

## Small-Scale Economies Project Newsletter No.1



### On Completion of the First Year of Research

This project examines the importance of place-based, small-scale and diversified economies, particularly the importance of small-scale food production, circulation and consumption, for the long-term sustainability of human societies. Long-term sustainability can be defined as “the capacity of humans to create, test out, and maintain abilities to adapt to environments” over a span of several hundred to several thousand years.

With my area of specialization being archaeology, after due consideration on how studies that deal with long time span could contribute to tackling current global environmental problems and its associated social issues, this project came into a shape. The project consists of three research groups; 1) Longue-Durée Group; 2) Contemporary Society Group; and 3) Implementation, Outreach and Policy Proposal Group.

It has been over a year since this project was shifted to the full research status in April 2014. During that span, we had a number of opportunities to have discussions with various researchers, as well as with many stakeholders, including representatives of NPO and NGO. In particular, the discussion at the International Symposium held at University of California, Berkeley, in September 2014 set the research direction to examine the role of three key concepts of diversity, network and scale in understanding long-term sustainability of socioeconomic system.

Only less than 2 years are left for us to complete this full research project. We expect to complete most of the data collection and analyses by the end of March 2016 in order to move on to the write-up stage. This academic year is going to be a busy, but exciting one.

Project Leader: Junko Habu

## Research Methods and Organization

### 1) *Longue-Durée* Group:

The following working hypothesis begins our research: "Highly specialized subsistence (food production) strategies can support a larger community for a short period, but a decrease in subsistence and food diversity makes the production system and its associated community more vulnerable in the long-run." Archaeological and paleo-environmental studies are used to test our working hypothesis listed above. Multiple lines of archaeological evidence are analyzed to examine 1) the correlations between food/subsistence diversity and scale of community, and 2) their changes through time. Food/subsistence diversity is examined through the analysis of faunal and floral remains and stone tools excavated from archaeological sites. Results of stable isotope analysis of human skeletal remains and residue analysis of pottery are also important. As for the community scale, local and regional population size can be estimated on the basis of the settlement size and settlement distribution data. Results of these analyses are interpreted in relation to other environmental and cultural factors to understand the mechanisms of long-term culture change.



1

### 2) *Contemporary Society* Group:

This group cannot directly test our working hypothesis due to the lack of the long-term span of its data set. Nevertheless, case studies examined by this group provide us with opportunities to examine

the correlations between the scale of food production, circulation and consumption systems and their resilience from an interdisciplinary perspective. Research activities of this group include interviews and participant observation of small-scale fisheries and farmers. Special emphasis is on the study of organic farmers and indigenous peoples. Chemical and biological analyses are also conducted to evaluate the correlations between the scale of food production and the degree of human impacts on the environment, including soil and water conditions.



2

### 3) *Implementation, Outreach and Policy Proposal* Group:

Based on the data from the past and the present, this group, in collaboration with NPO, NGO, local governments, and other stakeholders aims to develop and conduct both academic and public outreach programs for instigating and promoting place-based, small-scale and diversified food production. Examples of the activities of this group include urban farming initiative and eco-literary educational programs.



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<sup>1</sup> Mass spectrometer for stable isotope analysis (RIHN laboratory)

<sup>2</sup> Interview with Yokuts people in California: Prof. Hosoya, Contemporary Group Leader, holding their traditional basket

<sup>3</sup> Excursion trip to the urban agriculture farm led by Prof. Altieri of the University of California, Berkeley

## Progress and Research Outcome, 2014/2015

### Longue-Durée Group



Amah mutsun tribe and researchers

### Japan

This team has analyzed various lines of Jomon archaeological data from northeastern Japan, including faunal/floral data and lithic assemblage data. Chemical and biological studies of archaeological remains, including stable isotope analysis of human skeletal remains, residue analysis of pottery, and AMS dating, were also conducted. Early and Middle Jomon site database for Aomori Prefecture is also being built, which can be used to update the estimate of Jomon population size and to examine the correlation between community size and its resilience. Climate change is taken into consideration as a key factor to understand mechanisms of long-term culture change. Pollen analysis and alkenon sea surface temperature analysis are in progress to identify the natures and timings of mid-Holocene climate change.

### Comparative Studies

In California, Prof. Kent Lightfoot and his collaborators have started analyses of faunal and floral remains and settlement data obtained from the Año Nuevo State Park. Preliminary results of their analyses indicate an increased biodiversity and a higher level of sustainability from the late Holocene to the historic period. As for the Northwest Coast of North America, lithic assemblage data and faunal/floral data from the Lower Columbia River are being analyzed to understand the characteristics of subsistence and settlement system by Prof. Ken Ames and his colleagues. Demographic simulations based on

settlement date are also in progress. Other case studies in this team include those from the Gulf Islands, Canadian arctic, the Kurils/eastern Hokkaido, and Lake Baikal.

### Contemporary Society Group



Project members during the fieldwork at the Hei River Valley

### Japan

Research on food and subsistence in mountainous and coastal areas are being conducted in Iwate Prefecture (e.g., Joboji, the Hei River Valley, and Otsuchi), Fukushima Prefecture (e.g., Soma, and Iwaki) and other parts of northeastern Japan. We are particularly interested in small-scale food production farming and fishing communities and the resilience and future perspectives of the members of these communities. In addition, a series of interviews with organic farmers in Nihonmatsu and Minami-Soma in Fukushima Prefecture were conducted to learn the damage of and responses to the Fukushima Daiichi nuclear accident.

### Comparative Studies

Research to assess the potential of urban farming for increasing local food security, as well as its limiting factors is in progress through interviews, participant observation and experiments. Members of this team have also started preliminary research on wild food use (e.g., acorns) and environmental management by native people in California and Alaska.

## Implementation, Outreach and Policy Proposal Group



Reconstructed settlement of coastal Miwok tribe

This group identifies, proposes and implements social and environmental activities consistent with, and complementary to, research conducted by the groups described above. In cooperation with NPOs, NGOs, local public organizations, indigenous tribes and other stakeholders, so far, the group has implemented the following programs:

### Japan

- 1) Eco-literacy educational program with a focus on cherry salmon at the Hei River area, Iwate Prefecture, and
- 2) Undergraduate class (Noteki Kurashi) about organic farming at Kyoto Seika University.

### Comparative Studies

- 1) Urban agriculture program in California in collaboration with educational programs at UC Berkeley,
- 1) Phytoremediation program in California using fern plants to remediate soil contamination by arsenic,
- 3) Environmental education program about traditional environmental knowledge of the Tlingit people, Northwest Coast, and
- 4) Traditional environmental and resource management (TERM) program in collaboration with the Amah Mutsun Tribe, California.



## International Symposium Report: “Long-term Sustainability through Place-Based, Small-Scale Economies”

Shingo Hamada and Takanori Oishi



On September 26-28, our project co-organized “CJS-JSPS Symposium 2014: Long-term Sustainability through Place-Based, Small Scale Economies” at the University of California, Berkeley. This event was planned together with the Japan Society for the Promotion of Science (JSPS), Center for Japanese Studies (CJS), Institute of East Asia Studies at University of California, Berkeley, and the Department of Anthropology at UC Berkeley.

On the first day of three day program, Prof. Junko Habu has first explained the scopes of the symposium. This was followed by two sessions: 1) “Change and Continuities in Socio-Economic Systems” and 2) “Linking the Archaeology of Small-Scale Societies to Ethnography”. Two more sessions were held on the second day: 3) “Cultivating Trans-disciplinary Knowledge and Practice” and 4) “Small-scale Economies in the Present and Future”. Together, these four sessions brought 16 distinguished scholars to present during these two days.



During the concluding discussion on the third day, the participants enthusiastically discussed how they should assess the interrelation of food diversity and socio-economic networks with long-term sustainability, how they should define “small-scale” of small-scale economies, and as such, from the transdisciplinary standpoints, including perspectives from archaeology, anthropology, ecology, agronomy and science of fisheries (Photos 1 and 2). In the afternoon of the third day, the participants visited urban community farms and experimental farms in Berkeley, which were under the sub-project of Prof. Miguel Altieri at the University of California, Berkeley, as the excursion trip (Photo 3).

Many project members participated in this symposium, delivered presentations and/or became actively engaged in the discussion. Furthermore, over 100 people from multiple countries, including Japan, USA, Canada, China and Chile, attended our open sessions. We hope to utilize the results of this symposium to further develop international and transdisciplinary research that will link the east and west coasts of the Pacific Rim.

Photo:

Left: Discussion during the symposium

Right: Participants engaged in the concluding discussion

## Field Trip Report: The 40th Anniversary Meeting of Coastal Access Rights Movement

Junko Habu

I had an opportunity to participate in the 40th Anniversary Meeting of Coastal Access Rights Movement at Takasago City, Hyogo Prefecture, on February 21, 2015, along with two of our project members, Prof. Hosoya and Prof. Fukunaga, and a Ph.D. student from UC Berkeley, Ms. Marjorie Burge. Takasago City has been known for its environmental pollution problem caused by the contaminated water drained from paper mills since the Meiji Era. During the rapid economic growth phase after WWII, coastal areas in Takasago City were landfilled as “the Harima Coastal Industrial Zone.” Pollution from paper mill factory had caused serious underwater polychlorinated biphenyl (PCB) contamination. To fight against this problem, Mr. Hiroshi Takasaki founded “Kogai o Kokuhatsu suru Takasago Shimin no Kai (Takasago Citizens’ Association against Environmental Pollution)” in 1973, and propounded the concept of “Coastal Access Rights” (irihama-ken) claiming that the citizens have a right to freely go in and out of seashore areas. Our participation in this meeting gave us an excellent opportunity to further learn about the process of the citizens’ campaign against seashore pollution caused by large-scale industrial production, thus to think about bottom-up environmental protection movements in Japan.

The Coastal Access Rights Declaration (1975) reads at the start:

"Since ancient times, the sea has always belonged to everyone. Community peoples’ rights to be on the beach for a stroll, to enjoy ocean views, to fish, to swim, to take water, to collect driftwood, to gather clams, and to harvest nori seaweed for their living had been their basic rights before individuals’ land ownership was established. Frequently, local residents also owned rights for the common use of windbreak forests on the beach. We hereby declare that these rights be called irihama-ken, or the Coastal Access Rights..."

This year marks the 40th anniversary since this declaration was issued. The concept of Coastal Access Rights has been familiar to me since the 1980s, because my mother was actively involved in the citizens’ movement to protect Odagahama Beach in Imabari City, her hometown, and edited a book on this subject. Furthermore, the idea that the sea belongs to

the local people is in line with the discussions of the commons and claims by minority groups such as Native Americans for their rights to sea, mountain and river.

During this meeting, Prof. Yoshiaki Mizuno, Associate Professor of Law at Kansai University, made a keynote speech titled “Pointers Learned from the Coastal Access Rights Movement.” He stated that, while the common ownership and shared use of the environment have yet to be formalized in the current legal framework, the concept of the Coastal Access Rights itself could be interpreted as the rights against environmental pollution under the Civil Code. He added, however, that most of the cases so far had not placed responsibility on the polluters. A key issue raised by him was that many environmental restoration campaigns had been held by minorities. This implies that, if the rule of majority is automatically applied to the discussion of the common ownership and shared use of the environment, it could lead to the adverse decision to destruct environment. This means that the so-called “democratic” rule of majority does not necessarily help prevent the destruction of the environmental destruction.

The point that the concept of co-ownership is not necessarily coherent with respect for the rights of the minorities shares a common ground with the international discussion on the cultural heritage management in archaeology, my research field. Clearly, interdisciplinary discussion is needed on the logical and legal framework for the minorities’ rights to advocate for environmental protection and restoration in collaboration with various stakeholders.

Mr. Hiroshi Takasaki and Prof. Kazuo Hayakawa, Professor Emeritus at Kobe University, talked about “Religion and Environment” along with a recorded video of Prof. Mamiko Okada, Professor Emeritus at the University of Hyogo. They argued that the environmental restoration and religion, which local people believed in, had been inextricably linked. In particular, the seashore had always been the place where gods dwelled to welcome and send off the spirits of the dead. Discussion also focused on the importance of ethnography, including oral history,

which could provide the opportunity to reveal the multifaceted nature of the sea and seashore.

Prof. Hosoya and I also joined the field trip in the morning of February 22, unfortunately with light drizzle. Places that we visited include the collection point of PCB contaminated soil from the bottom of Takasago West Port, and the Takasago Seaside Park where the prefectural government had restored the once lost pine tree forest and sand beach. During the trip, Mr. Takasaki and others further explained to us about the historical relation between the anti-pollution movement and the Coastal Access Rights Declaration.

A salient characteristic of the history of the environmental protection movement in Japan is that the rise of anti-pollution campaigns and the consumer movement from the 1960s to the 1980s formed the

foundation of the environmental protection movement and organic, place-based food production movement today. With this historic context in mind, it is a responsibility of our generation to find a way to convey the significance of environmental protection to the next generation.

(Revised from the original essay in “Sozo” issued on April 1, 2015.)

## Staff of Small-Scale Economies Project



Front row:

Junko Habu (Project Leader)

Back row (from left to right):

Mari Takehara (Project Research Associate)

Satoko Kato (Project Research Associate)

Yuko Kobayashi (Project Research Associate)

Kaori Adachi (Project Researcher)

Yukari Ojika (Project Research Associate)

Takanori Oishi (Project Researcher)

Yui Sunano (Project Researcher)

right: Noriko Tomii (Project Research Associate)

### Messages from New Staff

“After 10 years of roaming around the world, I came back to Japan last year. I am hoping to contribute to building a sustainable society through the research support works here at RIHN.” (Yuko Kobayashi)

“I am a self-proclaimed sesame fanatic! My favorite is ‘Kingoma (Golden Sesame)’ produced by Kuroki-san in Shiiba Village, Miyazaki Prefecture. I planted some sesame seeds outside Room 8” (Yukari Ojika)

“I have been researching on the food production, storage and consumption system of millets in rural villages in Ethiopia since 2008. At RIHN, I plan to research on the food production and processing in farming communities in Japan.” (Yui Sunano)

“My expertise is in archaeology of Jomon Period. I hope to support this project using my past experience of excavation.” (Noriko Tomii)

## Field Trip Report

### What I Learned during My Stay in Miyama, Kyoto

Yui Sunano



Horse chestnut, food during the time of food shortage (Chii area)



(above) "Miyama Kayabuki Museum" of traditional thatched house. (below) Local products using wild herbs (Utsukushi Yama no Somokusha)

Contemporary Society Group of the Small-scale Economies Project aims to understand the diversity of place-based food production in Japan, and to do so, it is critical to conduct fieldwork in contemporary rural communities. Many of the farming and fishing villages in Tohoku, our main research field, are located far from big cities, thus historically their subsistence activities had stronger focus on local production for local consumption, especially prior to WWII. Miyama Town, Nantan City, Kyoto, shares a number of similar traits with our field sites in Tohoku. However, its political and economic connections to Kyoto, due to its geographical closeness, shaped Miyama into an important production area for lumber and food for residents in Kyoto. Prof. Habu and Ms. Yukari Ojika, Project Research Associate, and I stayed in Miyama-Cho on May 27 and 28, 2015, with the purpose of learning more about Japanese rural communities in the vicinity of Kyoto City when

compared to those in Tohoku. Miyama Town is facing the problems of shrinking population, and other issues common to many rural communities in Japan. We were able to interview local food producers and residents regarding how historic and traditional ecological knowledge, as well as new technologies and ideas, could be utilized to revitalize Miyama Town.

Informants told us that, before WWII, forestry and rice cultivation with no chemical fertilizers and farm machineries had been thriving. However, due to the complex web of events, including the import liberalization of wood, the national government's rice paddy reduction program (gentan), changes in the management policy of Japan Agricultural Cooperatives (JA), and the lowering demand of rice, which caused the lower market price of wood and rice, it became impossible to continue agriculture and forestry with their traditional methods. This led to the depopulation of Miyama since the 1980's.

During my stay in Miyama, local residents mentioned that, historically, residents had made living with its rich natural environment, but their main vocations of agriculture and forestry became economically unsustainable after WWII. However, some of them also stated that they had been collecting wild herbs from the mountain and the dyke of rice paddy fields. New attempts are being made to advocate a new style of housing by utilizing small-scale hydraulic and biomass energy. Others are working on local revitalization through handing the traditional ways of organic agriculture with no chemical fertilizers and pesticides on to the younger generation.



## Project Members

As of July 1st, 2015

Project Leader: Junko Habu

### *Longue-Durée Group*

Group Leader: Junko Habu

#### 1. Japan

- 1a) Aomori:** Junko Habu, Yusuke Inano, Tomokazu Onishi, Yumiko Ito, Hajime Komiya, Kaori Adachi, Saori Oki, Takao Sato, Ryohei Sawaura, Oki Nakamura, Yo Negishi, Lisa Maher, Grant Schechner, Sabrina Agarwal, Gary Crawford
- 1b) Hokkaido:** Chiharu Abe
- 1c) Shinano River:** Simon Kaner, Liliana Janik
- 1d) Stable Isotope Analysis:** Minoru Yoneda, Takashi Nara, Junmei Sawada, Soichiro Kusaka
- 1e) Pollen Analysis and Paleo-environmental Restoration:** Akihiro Yoshida, Hodaka Kawahata, Enrico Crema
- 1f) Starch Analysis:** Yastami Nishida, Nobuhiko Kamijo, Liu Li
- 1g) Fatty Acid Analysis:** Kevin Gibbs, Carl Heron, Oliver Craig

#### 2. Comparative Studies

- 2a) California:** Kent Lightfoot, Grant Schechner
- 2b) Northwest Coast:** Tomonori Kanno, Rika Shinkai, Naoto Yamamoto, Kenneth Ames, Colin Grier, Steven A. Weber
- 2c) Canadian Arctic:** James Savelle
- 2d) The Kurils:** Ben Fitzhugh
- 2e) Russia:** Alexander N. Popov, Andrei Tavarev, Andrzej Weber

### Contemporary Society Group

Group Leader: Leo Aoi Hosoya

#### 1. Japan

- 1a) Joboji:** Yumiko Ito, Junko Habu, William L. Balée
- 1b) Hei River Valley and Otsuchi:** Mayumi Fukunaga, Yui Sunano, Nobuhiro Kaneko, Kazunobu Ikeya
- 1c) Fukushima:** Nobuyo Goto, Yasuo Goto, Tomiko Yamaguchi, David H. Slater, Ichiro Motono, Kayo Sawaguchi, Risa Murase, Sachi Kitamura, Nicolas S. Cisterna
- 1d) Iwaki:** Satsuki Takahashi
- 1e) Hokkaido:** Daisuke Naito
- 1f) Others:** Takakazu Yumoto, Daniel Niles

#### 2. Contemporary Studies:

- 2a) California:** Leo Aoi Hosoya, Tomiko Yamaguchi, Tsim Schneider
- 2b) Northwestern Coast to Alaska:** Shingo Hamada
- 2c) Others:** Takanori Oishi

### Implementation, Outreach and Policy Proposal Group

Group Leader: Mio Katayama Owens

#### 1. Japan

- 1a) Water Environmental Education:** Tsuyoshi Sasaki, Takuya Okawa
- 1b) Organic Farming:** Ichiro Motono
- 1c) Archaeology and Contemporary Society:** Clare Fawcett, Yasuyuki Yoshida, John Ertl

#### 2. Comparative Studies

- 2a) Urban Farming:** Miguel Altieri, Fritjof Capra
- 2b) Phytoremediation:** Céline Pallud, Sarick Matzen
- 2c) Traditional Knowledge of Indigenous People:** Rob Cuthrell, Noriko Iizuka

To Project Members: Request for Newsletter Articles

We plan to introduce project members' activities such as conferences, and research/field trips, through our newsletters. Please! Send us updates of your sub-projects. Thank you!

Research Institute for Humanity and Nature, Full Research Project

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

Project Leader: Junko Habu

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