June, 2004.

March, 2003 pollen analysis of samples from the surface soil in the vicinity of lakes, at the end of Heihe river and their environmental indications. Presentation (in Japanese) at Heihe River Symposium held at Kyodai kaikan by Research Institute for Humanity and Nature in March, 2003.

September, 2002 A study of the human-land relationship at the prehistoric relics in the Upper Shu River, Shandong Province. Paper (in Chinese) presented at the 3rd Symposium on Environmental Archaeology, China held in Jinan, Shandong province in September, 2002.

October, 2001 A Study on Ancient Diet Based on the Analysis of Excavated Human Bones with isotope and trace elements test from Upper Shu River in Shandong Province. Paper (in Chinese) presented at the 6th Symposium on Scientific and Technological Archaeology, China held in Guangzhou in October, 2001.

August, 1999 A study of prehistoric human-land relationship with comparative analysis of qualitative and

quantitative data of pollen samples in the shell relics in the Jiaodong Peninsula. Paper presented (in Chinese) at the International Conference on The Chinese Archaeology and World Archaeology in the 21st Century held in Beijing, China in August, 1999.

Awards

2002 First-class Monograph Award
3rd Chinese Research Symposium on Environmental Archaeology
Book entitled by 'A study of environmental archeology on shelly hills in Jiaodong peninsula.'

2002 Excellent Achievement Award in Scientific Research
Both the evaluation group from National Science Foundation and the academic committee of the Institute of Archaeology, Chinese Academy of Social Sciences
A report on "A study of human-land relationship of prehistoric culture in the upper Shuhe River, Shandong province"

2001 Excellent Achievement Award
Chinese Academy of Social Sciences
Book entitled by 'A study of environmental archeology on shelly hills in Jiaodong peninsula.'

2000 Second prize of Excellent Scientific and Technical Papers Award
2nd Academic Exchange Symposium for universities of north China
Paper 'Analysis of the sediments from the heart of Daihai Lake and environmental evolution during the past 600 years' (1998)

1995 Peking University offered me *Jiudingxuan* fellowships.

Research Activities

Field Research in Japan

April, 2004. Sampling and sorting pollen specimens collected from ice core in Nagaoka

Field Research in Foreign Countries

August, 2004. Collecting pollen specimens from the sediments of the lake heart in the lower Heihe River for "Oasis Project"

September, 2004. Investigating and studying human-land relationship in Guanting Basin, Qinghai province

August, 2003. Collecting pollen specimens from the sediments of the lake heart in the lower Heihe River for "Oasis Project"

July, 2003. Collecting specimens from loess profiles and archaeological sites in Guanting Basin, Qinghai province

November, 2003. Collecting dating specimens from lake profiles and stream terraces in Linfen Basin, Shanxi province

August, 2002. Collecting topsoil pollen specimens in Heihe River valley for "Oasis Project"

September, 2002. Collecting pollen specimens at Taosi archaeological site, Shanxi province

May, 2002. Collecting pollen specimens from Wucheng archaeological site, Jiangxi province

October, 2002. Collecting pollen specimens from Xinglonggou archaeological site, Inner Mongolia

May, 2001. Collecting pollen specimens from Zhouyuan archaeological site, Shanxi province

October, 2001. Collecting pollen specimens from Erlitou and Yanshi archaeological sites, Henan province

June, 2001. Collecting pollen specimens from Diaolongbei archaeological site, Hubei province

October, 2001. Researching the paleoenvironment of Taosi archaeological site, Shanxi province

May, 2001. Investigating and studying human-land relationship of prehistoric culture in the upper Shuhe River, Shandong province

May, 2000. Collecting paleoenvironment specimens from archaeological sites in the upper Shuhe River, Shandong

province
September, 2000. Collecting pollen specimens from Jiaochangpu archaeological site, Shandong province
October, 2000. Investigating the paleoenvironment of Qixinghe River valley, Heilongjiang province
October, 1999. Locating and researching archaeological sites in the upper Shuhe River, Shandong province
October, 1997. Collecting pollen specimens and researching the paleoenvironment at the south shore of Jiaodong Peninsula, Shandong province
May, 1994. Collecting specimens from the heart of Lianhuachi Lake, Beijing
August, 1991. Collecting specimens from the heart of Daihai Lake, Inner Mongolia

Social Activities and Public Lectures
Public Lectures

March, 2004 — 10th International Research Symposium on Doigahama Archeological Sites held in Yamaguchiken county of Shimonoseki city of Japan, which was entitled by 'Excavated human bones and natural environment in Lajia village of Minhe county of Qinghai province in Neolithic Age.'

February, 2004 — Entitled by 'pollen analysis on samples collected from Gashunnur stratigraphic section in the lower reaches of Heihe River, was given in Shirukuroodo International Research Symposium of 'Nature, Archeology and Writings in Talimu Basin and its vicinal areas', which was held in Nara Joshidaigaku Kinenkan, Japan.

ICHIKAWA, Masahiro — Associate Professor

Born in 1962.

Curriculum Vitae
Academic Career
Graduate School of Human and Environmental Studies, Kyoto University, D. Course (2002)
Graduate School of Human and Environmental Studies, Kyoto University, M. Course (1997)
Environmental Studies for Open Space, Faculty of Horticulture, Chiba University (1984)
Professional Career
Associate Professor, Research Institute for Humanity and Nature (2003)
Environmental Department, Pacific Consultants Co. Ltd. (1989)
Japan Overseas Cooperation Volunteers in Dominican Rep. (1987)
Development and Planning Department, Pacific Consultants Co. Ltd. (1984)
Higher Degrees
D. Human and Environmental Studies. (Kyoto University, 2002)
M. Human and Environmental Studies. (Kyoto University, 1997)
Fields of Specialization / Background
Area Studies in Insular Southeast Asia
Academic Society Memberships
The Japan Society of Tropical Ecology, Japanese Society for Tropical Agriculture

Major Publications
Articles
Ichikawa, Masahiro
2005 "Herbicide uses for swidden agriculture and their background in Sarawak, Malaysia" *Journal of Agricultural*

technology and Culture 27 (in press). (in Japanese)

Ichikawa, Masahiro

2005 "Weeds and environment (4) Swamp paddy cultivation in Sarawak, Malaysia" *Journal of Weed Science and Technology* 50(1): 43-44. (in Japanese)

Activities in Academic Societies

Officer in general affairs in the Japan Society of Tropical Ecology (2004-), Organizing member for the 15th annual congress of the Japan Society of Tropical Ecology (2004-), Organizing member for the International Memorial Symposium for the 15th anniversary of the Japan Society of Tropical Ecology (2004-)

Oral Presentation

June 2004 "Natural Resource Uses in the Iban of Sarawak, East Malaysia" Memorial speech for Kira Price in the Japan Society of Tropical Ecology

Awards

Kira Prize in the Japan Society of Tropical Ecology (2004)

Research Activities

Field Research in Foreign Countries

May and June 2004, March 2005	Sarawak, East Malaysia (Research on the natural resources uses by the people living in/around forests)
July and August 2004	Dominican Rep. (Deforestation and Land uses by the people living in mountainous regions)
January and February 2005	East Kalimantan, Indonesia (Natural resource uses by local people under the decentralization policy)

Social Activities and Public Lectures

Public Lectures

October 2004 "Historical background of the global environmental problems" Regular meeting of Katsushika-chuo Rotary Club

KANAE, Shinjiro — Associate Professor

Born in 1971.

Curriculum Vitae

Academic Career

Department of Civil Engineering, The University of Tokyo, D. Course (1999)

Department of Civil Engineering, The University of Tokyo, M. Course (1996)

Department of Civil Engineering, The University of Tokyo (1994)

Professional Career

Associate Professor, Research Institute for Humanity and Nature (2003)

Associate Professor, Institute of Industrial Science, University of Tokyo (2003)

Lecturer, Institute of Industrial Science, University of Tokyo (2003)

Research Associate, Institute of Industrial Science, University of Tokyo (1999)

PD Research Fellow, Japan Society for the Promotion of Science (1999)

DC Research Fellow, Japan Society for the Promotion of Science (1996)

Higher Degrees

Ph. D. (The University of Tokyo, 1999)

M. Eng. (The University of Tokyo, 1996)

Fields of Specialization / Background

Civil Engineering, Hydrology, Meteorology

Academic Society Memberships

International Association of Hydrological Sciences, Japan Society of Civil Engineers, Japan Society of Hydrology & Water Resources, Meteorological Society of Japan

Major Publications

Articles

Yamada, Tomohito, Kanae, Shinjiro, Oki, Taikan

2005 "Mathematical structure of a newly-derived statistical parameter as a similarity index" *Annual Journal of Hydraulic Engineering* 49: 1-6. (in Japanese)

Suga, Yoshito, Hirabayashi, Yukiko, Kanae, Shinjiro, Oki, Taikan

2005 "Changes in river nitrate transport of the world resulted from increase in fertilizer use" *Annual Journal of Hydraulic Engineering* 49: 1495-1500. (in Japanese)

Hanasaki, Naota, Kanae, Shinjiro, Oki, Taikan

2005 "Global river discharge simulation taking into account irrigation water intake" *Annual Journal of Hydraulic Engineering* 49: 403-408. (in Japanese)

Hirabayashi, Yukiko, Kanae, Shinjiro, Oki, Taikan

2005 "Long-term variation of wrold terrestrial water cucle in 20th century" *Annual Journal of Hydraulic Engineering* 49: 409-414. (in Japanese)

Oki, Taikan, Kanae, Shinjiro

2004 "Virtual water trade and world water resources" *Water Science & Technology* 49(7): 203-209.

Yoshimura, Kei, Oki, Taikan, Ohte, Nobuhito, Kanae, Shinjiro

2004 "Colored moisture analysis estimates of variations in 1998 Asian monsoon water sources" *J. Meteor. Soc. Japan* 82: 1315-1329.

Koster, R. D., Dirmeyer, P. A., Guo, Z., Bonan, G., Chan, E., Cox, P., Gordon, C. T., Kanae, S., Kowalczyk, E., Lawrence, D., Liu, P., Lu, C. H., Malyshev, S., McAvaney, B., Mitchell, K., Mocko, D., Oki, T., Oleson, K., Pitman, A., Sud, Y. C., Taylor, C. M., Verseghy, D., Vasic, R., Xue, Y., Yamada, T.

2004 "Regions of strong coupling between soil moisture and precipitation" *Science* 305: 1138-1140.

KUBOTA, Jumpei — Associate Professor

Born in 1957.

Curriculum Vitae

Academic Career

Department of Forestry, Faculty of Agriculture, Kyoto University, D. Course (1987)

Department of Forestry, Faculty of Agriculture, Kyoto University, M. Course (1983)

Department of Forestry, Faculty of Agriculture, Kyoto University (1981)

Professional Career

Associate Professor, Research Institute for Humanity and Nature (2002)

Associate Professor, Faculty of Agriculture, Tokyo University of Agriculture and Technology (1997)
Assistant Professor, Faculty of Agriculture, Tokyo University of Agriculture and Technology (1987)

Higher Degrees

D. Agr. (Kyoto University, 1987)
M. Agr. (Kyoto University, 1983)

Fields of Specialization / Background

Forest Hydrology, Erosion Control Engineering

Academic Society Memberships

The Japanese Forestry Society, The Japan Society of Hydrology and Water Resources, The Japan Society of Erosion Control Engineering

Major Publications

Articles

Kubota, Jumpei, Suzuki, Kazuyoshi, Yamazaki, Yusuke, Ohata, Tetsuo and Varely Vuglinsky
2004 "Water and Energy Budget in the Southern Mountainous Region of Eastern Siberia", *Proceedings CD-ROM of The 6th International Study Conference pn GEWEX in Asia and GAME*, pp. 1-4, GAME CD-ROM Publication No. 11.

Kubota, Jumpei, Suzuki, Kazuyoshi, Ohata, Tetsuo and Varely Vuglinsky
2004 "Water and Energy Budget in the Southern Mountainous Region of Eastern Siberia", In *The ACSYS Decade and Beyond -Proceedings CD-ROM of the ACSYS Final Science Conference-*, pp. 1-3, WCRP-118, WMO/TD No. 1232.

Activities in Academic Societies

Oral Presentations in International Scientific Meetings

December, 2004 "Water and Energy Budget in the Southern Mountainous Region of Eastern Siberia", The 6th International Study Conference on GEWEX in Asia and GAME, Kyoto, Japan.
August, 2004 "Impacts of Human Activities on the Hydrological Cycle in the Heihe River Basin, Western China", The 4th International Symposium on the Tibetan Plateau, Lhasa, China.

Research Activities

Field Research in Foreign Countries

June, 2002 Russia (Research on the Water and Energy Cycle in southern mountainous region of eastern Siberia)
August, 2002 China P. R. (Research on the Hydrological Cycle in the Heihe River Basin)
July, 2003 China P. R. (Research on the Hydrological Cycle in the Yellow River Basin)
August, 2003 China P. R. (Research on the Hydrological Cycle in the Heihe River Basin)
September, 2003 China P. R. (Research on the Hydrological Cycle in the Heihe River Basin)
March, 2004 China P. R. (Research on the Hydrological Cycle in the Heihe River Basin)
April, 2004 China P. R. (Research on the Hydrological Cycle in the Heihe River Basin)
August, 2004 China P. R. (Research on the Hydrological Cycle in the Ili River Basin)
September, 2004 China P. R. (Research on the Hydrological Cycle in the Heihe River Basin)

Supervision and Host (Number of DC Students and JSPS Research Fellows)

DC student (1)

Social Activities and Public Lectures

Committee Member

Committee on Disaster Prevention in the Miyakezima Island, Tokyo Prefecture

Committee on the Five-year Disaster Prevention Plan of Japanese Rivers, The Ministry of Land, Infrastructure and Transport

Coordinating Committee on Accreditation and examination, Accreditation System for Engineering Education in Japan

NARITA, Hideki — Associate Professor

Born in date 1942.

Curriculum Vitae

Academic Career

Department of Humanities and Sciences, Hirosaki University (1964)

Professional Career

Associate Professor, Research Institute for Humanity and Nature (2003)

Associate Professor, Institute of LowTemperature Science, Hokkaido University (1992)

Lecturer, Institute of LowTemperature Science, Hokkaido University (1987)

Assistant Professor, Institute of LowTemperature Science, Hokkaido University (1964)

Higher Degree

D. Sc. (Hokkaido University, 1977)

Fields of Specialization / Background

Polar Glaciology, Snow Physic

Academic Society Memberships

Japanese Society of Snow and Ice, International Glaciological Society

Major Publications

Articles

2004 North Greenland Ice Core Project members. High-resolution record of Northern Hemisphere climate extending into the last interglacial period, *Nature*, 431, 9 Sep. 147-151.

Activities in Academic Societies

2003~4 Member of supervisor of sectional committee of the Japanese Society of Snow and Ice.

Awards

Kanchi-gijyutsu-Shō (Scientific division) in 2001: (Award for Cold Region Technology Conference by corporation of Hokkaido Development Engineering Center in 2001)

Research Activities

August-September, 2003 Hami Province, China (Glaciological research on Miyarego-glacier).

Social Activity

2004~2006 Member of Ice Core Committee of National Institute of Polar Research, Tokyo.

NONAKA, Kenichi — Associate Professor

Born in 1964.

Curriculum Vitae

Academic Career

Department of Geography, Faculty of Literature, Nagoya University, D. Course (1991)
Department of Geography, Faculty of Literature, Nagoya University, M. Course (1989)
Department of Geography, Faculty of Literature, Nagoya University (1987)

Professional Career

Associate Professor, Research Institute for Humanity and Nature (2003)
Associate Professor, Faculty of Humanities and Social Sciences, Mie University (1996)
Lecturer, Faculty of Humanities and Social Sciences, Mie University (1994)
Research Fellow, Faculty of Literature, Nagoya University (1993)
Research Fellow, Faculty of Literature, Hokkaido University (1991)

Higher Degrees

D. Sc. (Kyoto University, 1999)
M. A. (Nagoya University, 1989)

Fields of Specialization / Background

Geography, Ecological Anthropology

Academic Society Memberships

The Association of Japanese Geographers, The Human Geographical Society of Japan, The Society of Bio-Sophia Studies, The Society of Human and Animals Relations, The Society of Ecological Anthropology

Major Publications

Co-edited Books

Nonaka, Kenichi (ed.)
2004 *Yasei no nabigeshon (Navigation in the wild)*. Tokyo Kokonshoin. (in Japanese)

Articles

Nonaka, Kenichi
2005 Mushi wo taberu bunka- Sizen heno taido (Culture of eating insects-Attitudes to nature) *Kagaku* 75-1: 60-61. (in Japanese)

Nonaka, Kenichi
2004 Kamemushi –Kusaika oisiika kyuu na tabemono (Stinkbug –Stink or Tasty? food of *kyuu*) *Gekkan minpaku* 28-11: 20-21. (in Japanese)

Miyamura, Haruna and Nonaka, Kenichi
2004 "Dog walking and the community" *Japanese Journal of Human Animal Relations* 14: 37-43.

Activities in Academic Societies

Aug., 2004 Space of *Nora* (International Geographical Conference).
May, 2004 Kamemushi wa oishii (Stinkbug is tasty) (Ikimono bunkashi gakkai). [in Japanese]

Research Activities

Field Research in Foreign Countries

March, 2005 Lao PDR (Ethno-biological research in tropical monsoon Asia)
December, 2004 Thailand (Research of Human-Chicken Relationship)

November, 2004 Lao PDR (Ethno-biological research in tropical monsoon Asia)
September, 2004 Lao PDR (Ethno-biological research in tropical monsoon Asia)
August, 2004 Ireland and Great Britain (Research of Resource Use of Wildlife)

OKUMIYA, Kiyohtio — Associate Professor

Born in 1961.

Curriculum Vitae

Academic Career

Kochi Medical School (Kochi) (1986)

Professional Career

Associate professor, Research Institute for Humanity and Nature (2004)
Visitting clinical and research fellow, Division of Geriatrics, Department of Medicine, University of British Columbia, Canada (2002-2003)
Assistant professor (Lecturer), Department of Medicine and Geriatirics, Kochi Medical School (1999)
Assistant professor, Department of Medicine and Geriatirics, Kochi Medical School (1992)
Research resident, Department of Anatomy, Shiga University of Medical Science (1992)
Medical Staff, Department of Neurology in Sumitomo Hospital (1990)
Resident, Department of Circulatory Medicine, Tokyo Metropolitan Geriatric Hospital (1988)
Resident in Department of Medicine and Geriatirics, Kochi Medical School Hospital (1986)

Higher Degrees

Ph. D. (Kochi Medical School, 1996)
M. D. (Kochi Medical School, 1986), Japanese Medical License Registration (No. 299199)

Fields of Specialization / Background

Field Medicine, Geriatrics and Gerontology, Neurology, Internal Medicine

Academic Society Memberships

Japanese Society of Neurology, Japanese Society of Geriatrics, Japanese Society of Internal Medicine, Japanese Society of Public Health, Japanese Society of Hypertension

Major Publications

Books

Okumiya K, Matsubayashi K
2005 (Definition, evaluation, and prevention of frailty) How to treat for the geriatric syndrome. p7-13. *Medical View*. [in Japanese]
Okumiya K, Matsubayashi K
2005 (Depression) How to treat for the geriatric syndrome. p21-25. *Medical View*. [in Japanese]

Articles

Okumiya K, Wada T, Ishine M, Fujisawa M, Nishinaga M, Doi Y, Ozawa T, Matsubayashi K
2005 Associated factors for activities of daily livings in 3 towns in Japan. (Activities of daily livings in community-dwelling elderly people in Japan) *Nippon Ronen Igakkai Zasshi* 42: 164-166. [in Japanese]
Nishinaga M, Takada J, Okumiya K, Matsubayashi K, Ozawa T, Doi Y
2005 Eiyou to seikatsukinou. (Nutrition and activities of daily livings) *Nippon Ronen Igakkai Zasshi* 42: 174-176. [in Japanese]

Activities in Academic Societies

Presentations

Nov. 2004 Ajia shokoku no hizakansetsushou, koukettou no hindo, kettyu guroburin ti no igi ni tuite Taiyou tikyu tsuki seitaikei kenkyukai. (Arthropathy, prevalence of high blood sugar, and serum globurin. (Meeting of the Sun, Moon and Ecology)

June, 2005 Honpou tiiki koureisha no seikatsu kinou. The 46th Nippon Ronen Igakkai (Activities of daily livings in community-dwelling elderly people in Japan. The 46th Japanese Geriatrics Society.) [in Japanese]

June, 2005 Tiiki zaiju koureisha no houkatsuteki kinouyogo ni kansuru judanteki kohoto kenkyu risk factor to Evidence ni motozuku yobouteki kainyu sisutemu no kakuritsu-Kahoku judan kenkyu- The 46th Nippon Ronen Igakkai. (Risk factor of the deteriolation of comprehensive geriatric function in community dwelling elderly and preventive care system. The 46th Japanese Geriatrics Society.) [in Japanese]

Research Activities

Field Research in Japan

July, 2004 Kahoku in Kochi (Longitudinal cohort study on health and comprehensive geriatric assessment in community-dwelling elderly)

August, 2004 Tosa in Kochi (Longitudinal cohort study on health and comprehensive geriatric assessment in community-dwelling elderly)

Field Research in Foreign Countries

February, 2004 Lao PDR (Research on the health and comprehensive geriatric assessment in Savannakhet)

April-May, 2004 Korea (Research on the health and comprehensive geriatric assessment in Hongchon)

October, 2004 China (Meeting for the planning of the research on the health and comprehensive geriatric assessment in Yunnan)

November, 2004 Myanmar (Research on the health and comprehensive geriatric assessment in Maubin)

December, 2004 Lao PDR (Research on the health and comprehensive geriatric assessment and Diabetes Mellitus in Savannakhet)

March, 2005 Thailand (Research on the health and comprehensive geriatric assessment in Khon Kaen)

Social Activities and Public Lectures

Public Lectures

January, 2005 Oi to kenkou, kankyou to bunka tono kakawari no nakade "fiirudo igakuteki apurouti-yoroyoi raihusutairu towa" Tosatyo ikigaizukuri kouenkai, Tosa tyo kenkou hukushi senta (Age and health in culture and nature and better lifestyle -approach by field-medicine-, Tosa town office) [in Japanese]

December, 2004 Health of aged people in Lahanam. Evaluatiom meeting on the First Year Implementation of Health Development Study Project un Savannakhet Province, Lao PDR.

May, 2004 Oi to kenkou, kankyou to bunka tono kakawari no nakade "fiirudo igaku to nettowaaku" Tosatyo ikigaizukuri kouenkai, Tosa tyo kenkou hukushi senta (Age and health in culture and nature and field medicine and social network. Tosa town office) [in Japanese]

Professional and society membership

1991 Certification of Japanese Board of Neurology

1992 Fellowship in Japanese Society of Internal Medicine

1996 Certification of Japanese Board of Geriatric Medicine

2002 Board member of the Japanese Society of Geriatrics

TANIGUCHI, Makoto — Associate Professor

Born in 1959.

Curriculum Vitae

Academic Career

Institute of Earth Sciences, The University of Tsukuba, D. Course (1987)

Institute of Earth Sciences, The University of Tsukuba, M. Course (1984)

Department of Natural Sciences, Faculty of Science, The University of Tsukuba (1982)

Professional Career

Associate Professor; 2003, Research Institute for Humanity and Nature

Professor, 2000 Department of Earth Sciences, Nara University of Education

Associate Professor, 1993 Department of Earth Sciences, Nara University of Education

Assistant Professor 1990 Department of Earth Sciences, Nara University of Education

Researcher 1988 Environmental Research Center, University of Tsukuba

Researcher 1987 Division of Water Resources, CSIRO, Australia

Higher Degrees

D. Sc. (The University of Tsukuba, 1987)

M. Sc. (The University of Tsukuba, 1982)

Fields of Specialization / Background

Hydrology, Geophysics, Natural Geography

Academic Society Memberships

American Geophysical Union

National Ground Water Association

IASPEI/IUGG, IAHS/IUGG

Japanese Association of Groundwater Hydrology

The Japanese Association of Hydrological Sciences

Japan Society of Hydrology and Water Resources

International Association of Hydrogeologists

The Japanese Society of Limnology

Japanese Society of Snow and Ice

The Association of Japanese Geographers

Major Publications

Articles

Makoto Taniguchi, Tomotoshi Ishitobi and Ken-ichi Saeki

2005 Evaluation of time-space distributions of submarine ground water discharge, *Ground Water* 43(3), 1-9.

Zenhom El-said Salem, Makoto Taniguchi and Yasuo Sakura

2004 Use of temperature profiles and stable isotopes to trace flow lines: Nagaoka area, Japan, *Ground Water*, 42(1), 83-91.

Makoto Taniguchi and Hiroteru Iwakawa

2004 Submarine groundwater discharge in Osaka bay, Japan, *Limnology*, 5, 25-32.

Makoto Taniguchi, Jun Shimada and Takeshi Uemura

2003 Transient effects of surface temperature and groundwater flow on subsurface temperature in Kumamoto plain, Japan, *Physics and Chemistry of the Earth*, 28, 477-486.

Yohei Uchida, Yasuo Sakura and Makoto Taniguchi

2003 Shallow subsurface thermal regimes in major plains in Japan with reference to recent surface warming, *Physics and Chemistry of the Earth*, 28, 457-466.

Activities in Academic Societies

*GWSP (Global Water System Project) Consultation Meeting, Bonn, Oct. 2004.

*Organizer of IUGG/IAPSO Heat Flow Committee Meeting, "New and classical applications of heat flow studies", Aachen, Oct. 2004.

*Session Convener of AGU2004Fall meeting "Groundwater Resources Assessment under the Pressures of Humanity and Climate Changes", San Francisco., Dec. 2004

*Organizer of APN (Asia Pacific Network) workshop "Groundwater Discharge as Important Pathway in South-East Asia", Bangkok, Feb. 2005.

Research Activities

Field Research in Japan

August 2004	Groundwater survey at Shiranui

Field Research in Foreign Countries

January 2005	Philippines (Interaction between groundwater and seawater)
July 2004	Thailand (Field survey on Land-Ocean interactions)
May, September 2004	China (Interaction between groundwater, river water and seawater in the Yellow River Delta)

MOMOKI, Akiko — Associate Professor

Born in 1950.

Curriculum Vitae

Academic Career

Department of Zoology, Faculty of Science, Kyoto University, Research Student (1987-94)

Department of Biology, Faculty of Science, Tohoku University, B. Sc. (1973)

Professional Career

Adjunct Lecturer, Faculty for the Study of Contemporary Society, Kyoto Women's University (2002)

Associate Professor, Research Institute for Humanity and Nature (2001-)

Part-time Lecturer, Osaka Bunka Fashion College (1992-2001)

Assistant Professor, Okayama University Dental School (1997-98)

Part-time Lecturer, Faculty of Science and Technology, Ryukoku University (1995-96)

Part-time Lecturer, The Center for Student Exchange, Kyoto University (1989-95)

Assistant, Technical Development Section/Senior Staff, Buisiness Planning Section/Senior Staff, R&D Section, Rhône-Poulenc Japan, Ltd. (1977-89)

Technical Assistant, Gynecology Laboratory, Keio University Hospital (1973-74)

Fields of Specialization / Background

Biology, Ethology, Human Ethology

Academic Society Memberships

Japan Ethological Society, Société Franco-Japonaise de la Pharmacie

Major Publications

Books

Translation

Momoki, Akiko (French into Japanese)

2005 Pierre-Marie Lledo, *Purion-byō towa nanika* "What is prion disease?" (Kuseju Bunko). Tokyo: Hakusuisha Publishing Co., Ltd. [*Les maladies à prions*, originally written in French by Pierre-Marie Lledo, Coll. «Que sais-je?» no. 3631, P. U. F., Paris, 2002]

Articles

Momoki, Akiko

2005 "Science and society – situation in France" *Kagaku* Vol. 75 No. 3 Mar. 2005: 278-282. (in Japanese)

Research Activities

Field Research in Foreign Countries

October, 2004 Canada (Research on science journalism in the world at the 4th World Conference of Science Journalists)

October, 2004 France (Research on France's activities for promoting dialogues between the scientists and the citizens, and on the situation of environmental studies in France)

March, 2005 United Kingdom (Research on science communication activities in U.K.)

YACHI, Shigeo — Associate Professor

Born in 1962.

Curriculum Vitae

Academic Career

Department of Biophysics, Faculty of Science, Kyoto University, D. Sc (1995)

Department of Biophysics, Faculty of Science, Kyoto University, M. Sc. (1988)

Faculty of Science, Kyoto University, B. Sc. (1985)

Professional Career

Associate Professor, Research Institute for Humanity and Nature (2001-)

Associate Professor, Center for Ecological Research, Kyoto University (2001)

Research Associate, Kyoto University (1999-2001)

Postdoctoral Fellow, Laboratoire d'Ecologie, Ecole Normale Superieure and Universite Pierre et Marie Curie, CNRS-URA 258, Paris, France (1997-1999)

Lecturer (part time), Doshisha University, Kyoto, Japan (1993-1997)

Lecturer (part time), Osaka Institute of Technology, Osaka, Japan (1992-1997)

Higher Degrees

D. Sc. (Kyoto University, 1995)

M. Sc. (Kyoto University, 1988)

Fields of Specialization / Background

Mathematical Ecology, Global Environmental Studies

Academic Society Memberships

The Ecological Society of Japan, the Japanese Society for Mathematical Biology, Society of Evolutionary Studies, Japan

Major Publications

Articles

E. M. Spehn, A. Hector, J. Joshi, M. Scherer-Lorenzen, B. Schmid, E. Bazeley-White, C. Beierkuhnlein, M. C. Caldeira, M. Diemer, P. G. Dimitrakopoulos, J. A. Finn, H. Freitas, P. S. Giller, J. Good, R. Harris, P. Högberg, K. Huss-Danell, A. Jumpponen, J. Koricheva, P. W. Leadley, M. Loreau, A. Minns, C. P. H. Mulder, G. O'Donovan, S. J. Otway, C. Palmborg, J. S. Pereira, A. B. Pfisterer, A. Prinz, D. J. Read, E. -D. Schulze, A. -S. D. Siamantziouras, A. C. Terry, A. Y. Troumbis, F. I. Woodward, S. Yachi, and J. H. Lawton

2005 "Ecosystem effects of biodiversity manipulations in European grasslands" *Ecological Monographs* 75: 37-63.

S. Carpenter and S. Yachi (eds.)

2005 *2004 Report from the workshop: Regime shifts and thresholds in Lake Ecosystems by Stephen Carpenter* (2004.10.27, Kyoto). Project 3-1 Working Paper No. 12.

T. Sugimoto, S. Yachi and METOCEAN ENVIRONMENT INC.

2004 *P3-1 Report on the relationship between the environmental load and the water quality of the lake Biwa, Yodo River and the Osaka Bay.* Project 3-1 Report. (in Japanese)

Activities in Academic Societies

Oral Presentation

2004 August "A hierarchical watershed management model in the Lake Biwa-Yodo River watershed". 16th BioGIS Meeting, Sanda [in Japanese]

2004 August "Multi-disciplinary research for understanding interactions between humans and nature in the Lake Biwa-Yodo River watershed -hierarchical watershed management concept-". 51st Annual Meeting of the Ecological Society of Japan, Kushiro [in Japanese]

2004 October "Multi-disciplinary research for understanding interactions between humans and nature in the Lake Biwa-Yodo River watershed -an overview-". P3-1 international workshop on "Regime shifts in lake ecosystems -seeking an effective interdisciplinary methodology for lake ecosystem diagnosis and its management-", Kyoto

2004 December "An intersdisciplinary research on socio-ecological resilience against environmental disturbances". Forum on "collaboration of ecology and economics towards a synthetic understanding of human activities and ecosystems", Moriyama [in Japanese]

2004 December "Multi-disciplinary research for understanding interactions between humans and nature in the Lake Biwa-Yodo River watershed -hierarchical watershed management concept-". 3rd RIHN Annual Presentation Meeting, Kyoto [in Japanese]

2005 March S. Yachi, T. Nakano and K. Wakita, "Multi-disciplinary research for understanding interactions between humans and nature in the Lake Biwa-Yodo River watershed". Hikone [in Japanese]

2005 March "Multi-disciplinary research for understanding interactions between humans and nature in the Lake Biwa-Yodo River watershed". 52nd Annual Meeting of the Ecological Society of Japan, Meeting on "Towards collaboration of ecology and sociological sciences -Case of RIHN projects-, Osaka [in Japanese]

2005 March S. Yachi and R. Ishii, "A framework for trans-scale understanding of ecosystems and biodiversity". 52nd Annual Meeting of the Ecological Society of Japan, Osaka [in Japanese]

2005 March R. Ishii, F. Horiguchi, J. Nakanishi and S. Yachi, "Relative importance of multiple human impacts on population persistence -case of shellfish population-". 52nd Annual Meeting of the Ecological Society of Japan, Osaka [in Japanese]

2005 March Comments. Symposium on "Relationship between biodiversity and ecosystem functioning across different scales". 52nd Annual Meeting of the Ecological Society of Japan, Osaka [in Japanese]

Awards

Miyaji Award in 1999 (Award for Promotion of Ecological Studies by the Ecological Society of Japan in 1999)

Research Activities

Field Research in Japan

2004 May and June Field research on agricultural drainage in the eastern areas of the Lake Biwa, Hikone

2004 November Field survey of the Yodo River watershed, Osaka

2005 March Workshop on agriculture and water environment, Shiga

Organizer of Seminar and Workshop

2004 October 2nd Project 3-1 GIS Workshop on "Seeking a methodology for consensus building between hierarchies by using GIS", Kyoto

2004 October P3-1 international workshop on "Regime shifts in lake ecosystems -seeking an effective interdisciplinary methodology for lake ecosystem diagnosis and its management-", Kyoto

2004 September, October & November, 2005 January Project 3-1 & CER joint Human Impact Seminar (four times), Otsu and Kyoto

Social Activities and Other Activities

2004 July Comment, 3rd RIHN Forum on "Moshi ikimono ga hette ikuto -seibutu-tayousei wo dou kangaeru- (What comes after biodiversity loss?)" [in Japanese]

2004 August "Multi-disciplinary research for understanding interactions between humans and nature in the Lake Biwa-Yodo River watershed -hierarchical watershed management concept-". Sinia Sizen Daigaku, Osaka [in Japanese]

2004 September S. Yachi, T. Nakano, K. Wakita and M. Imada, "Multi-disciplinary research for understanding interactions between humans and nature in the Lake Biwa-Yodo River watershed -hierarchical watershed management concept-". Mizu-sigen Kaihatsu Kikou, Otsu [in Japanese]

2004 December S. Yachi and T. Nakano, "Multi-disciplinary research for understanding interactions between humans and nature in the Lake Biwa-Yodo River watershed -hierarchical watershed management concept-". 2nd RIHN Seminar for Citizens, Kyoto [in Japanese]

Committee Work for Other Organizations

Editorial board of *Ecological Research*, the Ecological Society of Japan.

Member of the "Dai-kibo tyouki seitai-gaku senmon iinkai (committee on Large scale and long term ecological research)", the Ecological Society of Japan

Editorial board of the Japanese Association for Mathematical Biology Newsletter.

Member of the "Yodo-gawa suikei ryuiki iinkai (committee on the Yodo River watershed management)"

YOSHIOKA, Takahito — Associate Professor

Born in 1955.

Curriculum Vitae

Academic Career

Department of Hydrospheric-Atmospheric Sciences, Graduate School of Science, Nagoya University, D. Course (1983)

Department of Hydrospheric-Atmospheric Sciences, Graduate School of Science, Nagoya University, M. Course (1980)

Department of Biology, Faculty of Science, Osaka University (1978)

Professional Career

Associate Professor, Research Institute for Humanity and Nature (2001)

Assistant Professor, Research Institute for Humanity and Nature (2001)

Assistant Professor, Institute for Hydrospheric-Atmospheric Sciences, Nagoya University (1993)

Assistant Professor, Faculty of Science, Shinshu University (1988)

Higher Degrees

D. Sc. (Nagoya University, 1985)

M. Sc. (Nagoya University, 1980)

Fields of Specialization / Background

Biogeochemistry

Academic Society Memberships

The Japanese Society of Limnology, The Ecological Society of Japan, The Geochemical Society of Japan, The Japanese Society of Microbial Ecology, The American Society of Limnology and Oceanography

Major Publications

Articles

Yoshioka, Takahito

2004 "Function of forest catchment" *Journal of Japan Society on WaterEnvironment* 27: 567. (in Japanese)

Konohira Eiichi, Shindo Junko and Yoshioka Takahito

2005 "Stream water chemistry in Japan" In: Nagoya University the 21st century COE program "Dynamics of the Sun-Earth-Life interactive system" editorial board (ed.) *Nagoya University the 21st century COE program "Dynamics of the Sun-Earth-Life interactive system" Annual report 2004*, pp. 281-290.

Academic Lectures

Yoshioka,Takahito

December 2004 "Integration of Ecology and Economics, from the viewpoint of the value of environment" (JST Multi-disciplinary Research Exchange Forum on "Integration of Ecology and Economics: toward the comprehensive understandings on the relationship between human activities and ecosystem"), Oral presentation, Hotel Laforet Biwako, Moriyama, Shiga. (in Japanese)

January 2005 "Studies on the inter-relationship between humans and nature in watershed environments" (Lecture on Mori-Sato-Umi Renkan-gaku) Oral presentation, Kyoto University, Kyoto, Kyoto. (in Japanese)

February 2005 "Conceptual considerations on the value judgment of environments" (Lecture on Environmental Ethic and International Cooperation in Environmental Issues) Oral presentation, Research Institute for Humanity and Nature, Kyoto, Kyoto. (in Japanese)

Konohira, E., Shindo J. and Yoshioka T.

April 2004 "Streamwater survey in Japan –On the cooperation between JaLTER and other activities" (The 115th meeting of the Japanese Forest Society) Oral presentation, Bunkyo-ku, Tokyo. (in Japanese)

Sekino, T. and Yoshioka, T.

May 2004 Toward applying monitoring data to interdisciplinary studies - an example in a RIHN research project. (The First Korea-Japan Joint Symposium on Limnology) Oral presentation, Busan, Korea.

Sekino, T. and Yoshioka, T.

May 2004 Diagrammatic arrangement method for presenting monitoring data. (The First Korea-Japan Joint Symposium on Limnology) Oral presentation, Busan, Korea.

Kono, T., Nomura, T., Sasaki, N., Takahara, H., Shibata, H., Uemura, S., Kitagawa, H. and Yoshioka, T.

August 2004 "Formation process of Akaezomatsu forest in the Dorokawa swamp in the Uryu experimental forest, Hokkaido University, evaluated by the microfossiles" (The 51st annual meeting of the Ecological Society of Japan) Poster presentation, Kushiro-shi Kanko Kokusai-koryu Center, Kushiro, Hokkaido. (in Japanese)

Ishikawa, Y., Ikarashi M., Takano, K., Mikami, H., Hino, S., Ohira, H., Shibata, H. and Yoshioka, T.

September 2004 "Variation of the microbial biomass in Lake Shumarinai" (The 69th annual meeting of the Japanese Society of Limnology) Niigata University, Niigta, Niigata. (in Japanese)

Kono, T., Nomura, T., Takahara, H., Sasaki, N., Shibata, H., Uemura, S. and Yoshioka, T.

November 2004 "Formation process of Akaezomatsu forest in the Dorokawa swamp in the Uryu experimental forest, Hokkaido University-Application of plant opal and pollen analyses" (Annual meeting of the Japanese Association of Historical Botany) Poster presentation, Chuo University, Bunkyo-ku, Tokyo. (in Japanese)

Activities in Academic Societies

Editor-in-chief of Limnology (an international journal of the Japanese Society of Limnology) (April, 2003-March, 2005)

Research Activities

Field Research in Japan

June, 2004 Preliminary survey on the environmental consciousness on the Lake Shumarinai watershed, Hokkaido, Japan

August, 2004 Social survey on the environmental consciousness in Horokanai-cho and Nayoro city, Hokkaido, Japan

YOSHIMURA, Mitsunori — Associate Professor

Born in 1962.

Curriculum Vitae

Academic Career

Department of Construction, Faculty of Engineering, Hosei University, M. Eng. (1987)

Department of Civil Engineering, Faculty of engineering, Hosei University (1985)

Professional Career

Associate Professor, Research Institute for Humanity and Nature (2001)

Assistant Professor, Center for Southeast Asian Studies, Kyoto University (1996)

Senior Research Scientist, Remote Sensing Technology Center of Japan (1996)

Research Scientist, Remote Sensing Technology Center of Japan (1987)

Higher Degree

M. Eng. (Hosei University, 1987)

Fields of Specialization / Background

Geoinfomatics, Remote Sensing, GIS

Academic Society Memberships

The Japan Society of Civil Engineering, The Japan Society of Photogrammetry and Remote Sensing, The Japan Society of Remote Sensing, The Japan Society of GIS, The American Society of Photogrammetry and Remote Sensing

Major Publications

Articles

Yoshimura M., Yamashita M.

2004 Spectral Measurement for Quantifying Canopy Dynamics in Tropical Rainforest, Proceedings of the 25th Asian Conference on Remote Sensing: 704-707.

Yamashita M., Yoshimura M.

2004 Sky Index wo mochiita Kumo no Teiryou-teki haaku to Nissha no Kankei, Nihon-Shashin Sokuryo Gakkai Heisei 16 Nendo Gaakujutsu-kouenkai Ronbunsyu: 141-142.

Yamashita M., Yoshimura M., Nakashizuka T.

2004 Cloud Cover Estimation using Multitemporal Hemisphere Imageries, International Archives of the Photogrammetry, *Remote Sensing and Spatial Information Science*, Vol. XXXV, Part B: 826-829.

Yoshimura M., Yamashita M., NAKASHIZUKA T.

2004 Development and Application of Three Dimensional Measurement System for Tropical Rainforest Canopy, International Archives of the Photogrammetry, *Remote Sensing and Spatial Information Science*, Vol. XXXV, Part B: 239-242.

Activities in Academic Societies

Japan Society of Photogrammetry and Remote Sensing, Chair of Conference Organization Committee of Japan Society of Photogrammetry and Remote Sensing, Vice-Chair of Japan Society of Photogrammetry and Remote Sensing Kansai Branch, Reviewer of Society of Geographic Information, Reviewer of Environment Information Science

Oral Presentation

June Re-zakeisoku niyoru Nettairin BacharuForesuto Kouchiku to Hikari KankyoKaiseki, Nihon-Shashin Sokuryo Gakkai Kansai-shibu Koenkai

July Development and Application of Three Dimensional Measurement System for Tropical Rainforest Canopy, ISPRS Congress in Istanbul

November Spectral Measurement for Quantifying Canopy Dynamics in Tropical Rainforest, Asian Conference on Remote Sensing in Chengmai

Research Activities

Field Research in Foreign Countries

September, 2004 Malaysia (Research on BRF, Solar Radiance, PAR, LAI, Thermal Informations on Tropical Rain Forest in Malaysia)

Social Activities and Public Lectures

Lecture of Ritsumeikan University, Lecture of Doshisha University

UCHIYAMA, Junzo — Associate Professor

Born in 1967.

Curriculum Vitae

Academic Career

Graduate School of Human and Environmental Studies, University of Kyoto, D. Course (1997)
Department of Archaeology, University of Durham, M. A. Course (1996)
Graduate School of Human and Environmental Studies, University of Kyoto, M. Course (1993)
Department of Archaeology, Faculty of Literature, The University of Tokyo, B. A. Course (1991)

Professional Career

Associate Professor, Research Institute for Human and Nature (2003)
Associate Professor, Faculty of Humanities, Toyama University (2001)
Lecturer, Faculty of Humanities, Toyama University (1998)

Higher Degrees

Ph. D. (The Graduate University for Advanced Studies, 2002)
M. A. (University of Durham, 1996)
M. A. (Kyoto University, 1993)

Fields of Specialization / Background

Zooarchaeology, Cultural Anthropology

Academic Society Memberships

The Society of Bio-Sophia Studies, The Society of Korean Culture Studies

Major Publications

Books

Uchiyama, Junzo

2004 *Nihonkai: Higashi Ajia no Chichukai* (Japan Sea: The Mediterranean of East Asia). Toyama: Katsura Shobou. [in Japanese] Uchiyama, Junzo, Sei'ichi Nakai and Koji Takahashi (eds.)

Articles

None in special

Activities in Academic Societies

May, 2004 Hitsuji no chichukai, inoshishi no nihonkai. Dai 2 kai ikimonobunkashi gakkai gakujutsu taikai. (Sheep of the Mediterranean, Wild boar of the Japan Sea. The Society for biosophia studies 2nd Conference) (Lake Biwa Museum, Shiga Prefecture) [in Japanese]

May, 2004 Executive committee, The Society for biosophia studies 2nd Conference (Lake Biwa Museum, Shiga Prefecture)

November, 2003 Nishinihon no kisoubunka to koika gyoruisou: funa to koi no Jomon bunka. Dai 1 kai ikimonobunkashi gakkai gakujutsu taikai. (Substratum culture of the western part of Japan and carp family fish: Jomon culture based on carp family fish. The Society for biosophia studies 2nd Conference) (Toba City Hall, Mie Prefecture) [in Japanese]

August, 2002 Residential base as a hunting camp: subsistence complex at Torihama Jomon shellmidden (International Council of Archaeozoology 9th Conference (Durham University, UK)

August, 2002 Session Organizer, International Council of Archaeozoology 9th Conference, (Durham University, UK)

Research Activities

Field Research in Japan

March, 2004 Toyama and Nagano Prefectures (Research on the trading activities in the Jomon era)

Field Research in Foreign Countries

April, 2001-January, 2002 Korean Republic (Zooarchaeological research on the Korean Neolithic culture)

Social Activities and Public Lectures

Public Lectures

October, 2002 Syakai sinkaron wo koete: senshijinruigaku to kankyou no shiten (Beyond Social Evolutionism: Perspectives of Environmental Archaeology). Toyamaken koutou gakkou kyouikukenkyukai rekishibukai (Toyama Prefecture Highschool Teachers' Association for Educational Studies: History Section). [in Japanese]

October, 2001 Ningen to kankyou no bunmeishi (History of Human-Nature Relationships). Toyamakenmin syougai gakusyu karejji kouiki kyanpasu kouza shizenkagaku kousu: kankyou eno apurouchi (Toyama Prefectural Lifelong Learning Course: Approach to the Environmental Issues). [in Japanese]

September, 2001 Ningen to kankyou no bunmeishi: Jomon jidai no shiten kara (History of Human-Nature Relationships: Jomon Perspectives). Toyama daigaku koukai kouza (Public Lecture Course of Toyama University).

UMETSU, Chieko — Associate Professor

Curriculum Vitae

Academic Career

Department of Agricultural and Resource Economics, University of Hawaii at Manoa, Honolulu, U.S.A, Ph. D. (1995)

School of International Relations, International University of Japan, Niigata, Japan, M. A. (1989)

Professional Career

Associate Professor, Research Institute for Humanity and Nature (2002)

Visiting Scholar, Environmental Studies, Research Program, East-West Center, Honolulu, Hawaii, U.S.A. (2001)

Assistant Professor, The Graduate School of Science and Technology, Kobe University, Japan (1997)

Visiting Fellow, Program on Environment, East-West Center, Honolulu, Hawaii. U.S.A. (1995)

Training Co-ordinator, Tohoku Branch Office, Japan International Cooperation Agency (JICA), Sendai, Japan (1982)

Science & Math Teacher (O level), Kiriani High School, Meru, Kenya, Japan Overseas Cooperation Volunteers, JICA (1979)

Higher Degrees

Ph. D. (University of Hawaii, 1995)

M. A. (International University of Japan, 1989)

Fields of Specialization / Background

Resource and Environmental Economics, Development Economics / International Relations, Biology

Academic Society Memberships

International Association of Agricultural Economists (IAAE), American Agricultural Economics Association (AAEA), International Society for Ecological Economics (ISEE), East Asian Economic Association (EAEA),

Agricultural Economics Society of Japan, Society for Environmental Economics and Policy Studies (SEEPS), Japan Society for International Development (JASID).

Major Publications

Articles

Umetsu, Chieko, K. Palanisami, Tomoya Akimichi

2004 "The Role of Farmers' Collective Action for Mitigating Water Scarcity: The Case of Tank Irrigation in Tamil Nadu, India", with K. Palanisami and T. Akimichi. Distribution and Sharing of Resources in Symbolic and Ecological Systems: Integrative Model-building in Anthropology. A Collection of Preliminary Papers. pp. 289-302. Tokyo: Research Institute for Languages and Cultures of Asia and Africa, Tokyo University of Foreign Studies.

Umetsu, Chieko, Sevgi Donma, Takanori Nagano, Ziya Coskun

2004 "The Efficiency of WUA Management in the Lower Seyhan Irrigation Project." Proceedings of the International Workshop for the Research Project on the Impact of Climate Change on Agricultural Production System in Arid Areas (ICCAP), Cappadocia, Turkey November 21-23, 2004. pp. 97-101. Research Institute for Humanity and Nature (RIHN), Kyoto Japan, 2004.

Umetsu, Chieko, Sevgi Donma, Takanori Nagano, Ziya Coskun

2004 "The Efficient Management of Water User Associations: The Case of Lower Seyhan Irrigation Project in Turkey." In *An Economic and Institutional Analysis of the Impacts of Climate Change on Agriculture and Farm Economy in Eastern Mediterranean and Central Anatolia Regions in Turkey*. pp. 79-90. Research Institute for Humanity and Nature (RIHN), Kyoto Japan, February 2005.

Activities in Academic Societies

September 2004 "Privatizing Water Distribution", presented at the 2004 Meeting of the Society of Environmental Economics and Policy Studies, September 25-26, 2004, Hiroshima University, Hiroshima.

October 2004 "Privatizing Water Distribution", presented at the 14th Annual Meeting of the Canadian Resource and Environmental Economics Study Group, 1-3 October, 2004, Calgary, Alberta, Canada.

Awards

IAAE-JB Research Award from the Japan Branch of the International Association of Agricultural Economists (2001)

Best Article Award from the Agricultural Economics Society of Japan (2003)

Research Activities

Field Research in Foreign Countries

January 2005 India (Research on Water Users' Association of Tank Irrigation Systems in the State of Tamil Nadu)

December 2004 Zambia (Incubation Research for Social-Ecological Resilience)

October-November 2004 Turkey (Project 1-1: Research on Water Users' Association in Seyhan River Basin)

ZHENG, Yuejun — Associate Professor

Born in 1962.

Curriculum Vitae

Academic Career

Graduate School of Agricultural and Life Science, The University of Tokyo, D. Course (1995)

Graduate School of Forest Resources, Beijing Forestry University, M. Course (1987)

Department of Forest Science, Inner Mongolia Agricultural University (1984)

Professional Career

Associate Professor, Research Institute for Humanity and Nature (2003)

Assistant Professor, The Graduate University for Advanced Studies (2001)

Visiting Scholar, Department of Natural Resources, University of New Hampshire (1998)

Assistant Professor, The Institute of Statistical Mathematics (1995)

Lecturer, College of Forest Resources, Beijing Forestry University (1988)

Assistant Professor, College of Forest Resources, Beijing Forestry University (1987)

Higher Degrees

D. Sc. (The University of Tokyo, 1995)

M. Sc. (Beijing Forestry University, 1987)

Fields of Specialization / Background

Environmental Statistics, Environmental Economics, Social Survey Research

Academic Society Memberships

The Behaviormetric Society of Japan, Japan Statistical Society, Society for Environmental Economics and Policy Studies, Japanese Society of Forest Planning, International Institute of Sociology.

Major Publications

Books

Zheng Y. (ed.)

2005 Research on the National Character of Chinese and Japanese —Sampling Surveys in Hangzhou and Kunming, China, Research Institute for Humanity and Nature, Research Report No. 1, Kyoto. (In Japanese)

Yoshino R., Hayashi F., Yamaoka K., Sasaki M., Zheng Y. and Hoshino T.

2005 The East Asia Value Survey —Statistical Analysis on Trust—: A Sample Survey in South Korea. Tokyo: Institute of Statistical Mathematics. (In Japanese)

Yoshino R., Hayashi F., Yamaoka K., Sasaki M., Zheng Y. and Hoshino T.

2005 The East Asia Value Survey —Statistical Analysis on Trust—: A Sample Survey in Taiwan. Tokyo: Institute of Statistical Mathematics. (In Japanese)

Yoshino R., Hayashi F., Yamaoka K., Sasaki M., Zheng Y. and Hoshino T.

2005 The East Asia Value Survey —Statistical Analysis on Trust—: A Sample Survey in Singapore. Tokyo: Institute of Statistical Mathematics. (In Japanese)

Nagase N., Mizuno I. and Zheng Y. et al

2004 Cross-national Comparison on Family, Work and Housekeeping: A Panel Survey in Beijing, China. Tokyo: Ochanomizu University. (In Japanese)

Articles

Zheng Y.

2004 "Cross-cultural Comparative Studies on Chinese, Japanese National Characters" *Proc. of 36th World Congress of International Institute of Sociology Congress*: 394-395.

Zheng Y. and Yoshino R.

2004 "Characteristic of National Character of Chinese and Japanese (2) —Focusing on Quality of Leadership, Piety and Political consciousness—". *Proc. of 32nd Conference of the Behaviormetric Society of Japan*: 52-55. (In Japanese)

Zheng Y.

2004 "Cross-national Comparison on National Characters of Chinese, Japanese and Korean based on Survey Data". *Proc. of China-Japan Symposium on Statistics 8*: 394-399.

Zheng Y.

2005 "Social Transition of Traditional Values —Cross-national Comparison in East Asian Countries". *Journal of F-GENS 3*: 140-154. (in Japanese)

Activities in Academic Societies

Oral Presentations

July 2004 Cross-cultural Comparative Studies on Chinese, Japanese National Characters. The 36th International Institute of Sociology Congress, Beijing, China.

Sept. 2004 Characteristic of National Character of Chinese and Japanese (2) —Focusing on Quality of Leadership, Piety and Political consciousness—. The 32nd Symposium of the Behaviormetric Society of Japan, Sagamihara, Japan.

Oct. 2004 Cross-national Comparison on National Characters of Chinese, Jaapnese and Korean based on Survey Data. The Eighth Japan-China Symposium on Statistics, Guilin, China.

Jan. 2005 Methods Concerning International Comparison Using Panel Data. Panel Study Conference Program for Comparative Studies on Asian Cities, Ochanomizu University, Tokyo.

Research Activities

Field Research in Japan

Nov. 2004 Attitudes toward Life and Culture (A) —Sample survey in Japan

Nov. 2004 Attitudes toward Life and Culture (B) —Sample survey in Japan

Field Research in Foreign Countries

Dec. 2004 The East Asian Value Survey —Sample survey in Singapore

Social Activities and Public Lectures

Public Lectures

March 2005 Cross-national Comparative studies on Environmental Consciousness in East Asia. National Chung Hsing University, Taiwan.

Others

Dec. 1996~ Adjunct Professor with Beijing Forestry University

Dec. 2002~ Adjunct Professor with Renmin University of China

Dec. 2002~ Adjunct Professor with Zhejiang Forestry University

April 2004~ COE Adjunct Scholar with Ochanomizu University

April 2004~ Visiting Assoc. Prof. with the Institute of Statistical Mathematics

April 2004~ Part-time Lecturer with Doshisha University

Organization Committee

April 2002~ Editorial Board Member of Journal of Forest Planning

ABE, Hiroshi — Assistant Professor

Born in 1971.

Curriculum Vitae

Academic Career

Department of Human and Environmental Studies, Graduate School of Human and Environmental Studies, Kyoto University, D. Course (1999)

Department of Human and Environmental Studies, Graduate School of Human and Environmental Studies, Kyoto University, M. Course (1995)

Department of Philosophy, Faculty of letters, Kyoto University (1993)

Professional Career

Assistant Professor, Research Institute for Humanity and Nature (2003)

Assistant Professor, Graduate School of Human and Environmental Studies, Kyoto University (2000)

Research Fellow, Japan Society for the Promotion of Science (1996)

Higher Degrees

Ph. D. (Kyoto University, 1999)

MA. (Kyoto University, 1995)

Fields of Specialization / Background

Philosophy, Ecological thought, Ethics, and Comparative philosophy

Academic Society Memberships

The Japanese Society of Philosophy, The Japanese Society of Ethics, The Japanese Society of Phenomenology, The Society of Philosophy Kansai, The Society of Ethics Kansai, and The Society of Comparative philosophy

Major Publications

Articles

ABE, H.

2004 "Original Enlightenment Thought in Tendai Sect (*Tendai Hongaku-ron*) and Japanese Deities— An Inquiry into the Logic of *Tendai Hongaku-ron*'s Motto: Every Plant, Tree and Mineral is in itself eternal as Buddha (*Somoku Kokudo Shikkai Jyobutsu*)" *Ningensonzairon* 11: 53-70. [in Japanese]

ENDO, Takahiro — Assistant Professor

Born in 1974.

Curriculum Vitae

Academic Career

Department of Political Science, Faculty of Law, Keio University, D. Course (2002)

Department of Political Science, Faculty of Law, Keio University, M. Course (1999)

Department of Political Science, Faculty of Law, Keio University (1997)

Professional Career

Assistant Professor, Research Institute for Humanity and Nature (2004)

Part-Time Lecturer, Department of Political Science, Faculty of Law, Keio University (2004)

Higher Degrees

Ph. D. (Law) (Keio University, 2002)

M. Law (Keio University, 1999)

Fields of Specialization / Background

Political Science (Political Theory)

Academic Society Memberships

The Japan Public Choice Society, Japanese Political Science Association, Public Policy Studies Association, The Japan Association of International Relations, The Japanese Association of Law and Political Science

Major Publications

Articles

Endo Takahiro

2004 Kokusai kasen funsou no ichikousatsu –harmon doctrine wo chuushin ni– (A Study on International River Conflict: Harmon Doctrine) Housei Ronsou 41-1: 53-66. (in Japanese)

Endo Takahiro

2001 Chiiki keizai tougou no seijigakuteki bunseki (A Political Analysis of Regional Economic Integration) Hougaku Seijigaku Ronkyu 49: 209-235. (in Japanese)

Endo Takahiro

2000 Kokka to shijou –byoudou kakuho no kanten kara– (The State and Market –from a Viewpoint of Equality–). Hougaku Seijigaku Ronkyu 46: 481-506. (in Japanese)

Endo Takahiro

2000 Kokka to shijou –jiyuukakuho no kanten kara– (The State and Market –from a Viewpoint of Personal Liberty–). Hougaku Seijigaku Ronkyu 45: 327-350. (in Japanese)

Endo Takahiro

2000 Kokka to shiyuuzaisanken –jiyuukakuho no kanten kara– (The State and Private Property Rights –from a Viewpoint of Personal Liberty–). Hougaku Seijigaku Ronkyu 44: 385-416. (in Japanese)

Activities in Academic Societies

Oral Presentations

March 2005 River Basin Management in Japan –Ideas and Practices–, Interdisciplinary Workshop on Multi-scale Governance of Forests, Village and Water in the Upper Ping River Basin, Chiang Mai, Thailand

June 2004 Kokusai kasen funsou no ichikousatsu –harmon doctrine wo chuushin ni– (A Study on International River Conflict: Harmon Doctrine). The 100th general meeting of the Japanese Association of Law and Political Science, Kansai University of Foreign Languages. (in Japanese)

July 2001 Chiiki keizai tougou no seijigakuteki bunseki (A Political Analysis of Regional Economic Integration). The 5th meeting of the Japan Public Choice Society, Chuou University. (in Japanese)

Research Activities

Field Research in Japan

Februay 2005 Tsushima (Research on marine litter)

January 2005 Yamaguchi, Kouchi (Research on local currency)

KATO, Yuzo — Assistant Professor

Born in 1971.

Curriculum Vitae

Academic Career

Graduate School of Law, Kyoto University, Doctor of Laws program (2000)

Graduate School of Law, Kyoto University, Master's programs (1996)

Faculty of Law, Kyoto University (1994)

Professional Career

Assistant Professor, Research Institute for Humanity and Nature (2001)

Junior Research Fellows, Institute for Research in Humanities, Kyoto University (2001)

Research Associates, Graduate School of Law, Kyoto University (2000)

Higher Degree

M. Laws (LL. M.). (Kyoto University, 1996)

Fields of Specialization / Background

Chinese Legal History

Academic Society Memberships

Japan Legal History Association, Comparative Law History Association

Major Publications

Books

Kato, Yuzo (ed.)

2005 *Interim report of "Socio System in & around the Far Eastern Archipelago"* Kyoto. (in Japanese)

Translations

Zhang, Li. translated by Kato, Yuzo

2004 "Governmental Policy for Disaster of Shaanxi Area in Qianlong Period of Qing Dynasty" *Project Report on an Oasis-region* 4-2: 131-145. (in Japanese)

Li, Bingcheng. translated by Kato, Yuzo

2004 "On Desertification of Old Juyan Oasis" *Project Report on an Oasis-region* 4-2: 147-156. (in Japanese)

Ding, Qiong. translated by Kato, Yuzo

2004 "Governors-generals' Reports to the Emperor on Precipitation, Abnormal Weather, Crop's Fiars in the Qing Dynasty" *Project Report on an Oasis-region* 4-2: 157-169. (in Japanese)

Zhang, Yu. translated by Kato, Yuzo

2004 "The Qing Archives on Gansu Enveronment" *Project Report on an Oasis-region* 4-2: 171-179. (in Japanese)

Research Activities

Field Research in Foreign Countries

Aug., 2004 China (Reconnaissance Studies on Yili River Region)

Oct., 2004 China (Research on Ruins in Eqina Banner)

Mar., 2005 China (Research on Memorial Stone about Water Use in Zhangye)

Activities in Academic Societies

Aug., 2004 "Human Responses to Environmental Changes in the Heihe River Basin from Archives of the Qing Dynasty", The 4th International Symposium on the Tibetan Plateau, at Lhasa China.

KAWAMOTO, Kazuaki — Assistant Professor

Born in 1970.

Curriculum Vitae

Academic Career

Department of Earth and Planetary Physics, Graduate School of Science, The University of Tokyo, Doctor of Philosophy (1999)

Department of Earth and Planetary Physics, Graduate School of Science, The University of Tokyo, Master of Science (1996)

Department of Physics, Faculty of Science, Rikkyo University (1993)

Professional Career

Assistant Professor, Research Institute for Humanity and Nature (2002)

Research Scientist, Mechanical Engineering, Virginia Polytechnic Institute and State University (postdoc researcher, Atmospheric Sciences, NASA Langley Research Center) (1999)

Higher Degrees

Ph. D. (The University of Tokyo, 1999)

M. Sc. (The University of Tokyo, 1996)

Fields of Specialization / Background

Atmospheric Physics, Satellite Climatology

Academic Society Memberships

The Meteorological Society of Japan

Major Publications

Articles

Referred original papers

2004

Kawamoto, K., T. Hayasaka, T. Nakajima, D. Streets and J. Woo

Examining the aerosol indirect effect over China using an SO_2 emission inventory. *Atmos. Res.*, 72, 353-363.

Non-referred papers

2004

Kawamoto, K. and T. Hayasaka

Satellite derived-cloud properties over China. *Proc. XXth Congress of the International Society for Photogrammetry and Remote Sensing, 12-23 July 2004, Istanbul, Turkey*, 774-777.

Kawamoto, K. and T. Hayasaka

Relationship between the low-level cloud fields from satellites and precipitation from ground over China. *Proc. 14th International Conference on Clouds and Precipitation, 19-23 July 2004, Bologna, Italy*, 554-555.

Hayasaka, T., K. Kawamoto and J. Xu

Seasonal variations of clouds, aerosols and shortwave radiation over China. *Proc. 14th International Conference on Clouds and Precipitation, 19-23 July 2004, Bologna, Italy*, 387-388.

Kawamoto, K.

Seasonal cycles of clouds, radiation and precipitation over the Amazon basin, (in Japanese) *Proc. fall meeting of Japan Meteorological Society, P123, 6-8 October, Fukuoka, Japan.*

2005

Hayasaka, T., K. Kawamoto, J. Xu and G. Y. Shi

Seasonal and long-term variations of shortwave radiation in China. *Proc. The CEReS International Symposium on*

Radiation Budget and Atmospheric Parameters Studied by Satellite and Ground Observation Data, 17-18 February, 2005, Chiba University, Japan, 132-135.

Activities in Academic Societies

Conveners

Co-convener, 'Radiation budget and forcing' session, *International Radiation Symposium, 23-28 August, 2004, Busan, Korea*

Oral Presentations

2004

Kawamoto, K.

Relationship between the low-level cloud fields and precipitation over China. *International Symposium on Shallow Geology and Geophysics, 12-14 April 2004, Hanoi, Vietnam*

Kawamoto, K. and T. Hayasaka

Evaluating anthropogenic influences on the cloud and radiation environments. *International Radiation Symposium, 23-28 August 2004, Busan, Korea*

Kawamoto, K. and T. Hayasaka

Satellite observation of cloud properties and the implications in climate issues, *Asian Conference on Remote Sensing, 22-26 November 2004, Chiang Mai, Thailand*

Poster Presentations

2004

Kawamoto, K. and T. Hayasaka

Climatology of large-scale cloud characteristics and precipitation amount in the East Asia. *The 2004 Joint assembly of American Geophysical Union and Canadian Geophysical Union, 17-21 May 2004, Montreal, Canada*

Kawamoto, K.

Characteristics of atmospheric particles and radiation over Tibetan plateau, *The 4th International Symposium on the Tibetan Plateau, 4-7 August 2004, Lhasa, China*

2005

Kawamoto, K.

Aerosol-cloud-precipitation relationships with ground, satellite and modeling data, *International Global Atmospheric Chemistry (IGAC) specialty conference on the indirect effect of aerosols on climate, 5-7 January 2005, Manchester, UK*

Research Activities

Field Research in Foreign Countries

June-July, 2004, Inner Mongolia, China (irrigation system and water use)

KOHMATSU, Yukihiro — Assistant Professor

Born in 1973.

Curriculum Vitae

Academic Career

Department of Zoology, Faculty of Science, Kyoto University, D. Course (2001)

Department of Zoology, Faculty of Science, Kyoto University, M. Course (1998)

Department of Geography, Faculty of Science, Ritsumeikan University (1996)

Professional Career

Assistant Professor, Research Institute for Humanity and Nature (2003)

Technical Assistant, Research Institute for Humanity and Nature (2002)

Postdoctoral Scientist, Center for Ecological Research, Kyoto University (2001)

Higher Degrees

D. Sc. (Kyoto University, 2001)

M. Sc. (Kyoto University, 1998)

Fields of Specialization / Background

Animal Ecology, Geography

Academic Society Memberships

The Ecological Society of Japan, The Herpetological Society of Japan

Major Publications

Articles

Genkai-Kato, M., Mitsuhashi, H., Kohmatsu, Y., Miyasaka, H., Nozaki, K. and Nakanishi, M.

2005 A seasonal change in the distribution of a stream-dwelling stonefly nymph reflects oxygen supply and water flow. *Ecological Research* 20: 223-226.

Activities in Academic Societies

September, 2003 Tansuiiki ni okeru kemikarukomyunikesyon ga motarasu hisyokusya 2syu no seizonritsu no seizonritu koudou keitaihenka no hikaku (Survival, behavior, and shape responses on two prey species mediated by chemical communication in freshwater) Dai 51 kai nihon seitaigakkai taikai (The 51st Annual Meeting of the Ecological Society of Japan), Kushiro [in Japanese]

Social Activities and Public Lectures

Social Activities

2003- Member of committee of Naka-ikemi marsh conservation, The Ecological Society of Japan
Guest scientist of the Center for Ecological Research, Kyoto University

SAEKI, Tazu — Assistant Professor

Born in 1970.

Curriculum Vitae

Academic Career

Department of Geophysics, Faculty of Science, Tohoku University, D. Course (1998)

Department of Geophysics, Faculty of Science, Tohoku University, M. Course (1995)

Division of Natural Science, The College of Liberal Arts, International Christian University (1993)

Professional Career

Assistant Professor, Research Institute for Humanity and Nature (2002)

Assistant Professor, Information Synergy Center, Tohoku University (2001)

Assistant Professor, Computer Center, Tohoku University (1998)

Higher Degree

M. Sc. (Tohoku University, 1995)

Fields of Specialization / Background

Meteorology, Atmospheric Physics

Academic Society Memberships

Meteorological Society of Japan

Activities in Academic Societies

• International Conference

T. Saeki, S. Maksyutov, T. Nakazawa 2004 "Simulation of Carbon Isotopic Composition Variations of CH4 Using a Three-Dimentional Global Atmospheric Transport Model" *Proceedings of 8th International Global Atmospheric Chemistry Conference*, p. 264, 4-9 September, 2004, Christchurch, New Zealand.

S. Morimoto, S. Aoki, T. Saeki, T. Nakazawa, T. Yamanouchi 2004 "Temporal Variations of the Carbon Isotopic Ratio and Concentration of Atmospheric Methane in Ny-Ålesund, Svalbard for the Period from 1996 to 2003" Proceedings of 8th International Global Atmospheric Chemistry Conference, p. 98, 4-9 September, 2004, Christchurch, New Zealand.

• Domestic Conference

Tazu Saeki, Shamil Maksyutov, Takakiyo Nakazawa 2004 "Numerical Simuration of Atmospheric Methane and its Isotopes" The proceedings of the 10th Meeting of Atmospheric Chemistry, P. 37, 2004.6, Tokyo University. (in Japanese)

• Report

Takakiyo Nakazawa, Shuji Aoki, Shigeyuki Ishidoya, Shamil Makyutov, Misa Ishizawa, Prabir Patra, Satoshi Sugawara, Shinji Morimoto, Gen Hashida, Tazu Saeki 2004 "Estimation of the budget of Carbon Dioxide and Methane by Top-Down Approach" Research Revolution 2002, Advanced Parameterization of Physical Processes (Atmosphere and Ocean), pp. 88-96, Annual Report on Research Activity 2004, Research and Development Bureau of Ministry of Education, Culture, Sports Science and Technology. (in Japanese)

• Seminars

Tazu Saeki 2004 "Numerical Simulation of Methane and its Isotopes using a Three-Dimentional Atmospheric Transport Model", The 20th meeting of material circulations and transport, Kyoto University. (in Japanese)

Tazu Saeki 2004 "Global Cycle of Tropospheric Methane", Seminar at Natural Information Sciences, Information and Computer Sciences, Faculty of Science, Nara Women's University. (in Japanese)

TAKEUCHI, Nozomu — Assistant Professor

Born in 1972.

Curriculum Vitae

Academic Career

Department of Bioscience, Faculty of Bioscience and Biotechnology, Tokyo Institute of Technology. D. Course (1999)

Department of Bioscience, Faculty of of Bioscience and Biotechnology, Tokyo Institute of Technology. M. Course (1996)

Department of Bioscience, Faculty of of Bioscience and Biotechnology, Tokyo Institute of Technology (1994)

Professional Career

Assistant Professor, Research Institute for Humanity and Nature (2002)

Research scientist (Post-doc) of Frontier Obsevational Research System for Global Change (FORSGC) in IARC, University of Alaska Fairbanks, U.S.A. (2000)

Research fellow of the Japan Society for the promotion science. Tokyo Institute of Technology, Japan (1996)

Higher Degrees

Ph. D. (Science). (Tokyo Institute of Technology, 1999)

M. (Science). (Tokyo Institute of Technology, 1999)

Fields of Specialization / Background

Glacial biology

Academic Society Memberships

The Japanese Society of Snow and Ice, International Glaciological Society, American Geophysical Union.

Major Publications

Articles

Takeuchi, N., Matsuda, Y., Sakai, A. and Fujita, K.

2005 "A large amount of biogenic surface dust (cryoconite) on a glacier in the Qilian Mountains", China. *Bulletin of Glaciological Research*, 22: 1-8.

Takeuchi, N., Takahashi, A., Uetake, J., Yamazaki, Y., Aizen, V., Joswiak, D., Surazakov, A. and Nikitin, S.

2004 "A report on ice core drilling on the western plateau of Mt. Belukha in the Altai Mountain Range in 2003" *Polar Meteorology and Glaciology*, 18: 121-133.

Activities in Academic Societies

Organizations

Member of an event committee of the Japanese Society of Snow and Ice.

Member of local organizing committee of the annual meeting of the Japanese Society of Snow and Ice.

Member of a steering committee of the Data Center for Glaciological Research of the Japanese Society of Snow and Ice.

Oral Presentations

October, 2003 Variation of Biological Activity on a Himalayan Glacier Recovered from a Shallow Ice Core, Annual meeting of the Japanese Society of Snow and Ice, Hikone-city

December, 2004 Variation of Biological Activity on a Himalayan Glacier Recovered from a Shallow Ice Core, American Geophysical Union Fall meeting San Francisco, U.S.A.

Poster Presentations

April, 2004 Microscopic analysis of organic and inorganic dust in a Himalayan ice core, European Geoscience Union, Nice, France

September, 2004 Seasonal Variation of a Snow Algal Community on an Alaska Glacier, Annual meeting of the Japanese Society of Snow and Ice, Hikone-city

Research Activities

Field Research in Foreign Countries

August-September, 2004 Xinjiang, China P. R. (Glaciological Research on a glacier in the Tienshan Mountains)

YATAGAI, Akiyo — Assistant Professor

Born in 1968.

Curriculum Vitae

Academic Career

Department of Geoscience, University of Tsukuba, D. Course (1996)

Department of Geoscience, University of Tsukuba, M. Course (1992)

Department of Natural Sciences, 1st cluster of colleges, University of Tsukuba, B. S. (1990)

Professional Career

Assistant Professor, Research Institute for Humanity and Nature (RIHN) (2002)-present

Lecturer (temporary), Meiji University (2003, 2004)

COE Research Fellow, Disaster Prevention Research Institute, Kyoto Universit (2001)

Research Fellow, National Space Development Agency of Japan/Earth Observation Research Center (NASDA/EORC) (1995)

Higher Degrees

Ph. D. (Science) (University of Tsukuba, 1996)

M. S. (University of Tsukuba, 1992)

Fields of Specialization / Background

Climatology, Atmospheric science

Academic Society Memberships

Meteorological Society of Japan, The American Meteorological Society, American Geophysical Union, The Japan Society of Hydrology and Water Resources, The Association of Geographers

Major Publications

Articles

XIE, P., CHEN, M., YATAGAI, A., HAYASAKA, T., FUKUSHIMA, Y.

2004 An analysis of daily precipitation over East Asia: the test product and its applications, Eos Trans. AGU, 85(28), West. Pac. Geophys. Meet. Suppl., Abstract H51A-01.

YATAGAI, A., XIE, P., CHEN, M.

2004 Recent variation of the atmospheric branch of the hydrological cycle over the Yellow River. *Proceedings of 2nd Internationl Workshop on Yellow River studies, Nov. 8-10, 2004, Kyoto, Japan, 110-116.*

YATAGAI, A.

Recent variation in the atmospheric branch of the hydrological cycle over Turkey. *Proceedings of the International Workshop for the Research Project on the Impact of Climate Change on Agricultural Production System in Arid Areas (ICCAP), Nov. 21-23, 2004, Cappadocia, Turkey, 13-17.*

YATAGAI, A., SUGIMOTO, A., NAKAWO, M.

2004 The Isotopic Composition of Water Vapor and the Conturrent Meteorological Conditions around the Northeast Part of the Tibetan Plateau, *Proceedings for the 6th Internationl Study Conference on GEWEX in Asia and GAME, 3-5 December, 2004, Kyoto, Japan.*

XIE, P., YATAGAI, A., CHEN, M., HAYASAKA, T., FUKUSHIMA, Y., LIU, C.

2004 An analysis of daily precipitation over East Asia: Current Status and Future Improvements, *Proceedings for the 6th Internationl Study Conference on GEWEX in Asia and GAME, 3-5 December, 2004, Kyoto, Japan.*

Activities in Academic Societies

May, 2004 "The isotopic composition of water vapor and the concurrent meteorological conditions around

July-1st Glacier in the Northeast part of the Tibetan Plateau (in Japanese)", Japanese Meteorological Society 2004 Spring meeting, Tokyo.

May, 2004 "The isotopic composition of water vapor and the concurrent meteorological conditions around July-1st Glacier in the Northeast part of the Tibetan Plateau (in Japanese)", 2004 Joint Meeting for Earth and Planetary Science, Makuhari.

August, 2004 "The isotopic composition of water vapor and the concurrent meteorological conditions around July-1st Glacier in the Northeast part of the Tibetan Plateau", The 4th International Symposium on the Tibetan Plateau, Lhasa.

October, 2004 "An analysis of daily precipitation over Monsoon Asia", Japanese Meteorological Society 2004 Fall meeting, Fukuoka.

December, 2004 "An Analysis of Daily Precipitation over East Asia: Current Status and Future Improvements", The 6th international Study Conference on GEWEX in Asia and GAME, Kyoto.

December, 2004 "The isotopic Composition of Water Vapor and the Concurrent Meteorological Conditions around the Northeast part of the Tibetan Plateau", The 6th international Study Conference on GEWEX in Asia and GAME, Kyoto.

Research Activities

Field Research in Foreign Countries

July-August, 2004 China (Research on the water vapor transport around Qiyi glacier, Northwest China)

August-September, 2004 China (Research on the water vapor transport around Hami glacier, Northwest China)

CHENG, Zhi (Kicengge) — JSPS Research Fellow

Born in 1968.

Curriculum Vitae

Academic Career

Department of Oriental History, Graduat school of Letters, Kyoto University, D. Course (2003)

Department of Oriental History, Graduat school of Letters, Kyoto University, M. Course (2000)

Deparment of Chinese language literature, Ili Normal University, China (1990)

Professional Career

Research Fellow, Faculty of Letters, Kyoto University (2004)

JSPS Research Fellow, Research Institute for Humanity and Nature (2005)

Higher Degrees

Litt. D. (Kyoto University, 2004)

Litt. M. (Kyoto University, 2000)

Fields of Specialization / Background

Oriental History, History of Qing Empire, Manchu Philology

Academic Society Memberships

Tōyōshi Kenkyūkai (The Society of Oriental), Shigaku Kenkyūkai (The Society of Historical Research), Manzokushi kenkyūkai (The Japanese Association for Manchu and Qing studies)

Major Publications

Articles

Cheng Zhi (Kicengge)

2005 The Manchurian Version of the Three History, Ryo bunka Keiryou ittai Chōsa Houkoku Shō, Kyōto Daigaku Daigakuin Bungaku Kenkyūka 21seiki COE Puroguramu, Faculty of Letters, Kyōto university, The 21st Century COE Program, pp. 133-152. [in Japanese]

2002 Six annotated translation of Early Ch'ing Manchu documents. Disquisitions on the Past & Present, No. 7. pp. 81-102. [in Chinese]

2001 The Formation of the *Niru* of the Oroncon under the Qing Dynasty and an Aspect of *Butha* Society, The Tōyōshi-Kenkyū (The Journal of Oriental Researches) Vol. LX, No. 3. pp. 1-38. [in japanese]

FUJITA, Wataru — Research Fellow

Born in 1971.

Curriculum Vitae

Academic Career

Ph. D., Dept. of Human and Environmental Studies, Kyoto University (2000)

M. A., Dept. of Human and Environmental Studies, Kyoto University (1997)

LL. B., Faculty of Law, Kyoto University (1994)

Professional Career

Research Fellow, Research Institute of Humanity and Nature (2004)

Visiting Researcher, National Museum of Ethnology (2003-2004)

Junior Research Fellow (2001-2003)

Fields of Specialization / Background

Southeast Asian area study, political ecology, cultural anthropology

Major Publications

1) Wataru Fujita. 'Living the National Park: Formation of Socio-ecological Space in a Protected Area in Northeast Thailand' TROPICS 13(3) (2004)
2) Wataru Fujita. 'Creating Community Forests: Comparative Analysis of Socio-political Structure in Thailand and Indonesia'. (Paper prepared for The Third Asian Public Intellectuals Workshop, on the theme "Power, Purpose, Process and Practice in Asia", Fukuoka, Japan, Nov. 30-Dec. 4, 2004)

Research Activities

Preliminary research on forest management in Sarawak and Saba, Malaysia (May 2004)

Document research and interviews on sustainable forest management policy in Sarawak (October 2004)

HARROLD, Timothy Ives — JSPS Research Fellow

Born in 1967. (Australia)

Curriculum Vitae

Academic Career

School of Civil and Environmental Engineering, University of New South Wales, Ph. D. (2002)

School of Natural Resources, University of New England, M. Nat. Res. (1993)

School of Engineering, University of Newcastle, B. E. (hons) (1990)

Professional Career

JSPS Postdoctoral Fellow, Research Institute for Humanity and Nature (2003)

Research officer, Climate Impact Group, CSIRO Atmospheric Research, Australia (2002)

Tutor, School of Civil and Environmental Engineering, UNSW (1998)

Hydrologist, New South Wales Department of Land and Water Conservation (1994)

Research assistant, Centre for Water Policy Research, UNE (1994)

Tutor, School of Natural Resources, UNE (1992)

Higher Degrees

Ph. D. (UNSW, 2002)

M. Nat. Res. (UNE, 1993)

B. E. (hons) (U. Newcastle, 1990)

Fields of Specialization / Background

Stochastic hydrology, climate change impacts

Major Publications

Harrold, T. I.

2005 Applying climate changes simulated by GCMs to the generation of fine-scale rainfall scenarios. Journal of Agricultural Meteorology (Japan), 60(5), February 2005.

Srikanthan, R., T. I. Harrold, A. Sharma and T. A. McMahon.

2005 Comparison of two approaches for generation of daily rainfall data. Stochastic Environmental Research and Risk Assessment, doi: 10.1007/s00477-004-0226-0, 2005.

Book chapters

Oki, T., D. Entekhabi, and T. I. Harrold. The Global Water Cycle. In: Sparks, R. S. J., and C. J. Hawkesworth (eds).

2004 State of the Planet: Frontiers and Challenges in Geophysics. Geophysical Monograph Series Volume 150, 414 pages, AGU Publications, 2004.

Awards

2001 Modelling and Simulation Society of Australia and New Zealand, Student Prize in Natural Systems.

Research Activities

My postdoctoral research topic is "Changes in the stochastic structure of precipitation and the incidence of floods and droughts under global warming scenarios". My research interests include stochastic modeling of daily rainfall, the hydrologic impacts of climate variability and climate change, nonparametric and data-driven statistical methods, and Monte Carlo simulation.

Social Activities and Public Lectures

Member, Kyoto Assembly Church

Teacher for an English Bible class at Kyoto University

Public Lecture: "What Christians think about the environment", at Kyoto University, 2003.

HOSHIKAWA, Keisuke — Research Fellow

Born in 1975.

Curriculum Vitae

Academic Career

Department of Regional Environment, Kyoto University, D. Course (2003)

Department of Regional Environment, Kyoto University, M. Course (2000)

Department of Agricultural Engineering, Kyoto University (1998)

Professional Career

Research Fellow, Research Institute for Humanity and Nature

Higher Degrees

D. Agr. (Kyoto University, 2004)

M. Agr. (Kyoto University, 2000)

Fields of Specialization / Background

Irrigation, Drainage and Reclamation Engineering, Regional planning

Academic Society Memberships

The Japanese Society of Irrigation, Drainage and Reclamation Engineering, The Japan Society of Hydrology and Water Resources

Major Publications

None in special

Activities in Academic Societies

August 2004 "An evaluation model of impact of crop and irrigation management to water, balance in irrigated agriculture in arid zones" 2004 Western Pacific Geophysics Meeting

August 2004 "A development of a water balance model for irrigated area with considering water management and cropping systems" The Japan Society of Hydrology and Water Resources Annual Meeting (in Japanese)

August 2004 "A traditional irrigation system and paddy expansion in Northeast Thailand" The Japanese Society of Irrigation, Drainage and Reclamation Engineering Annually Meeting (in Japanese)

Research Activities

Field Research in Foreign Countries

June-July, 2004 China (Research on the Environment, Irrigation and Agriculture in the Yellow River basin)

September, 2004 Kingdom of Cambodia (Research on traditional small scale irrigation systems)

November, 2004 Turkey (Research on agriculture and water management in the Lower Seihan Irrigation District)

February, 2005 China (Research on water management in the Lower Yellow River basin)

HYODO, Fujio — Research Fellow

Born in 1974.

Curriculum Vitae

Academic Career

Graduate School of Science, Kyoto University, D. Course (2002)

Graduate School of Science, Kyoto University, M. Course (1999)
Faculty of Agriculture, Kyoto University (1997)
Professional Career
Technical Assitant, Research Institute for Humanity and Nature (2002)
JSPS Postdoctoral Research Fellow (PD), Research Institute for Humanity and Nature (2003, 2004)
Higher Degrees
D. Sc. (Kyoto University, 2002)
M. Sc. (Kyoto University, 1999)
Fields of Specialization / Background
Animal Ecology, Soil Ecology
Academic Society Memberships
The Ecological Society of Japan

Major Publications
Articles
None in special

Activities in Academic Societies

2004, April F. Hyodo, I. Tayasu, S. Konate, J. Tondoh, P. Lavelle, E. Wada. Application of radiocarbon to the ecological studies on termites. The 4th international conference on Aplications of Stable Isotope Techniques to Ecological Studies. Wellington, New Zealand.

2004, September F. Hyodo, I. Tayasu, S. Konate, J. Tondoh, P. Lavelle, E. Wada. Application of radiocarbon to the ecological studies on termites. XIVth International Colloquium on Soil Zoology and Ecology. Rouen, France.

Research Activities
Field Research in Japan
May and November, 2003 Lake Biwa watershed (Material cyclings)
Field Research in Foreign Countries
July 2004 Mongolia (Material cyclings in the Selenga River watershed)
November 2004 Malaysia (Ecological Studies on soil invertebrates)

IMAMURA, Akio ——— Research Fellow

Born in 1973.

Curriculum Vitae
Academic Career
Graduate School of Human and Environmental Studies, Kyoto University, D. Course (2003)
Graduate School of Human and Environmental Studies, Kyoto University, M. Course (1999)
Faculty of Science, Kyoto University (1997)
Professional Career
Research Fellow, Research Institute for Humanity and Nature (2004)
Assistant, Research Institute for Humanity and Nature (2003)

Higher Degrees

D. Human and Environmental Studies (Kyoto University, 2003)

M. Human and Environmental Studies (Kyoto University, 1999)

Fields of Specialization / Background

Fungal Ecology, Plant Ecology

Academic Society Memberships

The Mycological Society of Japan, The Ecological Society of Japan, British Mycological Society

Major Publications

Articles

Imamura, A. and Yumoto, T.

2004 "The time of urea treatment and its effects on the succession of the ammonia fungi in two warm temperate forests of Japan" *Mycoscience* 45: 123-130.

Imamura, A. and Yumoto T.

2004 "Recovery of mycorrhizas of a fungus, *Cenococcum geophilum*, after urea treatment in warm temperate forests in Japan" *Mycoscience* 45: 357-361.

Research Activities

Field Research in Japan

March, 2005 Kagoshima Prefecture (Research on tree, *Myrica rubra* on Yakushima Island)

July, 2004 Gunma Prefecture (Research on endemic plant, *Japonolirion osense*, on Mt. Shibutsu)

June-July, 2004 Kagoshima Prefecture (Research on myco-heterotrophic plant *Monotrpastrum globosum* f. *roseum* on Mt. Kirishima)

April-December, 2005 Kyoto Prefecture (Vegetation research in Kamigamo district, Kyoto for new laboratory of RIHN under construction)

April-July, 2004 Shiga Prefecture (Research on myco-heterotrophic plant *Monotrpastrum globosum* on Mt. Nagara)

Social Activities and Public Lectures

February, 2005- Participation in NPO, Center for Restoration of Regional Nature

June 10 and June 17, 2004 "Collecting mushrooms in the Kyoto Imperial Palace" Lecturer for Elementary School of Gosho-minami, Kyoto City

April-July, 2004 Lecturer for Biology, Faculty of Science and Engineering, Ritsumeikan University

April, 2004- "What are living in the Botanical Garden of Faculty of Science, Kyoto University?" Essay for Kyoto University CO-OP

April, 2004- Management of monthly short tours in the Botanical Garden of Faculty of Science, Kyoto University and in Mt. Yoshida, Kyoto City

INOUE, Mitsuyuki — Research Fellow

Born in 1971.

Curriculum Vitae

Academic Career

Department of Oriental History, Graduate school of Letters, Kyoto University, D. Course (2001)

Department of Oriental History, Graduate school of Letters, Kyoto University, M. Course (1998)
Department of Oriental History, Faculty of Letters, Kyoto University (1995)

Professional Career

Research Fellow, Research Institute for Humanity and Nature (2003)
Research Assistant, Institute for Research in Humanities, Kyoto University (2002)
Research Fellow, Documentation and Information Center for Chinese Studies, Institute for Research in Humanities, Kyoto University (2002)

Higher Degrees

Litt. D. (Kyoto University, 2004)
Litt. M. (Kyoto University, 1998)

Fields of Specialization / Background

Oriental History

Academic Society Memberships

Tōyōshi Kenkyūkai (The Society of Oriental History), Shigaku Kenkyūkai (The Society of Historical Research)

Major Publications

Articles

Inoue, Mitsuyuki

2004 "On the Merchants of Huizhou and the Art Market during the Late Ming and the Early Qing Period: An Analysis Based on Wu Qizhen'z *Shu-hua-ji*", *Shirin* 87-4: 34-65. (in Japanese)

Activities in Academic Societies

Poster Presentation

August, 2004 "The transition of Juyanze lake viewed from the old maps", The 4th International Symposium on the Tibetan Plateau, Lhasa, China.

Research Activities

Field Research in Foreign Countries

August-September, 2004 China (Research on the documents and the ceramics in Neimenggu Districts)

ISHII, Reiichiro — Research Fellow

Born in 1969.

Curriculum Vitae

Academic Career

Graduate School of Science, Kyoto University, D. Course (1999)
Graduate School of Science, Kyoto University, M. Course (1996)
Faculty of Agriculture, Kyoto University (1994)

Professional Career

JSPS Research Fellow (DC2), Kyoto University (1997-1999)
JSPS Postdoctoral Research Fellow (PD), University of Tokyo (1999-2001)
JSPS Postdoctoral Research Fellow (PD), Kyoto University (2001-2002)
AIST Postdoctoral Research Fellow (PD), National Institute of Advanced Industrial Science and Technology (2002-2004)

Higher Degrees

D. Sci. (Kyoto University, 1999)

M. Sci. (Kyoto University, 1996)

Fields of Specialization / Background

Global Environmental Studies, Theoretical Ecology

Academic Society Memberships

Ecological Society of Japan, Botanical Society of Japan

Major Publications

Ishii, Reiichiro and Higashi, Masahiko

2001 Coexistence induced by pollen-limitation in flowering plant species. *Proceedings of the Royal Society of London Series B.* 268, 579-586.

Activities in Academic Societies

Oral Presentations

Ishii, R., Horiguchi, F., Nakanishi, J. and Yachi, S.

2005 Mar. "To evaluate relative effect of chemicals on aquatic population among multiple anthropological threats" The 52nd Annual Meeting of the Ecological Society of Japan, Osaka

Yachi, S. and Ishii, R.

2005 Mar. "An trans-scale approach for understanding the spatial and temporal ecological patterns" The 52nd Annual Meeting of the Ecological Society of Japan, Osaka

Ishii, R.

2004 Oct. "Effects of anthropological impacts on lake ecosystem – modeling approach" in workshop on "Regime shifts in lake ecosystems – seeking an effective interdisciplinary methodology for lake ecosystem diagnosis and its management" Kyoto

Ishii, R. and Crawley, M.

2002 Mar. "Herbivory-induced coexistence of plant species" The 49th Annual Meeting of the Ecological Society of Japan, Sendai

Ishii, R. and Higashi, M.

2000 Mar. "Coexistence induced by pollen-limitation in flowering plant species" The 47th Annual Meeting of the Ecological Society of Japan, Higashi-Hiroshima

Proposition

2004 Oct. Workshop on "Regime shifts in lake ecosystems – seeking an effective interdisciplinary methodology for lake ecosystem diagnosis and its management", Kyoto

2004 Sept. Human-Impact Seminar #1, Otsu

2004 Oct. Human-Impact Seminar #2, Otsu

2004 Nov. Human-Impact Seminar #3, Kyoto

2005 Jan. Human-Impact Seminar #4, Otsu

Research Activities

Field Research in Japan

2004 May, Sept. and Nov. Lake Biwa watershed (Biological Observation)

KATAGIRI, Shuichiro — Research Fellow

Born in 1970.

Curriculum Vitae

Academic Career

Graduate School of Science and Technology, Tokyo University, D. Course (1998)

Graduate School of Science and Technology, Tokyo University, M. Course (1995)

Faculty of Engineering, Waseda University (1995)

Professional Career

Research fellow, Research Institute for Humanity and Nature (2004)

COE research fellow, Center for Climate Research (2001)

Post-doctoral researcher, National Space Development Agency of Japan (2001)

Higher Degrees

D. Sc. (The University of Tokyo, 2001)

M. Sc. (The University of Tokyo, 1997)

Fields of Specialization / Background

Remote sensing

Major Publications

Articles

Radiative Characteristics of Cirrus Clouds as Retrieved from AVHRR, Shuichiro KATAGIRI and Teruyuki NAKAJIMA, *JMSJ*, 2004

KIMOTO, Yukitoshi — Research Fellow

Born in 1973.

Curriculum Vitae

Academic Career

Department of Botany, Graduate School of Science, Kyoto University, D. Course (2004)

Division of Human and Environmental Studies, Graduate School of Human and Environmental Studies, Kyoto University, M. Course (2001)

Department of Environmental Studies, Faculty of Integrated Human Studies, Kyoto University (1999)

Professional Career

Research Fellow, Research Institute for Humanity and Nature (2004)

Higher Degrees

Ph. D. (Science) (Kyoto University, 2004)

M. Human and Environment (Kyoto University, 2001)

Fields of Specialization / Background

Plant systematics, Plant morphology

Academic Society Memberships

The Japan Society for Plant Systematics, The Botanical Society of Japan, The Botanical Society of America

Major Publications

Articles

Kweon, H., Y. Kimoto, M. Riveros and H. Tobe

2004 Embryology of Gomortegaceae (Laurales): characteristics and character evolution. *Journal of Plant Research* 117: 201-208.

Kimoto, Y. and H. Tobe

2003 Embryology of Siparunaceae (Laurales): characteristics and character evolution. *Journal of Plant Research* 116: 281-294.

Kimoto, Y. and H. Tobe

2001 Embryology of Laurales: a review and perspectives. *Journal of Plant Research*. 114: 247-267.

Kimoto, Y. and T. Tokuoka

1999 Embryology and relationships of *Stachyurus* (Stachyuraceae). *Acta Phytotaxomica et Geobotanica* 50: 187-200.

Activities in Academic Societies

Oral Presentations

September 2003 "Kusunokimokuniokeru kaisibouno hasseigakutekikenkyū (A developmental study in Laurales)" (The 67th Annual Meeting of the Botanical Society of Japan) Hokkaido Conventional Center, Japan. (in Japanese)

September 2002 "Hasunohagirika (Kusunokimoku) no seishokukikanno kaibougakutekikenkyū [An embryolopgical study of *Illigera* and *Sparattanthelium* (Hernandiaceae, Laurales)]" (The 66th Annual Meeting of the Botanical Society of Japan) Kyoto University, Japan. (in Japanese)

September 2001 "Siparunaka (Kusunokimoku) no seishokukikan (yaku, haishu, shushi) no kaibougakutekikenkyū [An embryological study of Siparunaceae (Laurales)]" (The 65th Annual Meeting of the Botanical Society of Japan) Tokyo, Japan. (in Japanese)

March 2001 "Monimiaka Morinediaaka (Kusunokimoku) no seishokukikan no kaibougakutekikennkyū [An embryological study of Mollinedioideae (Monimiaceae, Laurales)]" (The 31th Annual meetings of Japanese Society for Plant Systematics) Gifu University, Japan. (in Japanese)

Poster Presentation

March 2004 "Kusunokimokuniokeru seishokukikanno kouzouno tayousei to sinka (A developmental study on the diversity and evolution of the reproductive structures in Laurales)" (The 3rd Annual Meetings of Japanese Society for Plant Systematics) Hiroshima University, Japan. (in Japanese)

KUME, Takashi — Research Fellow

Born in 1973.

Curriculum Vitae

Academic Career

Graduate school of Agriculture, Kyoto University, D. Course (2004)

Graduate school of Agriculture, Gifu University, M. Course (2000)

Faculty of Agriculture, Gifu University (1998)

Professional Career

Research Fellow, Research Institute for Humanity and Nature (2004)

Higher Degrees

D. Agr. (Kyoto University, 2004)

M. Agr. (Gifu University, 2000)

Fields of Specialization / Background

Irrigation and Drainage, Soil Hydrology

Academic Society Memberships

The Japanese Society of Irrigation, Drainage and Reclamation Engineering

The Japanese Association for Arid Land Studies

Major Publications

Articles

Takashi Kume, Takanori Nagano, Tsugihiro Watanabe, Toru Mitsuno, Chaolunbagen

2005 Effect of Leaching Irrigation on the Spatial Distribution of Soil Salinity in the Hetao Irrigation District in China, *ICID*, Beijing, China (accepted).

Keisuke HOSHIKAWA, Tsugihiro WATANABE, Takashi KUME, and Takanori NAGANO

2005 A Model for Assessing the Performance of Irrigation Management Systems and Studying Regional Water Balances in Arid Zones, *ICID*, Beijing, China (accepted).

Takashi Kume, Takanori Nagano, Tsugihiro Watanabe, Toru Mitsuno

2004 Effect of Leaching Irrigation on Soil Salinity Distribution in Poor Drainage Field, Transactions of the Japanese Society of Irrigation, *Drainage and Reclamation Engineering*, vol. 233, 21-28.

Takashi Kume, Takanori Nagano, Tsugihiro Watanabe, Toru Mitsuno

2004 Analysis of Heterogeneous Soil Salinity Distribution in a Poor Drainage Field, Transactions of the Japanese Society of Irrigation, *Drainage and Reclamation Engineering*, vol. 234, 19-26.

Takashi KUME, Takao Amaya, Toru Mitsuno

2003 The Effect of Soil Desalinization in the Hetao Irrigation District, Inner Mongolia, China, Transactions of the Japanese Society of Irrigation, *Drainage and Reclamation Engineering*, 223, 133-139.

Takashi Kume, Takanori Nagano, Tsugihiro Watanabe, Toru Mitsuno

2003 Salinity Measurement of Homogeneous Soil Using Electromagnetic Induction Method, Transactions of the Japanese Society of Irrigation, *Drainage and Reclamation Engineering*, 227, 105-111.

Takashi KUME, Tsugihiro WATANABE and Toru MITSUNO

2002 Soil Salinity assessment in Hetao irrigation district using electromagnetic induction Technique, The International Conference on the Optimum Allocation of Water Resource, the Ecological Environment Construction and the Sustainable Development in Arid Zone, *Inner Mongolia University Publishing*, China, 132-137.

Takashi KUME, Kiyoshi Torii and Toru Mitusno

2000 Approach to Land-use analysis in Hetao irrigation project of Inner Mongolia, China, based on satellite image data, *Proceedings of The 21st Asian Conference on Remote Sensing*, Taipei, TAIWAN, December 2000, 1118-1123.

Activities in Academic Societies

Engineering

Takashi Kume, Takanori Nagano, Tsugihiro Watanabe, Toru Mitsuno

2004 An Analysis of Effect of Ponding Irrigation on Desalinization Using Multipoint Measurement Data, Annual meeting of the Japanese Society of Irrigation, *Drainage and Reclamation Engineering*, 468-469.

Takashi Kume, Takanori Nagano, Tsugihiro Watanabe, Toru Mitsuno

2003 An Analysis of Soil Salinization Distribution Pattern using Multipoint Measurement, Annual meeting of Kyoto branch office of the Japanese Society of Irrigation, *Drainage and Reclamation.*

Takashi Kume, Takanori Nagano, Tsugihiro Watanabe, Toru Mitsuno

2003 Soil Salinity Measurement using Electromagnetic Induction Method, Annual meeting of the Japanese Society of Irrigation, *Drainage and Reclamation Engineering*, 936-937.

Takashi Kume, Toru Mitsuno, Tugihiro Watanabe

2002 A method of soil salinization assessment in Hetao irrigation district using EM-38, Annual meeting of the Japanese Society of Irrigation, *Drainage and Reclamation Engineering*, 720-721.

Takashi Kume, Kiyoshi Torii, Toru Mitsuno

2001 Approach to soil salinization analysis in Hetao irrigation district using GIS, Annual meeting of the Japanese Society of Irrigation, *Drainage and Reclamation Engineering*, 636-637.

Research Activities

Field Research in Foreign Countries

May and June, 2004	Turkey (Impact of Climate Change on Agricultural Production System in the Arid Areas)
July, 2004	People of Rep. of China (Impact of Climate Change on Agricultural Production System in the Arid Areas)
Nov., 2004	Turkey (Impact of Climate Change on Agricultural Production System in the Arid Areas)

MATSUOKA, Masayuki — Research Fellow

Born in 1970.

Curriculum Vitae

Academic Career

Graduate School of Science and Technology, Chiba University, D. Course (1998)

Graduate School of Science and Technology, Chiba University, M. Course (1995)

Faculty of Engineering, Chiba University (1993)

Professional Career

Research fellow, Research Institute for Humanity and Nature (2003)

Post-doctoral researcher, National Space Development Agency of Japan (2000)

Post-doctoral researcher, Japan Science and Technology Agency (1998)

Higher Degrees

D. (Engineering) (Chiba University, 1998)

M. (Engineering) (Chiba University, 1995)

Fields of Specialization / Background

Remote sensing

Academic Society Memberships

Japan Society of Photogrammetry and Remote Sensing, Remote Sensing Society of Japan

Major Publications

Articles

None in special

Research Activities

Presentations

Matsuoka Masayuki

2005 "Land cover classification on East Asia using MODIS product" (in Japanese), 14th Institute of Industrial Science Forum on Global Environmental Monitoring from the Space.

Matsuoka Masayuki

2004 "Land cover classification over Yellow River basin using MODIS data", First International Workshop on Land Cover Study of Mongolia Using Remote Sensing/GIS.

2004 "Land cover classification over Yellow River basin using satellite data" (in Japanese), Annual Conference of the Japan Society of Photogrammetry and Remote Sensing.

2004 "Analysis of the land cover and its change over Yellow River basin using satellite data", XXth Congress of the International Society for Photogrammetry and Remote Sensing.

2004 "Land cover classification over Yellow River basin using MODIS data for hydrological modeling", Western Pacific Geophysics Meeting.

2004 "Land cover classification over Yellow River basin using satellite data", IEEE International Geoscience and Remote Sensing Symposium.

2004 "Feasibility study on change detection of land cover using Pathfinder AVHRR Land data set" (in Japanese), Fall Conference of the Japan Society of Photogrammetry and Remote Sensing.

2004 "Land cover analysis on Yellow River basin using remote sensing data", 2nd International Workshop on Yellow River Studies.

Field Research in Foreign Countries

June, 2004 China (Hydrological research in Yellow River Basin)

MIYAKE, Takayuki ——— Research Fellow

Born in 1971.

Curriculum Vitae

Academic Career

Graduate School of Biosphere Sciences, Hiroshima University, D. Course (2000)

Graduate School of Biosphere Sciences, Hiroshima University, M. Course (1997)

Division of Environmental Sciences, Faculty of Integrated Arts and Sciences, Hiroshima University (1995)

Professional Career

Research Fellow, Research Institute for Humanity and Nature (2003-2005)

Research Fellow, Hydrospheric Atmospheric Research Center, Nagoya University (2001)

Higher Degrees

Ph. D. (Hiroshima University, 2000)

M. Ph. (Hiroshima University, 1997)

Fields of Specialization / Background

Environmental Chemistry, Atmospheric Chemistry

Academic Society Memberships

The Chemical Society of Japan, Japan Society for Atmospheric Environment, The Japan Society for Analytical Chemistry, Japanese Society of Snow and Ice

Major Publications

Articles

Miyake, T., Nakazawa, F., Kohno, M., Uetake, J., Suzuki, K., Kameda, T., Fujii, Y., Nakawo, M. and Ohta, K.

2005 Concentrations, deposition rates and source variations of *n*-alkanes in Sofiyskiy Glacier, Russian Altai Mountains, *Bulletin of Glaciological Research* 22: 81-87.

Sakugawa, H., Arakaki, T., Masuda, N., Miyake, T., Chiwa, M. and Hirakawa, T.

2005 Measurements of atmospheric peroxides on Mt. Oyama, Kanagawa Prefecture, Japan, *Journal of Japan Society for Atmospheric Environment* 40(2): 84-93. (in Japanese with English abstract)

Arakaki, T., Shibata, M., Miyake, T., Hirakawa, T. and Sakugawa, H.

2004 Enhanced formation of formate by freezing in folutions of hydrated formaldehyde-metal-hydrogen peroxide, *Geochemical Journal* 38(4): 383-388.

Activities in Academic Societies

Poster Presentations

August, 2004 "Alkanes in Belukha Glacier, Russian Altai Mountains", The 4th International Symposium on the Tibetan Plateau, Lhasa, China.

December, 2004 "Variation of hydrogen peroxide concentrations in an ice core and snow samples at Belukha Glacier, Russian Altai Mountains", The twenty-seventh Symposium on Polar Meteorology and Glaciology, Itabashi, Tokyo, Japan. (in Japanese)

January, 2005 "Variation of dust concentration in an ice core at Belukha Glacier, Russian Altai Mountains", 4th ADEC Workshop (Aerolian Dust Experiment on Climate Impact), Nagasaki, Japan.

MURATA, Fumie — Research Fellow

Born in 1976.

Curriculum Vitae

Academic Career

Graduate School of Science and Technology, Kobe University, D. Course (2003)

Graduate School of Science and Technology, Kobe University, M. Course (2000)

Faculty of Human Development, Kobe University (1998)

Professional Career

Research fellow, Research Institute for Humanity and Nature (2004)

Research fellow, Disaster Prevention Research Institute, Kyoto University (2003)

Higher Degrees

D. Sc. (Kobe University, 2003)

M. Sc. (Kobe University, 2000)

Fields of Specialization / Background

Meteorology

Academic Society Memberships

Meteorological Society of Japan

Major Publications

Articles

Murata F., M. D. Yamanaka, M. Fujiwara, S. Ogino, H. Hashiguchi, S. Fukao, M. Kudsy, T. Sribimawati, and S. W.

B. Harijono, and E. Kelana

2002 "Relationship between wind and precipitation observed with a UHF radar, rawinsondes and surface meteorological instruments at Kototabang, West Sumatera during September-October 1998", *J. Meteor. Soc. Japan* 80(3), 347-360.

Matsumoto, J., F. Murata, and H. Asada

2005 "A travel to Meghalaya Plateau, India - rainiest place in the world" Chiri, 50-1, 96-105. [in Japanese]

Activities in Academic Societies

May 2004 Murata, F., M. D. Yamanaka, S. Ogino, H. Hashiguchi, M. Fujiwara, Tien Sribimawati, Mahally Kudsy, Sri Woro B. Hariyjono and Eddy Kelana
"Study of convective clouds in Indonesia." Meeting of Meteorological Society of Japan, Tokyo

July 2004 Murata, F., M. D. Yamanaka, S. Ogino, H. Hashiguchi, M. Fujiwara, T. Sribimawati, M. Kudsy, S. W. B. Harijono and E. Kelana
"Dry intrusion observed at Sumatera Island during 6-7 Oct, 1998", Asia Oceania Geoscience Society Conference, Singapore

December 2004 Murata, F., M. D. Yamanaka, H. Hashiguchi, T. Sribimawati and M. Kudsy
"Dry intrusion observed in Sumatera Island" GEWEX Asia Monsoon Experiment Conference Kyoto

December 2004 Murata, F, M. D. Yamanaka, H. Hashiguchi, S. Mori, M. Kudsy, T. Sribimawati, B. Suhardi and Emrizal
"A factor of convective suppression in Sumatera Island" Coupling Process of Equatorial Atmosphere Workshop in Tokyo

January 2005 Murata, F., J. Matsumoto and H. Asada
"Rainfall in the Meghalaya Plateau, northeast India, and its relation floods in Bangladesh" Monitoring Prediction and Mitigation of Water-Related Disasters-2005 Conference, Kyoto

Research Activities

Field Research in Foreign Countries

April-May 2004 Indonesia (Meteorological Observation)

August 2004 India, Bangladesh, Vietnam (Meteorological data collection)

March 2005 Bangladesh, Nepal (Meteorological data collection)

NAGANO, Takanori — JSPS Research Fellow

Born in 1970.

Curriculum Vitae

Academic Career

Division of Science and Technology on Regional Environment, Graduate School of Agriculture, Kyoto University, D. Course (2002)

Division of Science and Technology on Regional Environment, Graduate School of Agriculture, Kyoto University, M. Course (1997)

Department of Agricultural Engineering, Faculty of Agriculture, Kyoto University (1995)

Professional Career

Reserch Fellow, Research Institute for Humanity and Nature (2001)

Higher Degrees

D. Agr. (Kyoto University, 2002)

M. Agr. (Kyoto University, 1997)

Fields of Specialization / Background

Irrigation and Drainage, Soil Hydrology

Academic Society Memberships

The Japanese Society of Irrigation, Drainage and Reclamation Engineering, The Japanese Association for Arid Land Studies, Japan Association for African Studies

Awards

Scientific Paper Encouragement Award, The Japanese Society of Irrigation, Drainage and Reclamation Engineering (2004)

Major Publications

Articles

Masuoka K., Fujinawa K., Furukawa M., Nagano T. and Watanabe T.

2005 Chikyuondanka niyoru kaimenjoushou ga zeromētorutitai no tikasuikankyou ni oyobosu eikyou ni kansuru jikkentekikenkyuu (Experimental studies for identifying the impacts of sea-level rise caused by global warming on groundwater environment in areas below sea-level.) *Journal of Groundwater Hydrology* 47(1), 19-28.

Hoshikawa K., Watanabe T., Kume T. and Nagano T.

2005 A Model for assessing the performance of irrigation management systems and studying regional water balances in arid zones. ICID, Beijing, China (accepted).

Kume T., Nagano T., Watanabe T., Mitsuno T. and Chaolunbagen

2005 Effect of leaching irrigation on the spatial distribution of soil salinity in the Hetao irrigation district in China. ICID, Beijing, China (accepted).

Kume T., Nagano T., Watanabe T. and Mitsuno T.

2004 Denjiyudohou ni yoru haisuifuryounouti no enbunbunpukaiseki, (Effect of leaching irrigation on soil salinity distribution in poor drainage field.) *Transactions of The Japanese Society of Irrigation, Drainage and Reclamation Engineering*, No. (72)5, 21-28. (In Japanese)

Kume T., Nagano T., Watanabe T. and Mitsuno T.

2004 Haisuifuryounouti ni okeru fukinituenbunbunpu no keiseiyouin (Analysis of heterogeneous soil salinity distribution in a poor drainage field.) *Transactions of The Japanese Society of Irrigation, Drainage and Reclamation Engineering*, No. (72)6, 19-26. (In Japanese)

Activities in Academic Societies

Nagano T.

2004 Chikyukankyougaku ni okeru Nogyodoboku ("Nogyodoboku" in global environmental studies.) Annual meeting of The Japanese Society of Irrigation, *Drainage and Reclamation Engineering*, 82-83.

Kume T., Nagano T., Watanabe T. and Mitsuno T.

2004 Tatenenbunkansoku niyoru joenkangaikouka no kenshou (An analysis of effect of ponding irrigation on desalinization using multipoint measurement data.) Annual meeting of The Japanese Society of Irrigation, *Drainage and Reclamation Engineering*, 468-469.

Nagano T. and Horino H.

2004 Biomass management is the key to sustain agriculture in the Sahel. In M. Mihara and E. Yamaji eds.

Proceedings of international symposium on participatory strategy for soil and water conservation. Institute of environment rehabilitation and conservation. 119-124.

Research Activities

Field Research in Foreign Countries

April, 2004 Turkey (Impact of Climate Changes on Agricultural Production System in the Arid Areas)

May, 2004 China P. R. (Historical Evolution of the Adaptability in an Oasis Region to Water Resource Changes)

October, 2004 Turkey (Impact of Climate Changes on Agricultural Production System in the Arid Areas)

NAKAGAWA, Michiko — JSPS Research Fellow

Born in 1975.

Curriculum Vitae

Academic Career

Center for Ecological Research, Kyoto University, D. Course (2003)

Center for Ecological Research, Kyoto University, M. Course (2000)

Faculty of Agriculture, Kyoto University (1998)

Professional Career

JSPS Research Fellow PD (2004)

JSPS Research Fellow (2001)

Higher Degrees

M. Sc. (Kyoto University, 2000)

PhD (Kyoto University, 2003)

Fields of Specialization / Background

Forest ecology

Academic Society Memberships

Japanese Ecological Association

Major Publications

Published papers

Nakagawa, M. and Nakashizuka, T.

2004 Relationship between physical and chemical characteristics of dipterocarp seeds. *Seed Science Research* 14: 363-369.

Kenta, T., Isagi, Y., Nakagawa, M., Yamashita, M., Nakashizuka, T.

2004 Variation in pollen dispersal between years with different pollination conditions in a tropical emergent tree. *Molecular Ecology*, 13, 3575-3584.

Manfroi, O. J., Kuraji, K., Tanaka, N., Suzuki, M., Nakagawa, M., Nakashizuka, T. & Chong, L.

2004 The stemflow of trees in a Bornean lowland tropical forest. *Hydrological processes*, 18: 2455-2474.

Presentation

1) Nakagawa, M., Nakashizuka, T., Miguchi, H. and Takahashi, K. 2004. Terrestrial small mammal communities in various forest types used by local Iban people. 51th Meeting of Japanese Ecological Association. August 2004.

Research Activities

Sarawak, Malaysia: Biodiversity and canopy ecology in a tropical forest (Apr., May-Aug., 2004, Jan.-Mar., 2005)

NISHIMURA, Yuichiro — Research Fellow

Born in 1970.

Curriculum Vitae

Academic Career

Department of Geography, Faculty of Letters, Nagoya University, D. Course (2003)

Department of Geography, Faculty of Letters, Nagoya University, M. Course (1997)

Professional Career

Research Fellow, Research Institute for Humanity and Nature (2003)

Higher Degrees

D. Geography. (Nagoya University, 2003)

M. Geography. (Nagoya University, 1997)

Fields of Specialization / Background

Socio-Economic Geography, Time Geography

Academic Society Memberships

The Association of Japanese Geographers, The Human Geographical Society of Japan, The Japan Association of Economic Geographers, Association of American Geographers

Major Publications

Articles

Yuichiro Nishimura

2004 International symposium on Gender, media urban space, 2nd session: Contradictions in modern urban space comments *Yearbook of Tokyo Keizai University Academic Research Center* 4: 191-195. (in Japanese)

Yuichiro Nishimura and Kohei Okamoto

2004 Structure of daily human life and the social reproduction in Laos. *RIHN project 4-2 annual report 2004*: 255-258.

Activities in Academic Societies

August, 2004 Is new gender order emerging? Changes of everyday life in 1990's restructuring. (The 30th Congress of the International Geographical Union) Glasgow, Scottland.

April, 2005 Time-geographical Analysis on the Daily Lives of Village People in Laos. (The Association of American Geographers 2005 Annual Meeting) Denver, Colorado.

April, 2005 Session Organizer: Humanity and Nature in Vientiane Plain, Laos. (The Association of American Geographers 2005 Annual Meeting) Denver, Colorado.

Research Activities

Field Research in Japan

March, 2005 Niigata Pref. (Research about the damages and reconstruction of the daily life by Chuetsu earthquake)

Field Research in Foreign Countries

September, 2004 Lao P. D. R. (Eco-history and time-geographical study on wetland)

February, 2005 Lao P. D. R. (Eco-history and time-geographical study on wetland)

ONISHI, Hideyuki — Research Fellow

Born in 1969.

Curriculum Vitae

Academic Career

Department of history (Archaeology), Faculty of Literature, University of Hokkaido, D. Course (2001)

Department of history (Archaeology), Faculty of Literature, University of Hokkaido, M. Course (1995)

Department of history, Faculty of Literature, Meiji University (1993)

Professional Career

JSPS Research Fellow DC2 (1997-1999)

JSPS Research Fellow PD (2002)

Higher Degrees

Ph. D. (The Graduate University for Advanced Studies, National Museum of Ethnology, 2005)

Fields of Specialization / Background

Anthropology, Archaeology

Academic Society Memberships

Japanese Society of Cultural Anthropology, The Japanese Archaeological Association, The Society of Ecological Anthropology, The Japanese Society for Oceanic Studies

Major Publications

Articles

ONISHI, Hideyuki

2004 Satsumon-bunka no Tenkai to "Tobinitai-bunka" no Seiritu: Okhotsk-bunka to Satsumon-bunka no Sessyoku Yugo ni Kansuru Ichikosatsu (Diffusion of Satsumon Culture and Establishment of the "Tobinitai" Culture: a study on the contact and hybridization between the Okhotsk culture and the Satsumon culture) *Kodai*: Journal of the Archaeological Cociety of Waseda University, 115: 125-156.

ONISHI, Hideyuki

2004 A Research Report on Management system of fishing territory and bamboo-rattan use in the Ing River of Mekong Watershed in Northern Thailand. *A Transdisciplinary Study on the Regional Eco-History in Tropical Monsoon Asia: 1945-2005*, Annual Report 2003: 35-48 Research Institute for Humanity and Nature.

KAWABE, Toshio, Taro YAMAUCHI and Hideyuki ONISHI

2004 A Research Plan of 'Human Growth and Physical Activity' UNIT. *A Transdisciplinary Study on the Regional Eco-History in Tropical Monsoon Asia: 1945-2005*, Annual Report 2003: 200-203 Research Institute for Humanity and Nature.

Research Activities

Field Research in Japan* Field Research in Foreign Countries

February, 2005 — Tokuno-island, Japan (Ethnographical Research on "Traditional" Handicraft and Common-use Property)

Field Research in Foreign Countries

August-September, 2004 — Lao P. D. R. (Ethnographical Research on Common-use Property in Lahanam Zone, Southern part of the country)

November-Desember, 2004 — Lao P. D. R. (Ethnographical Research on Common-use Property in Lahanam Zone, Southern part of the country)

SATO, Yoshinobu — Research Fellow

Born in 1973.

Curriculum Vitae

Academic Career

Graduate School of Bioresourse and Bioenvironmental Sciences, Kyushu University, D. Course (2003)

Graduate School of Bioresourse and Bioenvironmental Sciences, Kyushu University, M. Course (2000)

Faculty of Agriculture, Kyushu University (1998)

Professional Career

Research fellow, Research Institute for Humanity and Nature (2004)

Research fellow, Institute of Tropical Agriculture, Kyushu University (2003)

JSPS Research fellow, Kyushu University (2000)

Higher Degrees

D. Agr. (Kyushu University, 2003)

M. Agr. (Kyushu University, 2000)

Fields of Specialization / Background

Forest Hydrology

Academic Society Memberships

The Japan Society of Forestry, The Japan Society of Hydrology and Water Resources

Major Publications

Articles

Saitoh, T. M., Kumagai T., Sato Y. and Suzuki, M.

2005 Carbon Dioxide Exchange over a Bornean Tropical Rainforest. *Journal of Agricultural Meteorology* 60(5): 553-556.

Kumagai, T., Saitoh, T. M., Sato, Y., Manfroi, O. J., Morooka, T., Kuraji, K., Suzuki, M. and Komatsu, H.

2005 Annual water balance and seasonality of evapotranspiration in a Bornean tropical rainforest. *Agricultural and Forest Meteorology* 128(1-2): 81-92.

Sato, Y., Kumagai, T., Saitoh, T. M. and Suzuki, M.

2004 Characteristics of soil temperature and soil heat flux within a tropical rainforest, Lambir Hills National Park, Sarawak, Malaysia. *Bulletin of the Institute of Tropical Agriculture*, Kyushu University 27: 55-63.

Kuraji, K., Sato, Y. and Kaneko, S.

2004 Launching Japanese Long Term Ecological Research (JaLTER) by the Japan Ecosystem Research Network (JERN) and reports of US-LTER and CERN (Chinese Ecosystem Research Network). *Japan Society of Hydrology & Water Resources* 17(4): 424-429. [in Japanese]

Saitoh, T. M., Kumagai, T., Sato, Y. and Suzuki, M.

2004 The automatic measurement system of CO2 profiles in the tree canopies. *Journal of Japan Society of Hydrology & Water Resources* 17(6): 648-653. [in Japanese]

Kumagai, T., Katul, G. G., Saitoh, T. M., Sato, Y., Manfrol, O. J., Morooka, T., Ichie, T., Kuraji, K., Suzuki, M. and Porporato, A.

2004 Water cycling in a Bornean tropical rainforest under current and projected precipitation scenarios. *Water Resources Research* 40(1), W01104, doi 10.1029/2003WR002226.

Kumagai, T., Saitoh, T. M., Sato, Y., Morooka, T., Manfroi, O. J., Kuraji, K. and Suzuki, M.

2004 Transpiration, canopy conductance and the decoupling coefficient of a lowland mixed dipterocarp forest in Sarawak, Borneo: dry spell effects. *Journal of Hydrology* 284(1-4): 237-251.

Sato, Y., Kumagai, T., Kume, A., Otsuki, K. and Ogawa, S.

2004 Experimental analysis of moisture dynamics of the litter layer -The effects of rainfall conditions and litter shapes- *Hydrological Processes* 18(16): 3007-3018.

Sato, Y., Ma, X., Matsuoka, M., Hoshikawa, K. and Fukushima, Y.

2004 Runoff Formation and Runoff Control System in Source Area of the Yellow River. Proceedings of 2nd International Workshop on Yellow River Studies, Nov. 8-10, 2004 Kyoto, 95-98.

Sato, Y., Kume, A., Otsuki, K. and Ogawa, S.

2004 Effects of difference in canopy structure on the distribution of throughfall -a comparison of throughfall characteristics between the coniferous forest and the broad-leaved forest-. Japan Society of Hydrology & Water Resources 16(6): 605-617. [in Japanese]

Sato, Y., Otsuki, K. and Ogawa, S.

2004 Estimation of the litter interception loss in the evergreen forest. Japan Society of Hydrology & Water Resources 16(6): 644-655. [in Japanese]

Sato, Y., Otsuki, K. and Ogawa, S.

2002 Experimental studies on litter interception of Cryptomeria japonica and Lithocarpus edulis. International Congress INTERPRAEVENT2002 in the Pacific Rim, MATSUMOTO/Japan, Oct. 2002, Congress publication. Volume 2: 973-980.

Activities in Academic Societies

April, 2000 Rita-sou no tsuusui/hosui kikou ni kansuru jissyouteki kentou (Experimental analysis of the mechanisms of the litter interception) (Nihon University) [in Japanese]

April, 2002 Matebashii rinn ni okeru nennkann kouu syadannryou no suitei (Estimation of annual rainfall interception of the Lithocarpus edulis stand) (Niigata University) [in Japanese]

March, 2003 Sugi rinn to matebashii rinn ni okeru usui haibunntokusei no hikaku (Rainfall partitioning in the Cryptomeria japonica and Lithocarpus edulis stand) (Iwate University) [in Japanese]

April, 2004 Ryuuiki seitaikenn ni okeru mizu/netu/bussitsu jyunnkann no tyouki monitaringu to kouiki hikaku kenkyuu (Long term monitoring and comparative studies of Water/Energy/Nutrient cycling in the catchments ecosystems) (Tokyo University) [in Japanese]

November, 2004 Runoff Formation and Runoff Control System in Source Area of the Yellow River (2nd International Workshop on Yellow River Studies)

Research Activities

Field Research in Foreign Countries

March, 2005 China P. R. (Collecting hydrological and meteorological data about the Yellow River Basin)

June-July, 2004 China P. R. (Hydrological research in the Yellow River Basin)

TAKAHASHI, Atsuhiro — Research Fellow

Born in 1971.

Curriculum Vitae

Academic Career

Department of Earth and Planetary Science, Graduate school of Science, Nagoya University, D. Course (2003)

Department of Earth and Planetary Science, Graduate school of Science, Nagoya University, M. Course (1999)

Department of Geophysics, Faculty of Science, Tohoku University (1997)

Professional Career

Research Fellow, Research Institute for Humanity and Nature (2003)

Higher Degrees

D. Sc. (Nagoya University, 2004)

M. Sc. (Nagoya University, 1999)

Fields of Specialization / Background

Meteorology, Soil physics

Academic Society Memberships

The Japan Society of Hydrology and Water Resources

Major Publications

Articles

Takahashi, Atsuhiro, Tetsuya Hiyama, Hiroshi A. Takahashi, and Yoshihiro Fukushima

2004 Analytical Estimation of the Vertical Distribution of CO_2 Production within Soil: Application to a Japanese Temperate Forest. *Agricultural and Forest Meteorology*, 126, 223-235.

Takahashi, Atsuhiro, and Tetsuya Hiyama

2004 A Momentum Exchange Model for the Surface Layer over Bare-Soil and Canopy-Covered Surfaces. *Journal of Applied Meteorology*, 43, 1460-1476.

Hamada, Shuko, Takeshi Ohta, Tetsuya Hiyama, Takashi Kuwada, Atsuhiro Takahashi, and Trofim C. Maximov

2004 Hydrometeorological Behaviors of Pine and Larch Forests in Eastern Siberia. *Hydrological Processes*, 18(1), 23-39.

Activities in Academic Societies

November, 2004 On applicability of air collision model for momentum transport in the atmospheric mixing layer. 2nd International Workshop on YELLOW RIVER STUDIES, Kyoto.

Research Activities

Field Research in Foreign Countries

May, 2004 China P. R. (Observations of the atmospheric boundary layer in Loess plateau)

June, 2004 China P. R. (Observations of the atmospheric boundary layer in Loess plateau)

August, 2004 China P. R. (Observations of the atmospheric boundary layer in Loess plateau)

November, 2004 China P. R. (Observations of the atmospheric boundary layer in Loess plateau)

December, 2004 China P. R. (Observations of the atmospheric boundary layer in Loess plateau)

January, 2005 China P. R. (Observations of the atmospheric boundary layer in Loess plateau)

March, 2005 China P. R. (Observations of the atmospheric boundary layer in Loess plateau)

TATENO, Ryunosuke — Research Fellow

Born in 1973.

Curriculum Vitae

Academic Career

Graduate School of Agriculture, Kyoto University D. Course (2003)

Graduate School of Agriculture, Kyoto University M. Course (1998)

Faculty of Agriculture, Kyoto University (1996)

Professional Career

Research Fellow, Research Institute for Humanity and Nature (2004)

Technical Assistant, Field Science Education and Research Center, Kyoto University (2003)

Higher Degrees

D. Agr. (Kyoto University, 2003)

M. Agr. (Kyoto University, 1998)

Fields of Specialization / Background

Forest Ecology

Academic Society Memberships

Ecological Society of Japan, Japanese Forestry Society, The Japanese Society of Forest Environment

Major Publications

Articles

Osada, N., Tateno, R., Hyodo, F. & Takeda, H.

2004 "Changes in crown architecture with tree height in two deciduous tree species: developmental constraints or plastic response to the competition for light?" *Forest Ecology and Management* 188: 337-347.

Nanami, S., Kawaguchi, H., Tateno, R., Li, C. & Katagiri, S.

2004 "Sprouting traits and population structure of co-occurring *Castanopsis* species in an evergreen broad-leaved forest in southern China." *Ecological Research* 19: 341-348.

Tateno, R., Hishi, T. & Takeda, H.

2004 "Above- and belowground biomass and net primary production in a cool-temperate deciduous forest in relation to topographical changes in soil nitrogen." *Forest Ecology and Management* 193: 297-306.

Fujimaki, R., Tateno, R., Hirobe, M., Tokuchi, N. & Takeda, H.

2004 "Fine root mass in relation to soil N supply in a cool temperate forest." *Ecological Research* 19: 559-562.

Hishi, T., Hirobe, M., Tateno, R. & Takeda, H.

2004 "Spatial and temporal patterns of water-extractable organic carbon (WEOC) of surface mineral soil in a cool temperate forest ecosystem." *Soil Biology and Biochemistry*, 36: 1731-1737.

Osada, N., Tateno, R., Mori, A. & Takeda, H.

2004 "Changes in crown development patterns and current-year shoot structure with light environment and tree height in *Fagus crenata* (Fagaceae)." *American Journal of Botany* 91: 1981-1989.

Shimatani, K., Saito, D., Kawachi, H., Tateno, R., Isagi, Y.

2004 "Quantitative assessment of spatial genetic structures resulting from gene flow and their visualization." *Japanese Journal of Ecology* 54: 165-178. (in Japanese)

Tateno, R., Katagiri, S., Kawaguchi, H., Nagayama, Y., Li, C., Sugimoto, A. & Koba, K.

2003 "The use of foliar ^{15}N and ^{13}C abundance to evaluate effects of microbiotic crust on nitrogen and water utilization of *Pinus massoniana* in deteriorated pine stands of south China." *Ecological Research* 18: 279-286.

Tateno, R., Morozumi, S. & Takeda, H.

2003 "Interspecific comparison of leaf area loss caused by insect herbivores in relation to leaf properties in a cool temperate deciduous broad-leaved forest." *Japanese Journal of Forest Environment* 45: 29-33.

Tateno, R. & Takeda, H.

2003 "Forest structure and tree species distribution in relation to topography-mediated heterogeneity of soil nitrogen and light at forest floor." *Ecological Research* 18: 559-571.

Tateno, R., Kawaguchi, H.

2002 "Difference in nitrogen use efficiency between canopy and subcanopy trees." *Ecological Research* 17: 695-704.

Aikawa, T., Tateno, R., Takeda, H.

2002 "Leaf phenology alomg a slope in a cool temperate deciduous forest" *Forest Research, Kyoto* 74: 23-36. (in Japanese)

Budget 2004

Expenditures (Fiscal Year 2004)

Category	Amount (Yen in thousands)
Personnel Expenses	571,930
Non-Personnel Expenses	1,481,987
Total	2,053,917

External Sources of Funding (Fiscal Year 2004)

Category	Amount (Yen in thousands)
Fund for Promotion of Academic and Industrial Collaboration	90,259
Grants-in-Aid for Scientific Research	66,570
Donation for Research	7,225

Research Fields of Project Members

Project		The number of project members		
		Natural Science	Humanities and Social Science	Multidisciplinary
1-1FR	Impact of climate changes on agricultural production system in arid areas	74	19	3
1-2FR	Recent rapid change of water circulation in the Yellow River and its effects for environment	22	4	16
2-1FR	Emissions of greenhouse gases and aerosols, and human activities in Eastern Asia	40	3	8
2-2FR	Sustainability and biodiversity assessment on forest utilization options	97	18	6
2-3PR	Human activities in Northeastern Asia and their impact to the biological productivity in North Pacific Ocean	34	5	2
2-4FS	Human activity impacts on urban subsurface environments	11	5	4
2-5FS	Erosion of genetic diversity as a social, ecological and environmental problem	28	18	6
3-1FR	Multidisciplinary research for understanding interactions between humans and nature in the Lake Biwa-Yodo River watershed	28	11	4
3-2FR	Interactions between natural environment and human social systems in subtropical islands	44	8	7
3-3FS	Environmental change and the decline of Indus Civilization	4	24	1
4-1FR	Historical evolution of the adaptability in an oasis region to water resource changes	49	33	15
4-2FR	A trans-disciplinary study on the regional eco-history in tropical monsoon Asia: 1945-2005	36	26	42
4-3FS	The growth of artificial environments in Eurasia and changes in world view	3	28	13
5-1FR	Global water cycle variation and the current world water resources issues and their perspectives	54	9	27
5-2FR	Interactions between the environmental quality of a watershed and the environmental consciousness: With reference to environmental changes caused by the human use of land and water resources	18	6	4
5-3FS	A new cultural and historical exploration into human-nature relationships in the Japanese Archipelago	35	13	7
Total		577	230	165

(As of June. 9, 2004)

Research background of project members

Natural sciences) Climatology, Meteorology, Hydrology, Hydraulics, Groundwater hydrology, Soil hydrology, Soil Science, Crop science, Forest ecology
Humanities and Social Sciences) Anthropology, Economics, Agricultural economics, Farm sociology, Resources economics
Multidisciplinary) Water resources engineering, Irrigation engineering, Rural planning, Rangeland ecology
Natural sciences) Satelite climatology, Marine science, Marine biology, Marine physics, Environmental geology, Climatology, Water circulation, Hydrology, ydrological Climatology, Hydrological geology, Geology
Humanities and Social Sciences) Material flow analysis, Developmental economics, Water resources, etc.
Multidisciplinary) Marine biology, Water quality environment, Irrigation, Biological Hydrology, Regional Planning, Ground water use, Geology, Agricultural ydrology, Agricultural biology, etc
Natural sciences) Satellite meteorology, Meteorology, Atmospheric chemistry, Atmosphere sciences, Atmospheric environment, Atmospheric physics
Humanities and Social Sciences) Economics, Demography
Multidisciplinary) Remote Sensing, Image information Science, Social engineering, Electrical engineering
Natural sciences) Fungi ecology, Entomological ecology, Systematic entomology, Population genetics, Phylogenetic botany, Plant ecology, Plant physiology, Plant xonomy, Forest management, Forest hydrology, Forest ecology, Forest biology, Mathematical biology, Animal ecology
Humanities and Social Sciences) Environmental economics, Environmental sociology, Anthropology, Regional studies, Forest economics
Multidisciplinary) Environmental and information studies, Forest policy
Natural sciences) Chemical oceanography, Marine meteorology, Physical oceanography, Climate change, Plant ecology, Forest ecology, Hydrology, ogeochemistry, Glaciology, Glacier biology, Glacier physics, Geochemical, Soil & Water Conservation, Glacier studies, Glacier climatology
Humanities and Social Sciences) Economics in far eastern Russia, Archaeology, Politics
Multidisciplinary) Forest environment science, Geography
Natural sciences) Satellite geodesy, Volcanology, Meteorology, Hydrology, Geodesic engineering, Groundwater hydrology, Fundamental system analyses of the rth, Geochemical earth system and global change, Earthquake
Humanities and Social Sciences) Environmental sociology, Environmental ecology, Economics of development, Historical geography
Multidisciplinary) Environmental dynamics, Environment conservation, Regional environmental studies, Geography
Natural sciences) Genecology, Breeding science, Archaeobotany, Plant genetics, Plant breeding, Botany, Cytogenetics, Anthropology, Ecology, Glacial biology, laciology
Humanities and Social Sciences) Environmental policy, Linguistics, Archaeology, Social science, Prehistoric anthropology
Multidisciplinary) Environmental Archaeology, Archaeo-anthropology, Plant genetic resources, Ethnobotany
Natural sciences) Coast oceanic physics, Applied ecology, Environmental engineering, Environmental phisiology, Fish ecology, Plant ecology, Aquatic microbial ology, Mathematical biology, Ecology, Biology, Animal ecology, Isotope ecology, Isotope biogeochemistry, Limnology, Inland water ecology, Watershed ecology, atershed conservation ecology, Watershed diagnosis study
Humanities and Social Sciences) Environmental ecomonics, Environmental sociology, Environmental psychology, Sociology, Social psychology, Cultural thropology
Multidisciplinary) Environmental system, Information geography, Mathematical ecology, Watershed diagnosis study
Natural sciences) Hydrology, Ecology in forests and coral reef area, Entomology, Ornithology, Ethology, Pollination ecology
Humanities and Social Sciences) Environmental sociology, Island economics, History
Multidisciplinary) Hydrology, Ecology, Sociology, Forest resources
Natural sciences) Ecology, Glacier biology, Agriculture
Humanities and Social Sciences) Indian studies, Linguistics, Archaeology, History of Chinese philosopy, Cultural anthropology
Multidisciplinary) Plant genetics
Natural sciences) Aerosols, Remote sensing, Satellite meteorology, Meteorology, Climatology, Forest ecology, Water circulation, Hydrological modeling, ydrology, Ecology, Glaciochemistry, Glaciology, Glacioclimatology, Glacial-biology, Hydrospheric-atmospheric science, Geochemistry, Geochemistry, Isotope emistry, Dendrochronology, Irrigation drainage, Organic chemistry, etc.
Humanities and Social Sciences) History of Mongolian empire, Archaeology, Philosophical history, Sociology, Social history, Political science, Xixia history, hinese history, Chinese philosophy, East Asian History, Chinese legal history, Cultural anthropology, Manchurian history, Ethnology
Multidisciplinary) Environmental archaeology, Environmental resourcesm Social environment, Forest biology, History of global environmenta
Natural sciences) Genetics, Marine plants ecology, Ecological science, Physical anthropology, Plant nutrition, Forest ecology, Human ecology, Ecology, Phycology, ological diversity and resources, Geography, Tropical medicine, Tropical hydrology, Tropical soil science, Tropical agriculture, Tropical health, Agricultural tterial sycle system, Ethno-soil science, Geriatrics
Humanities and Social Sciences) Medical anthropology, Sociology, Cultural anthropology, Anthropology, Archaeology, Geography, Folklore, Ethnology, History, storical anthropology, Historical geology
Multidisciplinary) Nutritional epidemiology, Developmental economics, School health, Environmental sociology, Fish ecology, Conservative ecology, Architectural thropology, International school health, Natural resources, Information culture, Plant genetics, Forest policy, Forest sociology, Forest ecology, Forest ecology use, man ecology, Fisheries economics, Population, Geology, Tropical medicine, Tropical public health, Tropical resources, Agriculture, etc.
Natural sciences) Forest ecology, Geoscience, Regional studies Southeast Asia
Humanities and Social Sciences) Aristotelian politics, Turkish history, Indian-Arabian history of Science, Shamanism, Polish history, Mongolian archaelology, onomics, Linguistics, Socio-Anthropology, Shamanistic music, Chinese history, Taoism, Cultural anthropology, Ryukyu-Okinawa studies, etc.
Multidisciplinary) Indian medical science, Marine anthropology, Socio-ecology, Chinese traditional sciences, Urban engineering, Regional anthropology
Natural sciences) Hydrology, Meteorology, Remote sensing, Information technology, Forestry, Biogeochemistry
Humanities and Social Sciences) Politics, International education, Human geology
Multidisciplinary) Natural resources management, Civil and urban engineering, Agricultural economics
Natural sciences) Plant ecology, Forest hydrology, Forest soil science, Biogeochemistry, Limnology, Palaeoenvironmentology
Humanities and Social Sciences) Environmental economics, Environmental sociology, Social psychology, Sociology
Multidisciplinary) Ecology, Social statistics, Infomatics, Environmental engineering
Natural sciences) Chemical ecology, Crop science, Population genetics, Plant physiology, Plant taxonomy, Forest ecology
Humanities and Social Sciences) Prehistoric anthropology, Philosophy, Japanese history, Folklore
Multidisciplinary) History of agriculture, Cultural anthropology

Number of Project Members

○Analysis Sheet by organizations

(As of June 10, 2004)

Title of the project	Sub total	RIHN	University / College			Inter-University Research Institute	Public Institution	Private Institution	Post doctral /Graduate student	Others	Overseas institution
			National	Public	Private						
1-1FR Impact of climate changes on agricultural production system in arid areas	96	7	21	2	1	1	1	0	9	2	52
1-2FR Recent rapid change of water circulation in the Yellow River and its effects for environment	42	8	20	0	0	0	2	0	0	1	11
2-1FR Emissions of greenhouse gases and aerosols, and human activities in Eastern Asia	51	5	20	1	4	4	14	1	0	0	2
2-2FR Sustainability and biodiversity assessment on forest utilization options	121	8	24	1	5	0	27	1	45	6	4
2-3PR Human activities in Northeastern Asia and their impact to the biological productivity in North Pacific Ocean	41	4	28	1	2	1	1	2	1	1	0
2-4FS Human activity impacts on urban subsurface environments	20	3	12	0	1	0	3	0	0	1	0
2-5FS Erosion of genetic diversity as a social, ecological and environmental problem	52	10	11	1	4	9	8	3	2	1	3
3-1FR Multidisciplinary research for understanding interactions between humans and nature in the Lake Biwa-Yodo River watershed	43	10	13	1	5	0	5	2	5	2	0
3-2FR Interactions between natural environment and human social systems in subtropical islands	59	6	30	0	7	0	3	1	7	3	2
3-3FS Environmental change and the decline of Indus Civilization	29	6	15	1	2	2	0	0	0	2	1
4-1FR Historical evolution of the adaptability in an oasis region to water resource changes	97	10	22	1	10	3	4	0	16	1	30
4-2FR A trans-disciplinary study on the regional eco-history in tropical monsoon Asia: 1945-2005	104	8	36	4	9	8	8	1	25	4	1
4-3FS The growth of artificial environments in Eurasia and changes in world view	44	4	24	3	7	1	1	0	2	1	1
5-1FR Global water cycle variation and the current world water resources issues and their perspectives	90	2	37	0	5	0	8	0	17	1	20
5-2FR Interactions between the environmental quality of a watershed and the environmental consciousness: With reference to environmental changes caused by the human use of land and water resources	28	4	14	1	1	0	5	2	0	1	0
5-3FS A new cultural and historical exploration into human-nature relationships in the Japanese Archipelago	55	6	19	6	5	4	5	0	9	1	0
Total	972	101	346	23	68	33	95	13	138	28	127

Name Index

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Keywords Index

Study Area Location Map