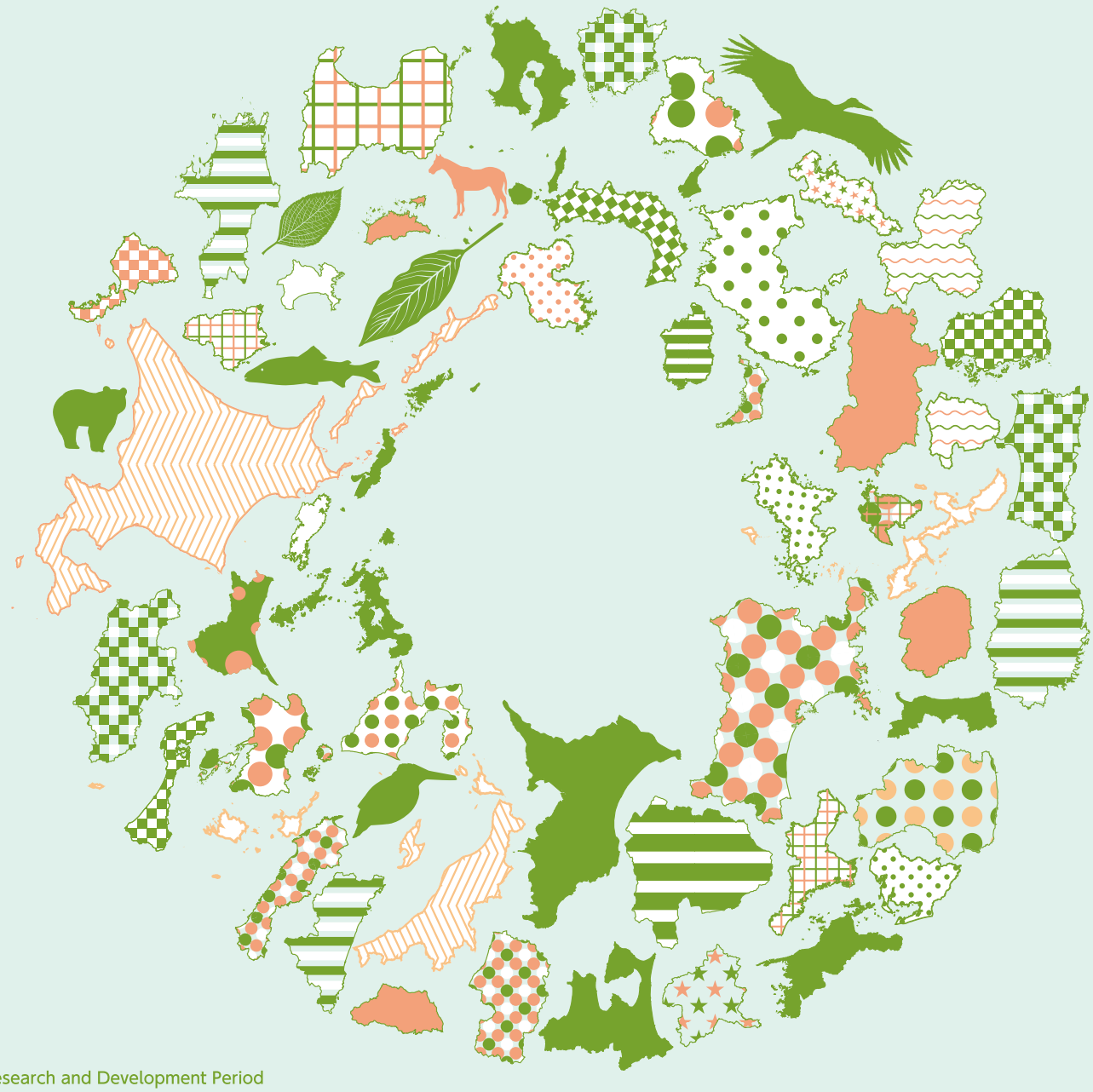
Japan Science and Technology Agency/Research Institute of Science and Technology for Society
Science Technology and Humanity R&D Focus Area
「Interactions between Science, Technology, and Society」Program
Research and Development Project

「Construction of a Pragmatic Scientist Community Contributing to Stakeholder-driven Management of Local Environment」

Final Report



Research and Development Period
October 2008 to September 2012

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1. Research and development project

(1) Research and development area: Science/Technology and Human Beings

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(4) Research & development project name: “Construction of a pragmatic scientist community contributing to stakeholder-driven management of local environment"

(5) Research and development period: October 2008 - September 2012

2. Summary of implementation of the project

2-1. Goals of the project

The “Local Science Network for Environment and Sustainability" will be established to grasp the actual situation of scientists transforming to the problem-solving type through the interactions with stakeholders in the efforts of communities toward solution of environmental problems and to allow scientists and stakeholders all over Japan on the basis of the findings. On the basis of the Guideline for Collaboration between stakeholders and scientists, a foundation for enrooting the transdisciplinary problem-solving research directly connected to solution of environmental problems, with which the communities are faced, by encouraging the transformation of scientist communities through the construction of web journals adopting the stakeholders' participatory evaluation of local science, the activities of working groups addressing a wide variety of regional problems, and the attempt for residential research internship toward the cultivation of young residential researchers.

2-2. Implemented activities

1. Construct the “Local Science Network for Environment and Sustainability," in which the residential researchers and translators in various parts of Japan, and visiting researchers and regional stakeholders, who will work in collaboration with those regional knowledge producers, will participate.
2. Formulate and publish the “Guideline for Collaboration between Communities and Scientists."
3. On the basis of the Guideline for Collaboration, the participatory evaluation of local science system will be established for stakeholders to participate in it to evaluate problem-solving researches for solutions of local environmental problems. More specifically, the web journal “Future of Local Environment” will be constructed and widely used.
4. Working groups addressing various regional problems will be established within the Local

Science Network for Environment and Sustainability to promote the vitalization of the activities.
5. With the objective of nurturing young researchers intended to conduct studies directly connected to community-based problem solutions, the “residential research internship” will be implemented for graduate students who aim to work as residential researchers.
6. A foundation to enroot problem-solving researches contributing to solutions of various problems faced with communities in the scientist communities will be constructed by further developing those activities.

2-3. Major results and achievements

We conducted research and development with the chief objective of formulating the Guideline for Collaboration between Communities and Scientists and constructing stakeholders' participatory evaluation of local science and constructing an evaluation method for scientific researches stakeholders' participating by establishing the “Local Science Network for Environment and Sustainability” for scientists and stakeholders to participate in it to grasp the actual situation of scientists transforming to the problem-solving type scientists through the interactions between the Residential research institutions stationed in communities, visiting researchers, and stakeholders in the efforts of communities for solution of environmental problems.

In order to achieve this objective, we held eight field workshops and four open symposia at residential research institutions and their activity sites in all over Japan, constructed and improved the websites for the project and the local environmental network to share the vision and achievements and disclose the achievements toward the establishment of the Local Science Network for Environment and Sustainability and the construction of the Guideline for Collaboration, Participatory Evaluation of Local Science. In designing research and development, a simple dichotomy between scientific knowledge and local knowledge (indigenous knowledge, life knowledge) has been adopted for convenience's sake. It was found important, however, to grasp the structural complexity of the knowledge held by regional stakeholders from the front. As a matter of fact, stakeholders have used various knowledge including scientific knowledge by adopting/rejecting it, importing it, and domesticating it according to their needs without being able to separating the local knowledge in the classic meaning. we proposed the new concept of “local environmental knowledge" based on the recognition of the actual condition of various knowledge dynamically transforming in complete harmony and mutual interaction, and re-evaluated the significance of science in such condition. Under such diversified significance of knowledge, it was also revealed that advanced specialties produced from the life needs play an important role at primary industry worksite particularly in the context of sustainable management of regional environments or natural resources. In an example of the Okinawa Prefecture Onna-son Fisheries Cooperative, such technologies as aqua farming technology for mozuku, sea grape, etc. and coral reef regeneration technology were developed under the leadership of the for the development of fishing activities, a part of which has been established as an industry. The example of the production of the local environmental knowledge essential for resource management by stakeholders on their own through advanced specialties shows that it is possible for the stakeholders to hold the function as residential research institutions. In this way, it was

re-recognized that the actor providing the communities with local environmental knowledge is not limited to professional scientists or actors for civil surveys but are much more diverse. The recognition of the diversity in knowledge producers led to the reappraisal of the positioning of regional companies. The regional construction firms, which are active chiefly in Fukushima Prefecture, play a role of an opinion leader proposing a new life style of living in an environmentally-friendly house through the house construction from forestry management, processing and distribution of lumber, and use of domestic materials. In Tokushima Prefecture, a group of regional companies is working on the wide-area surveys on the ecosystem and environmentally conservation activities in collaboration with university researchers, authorities, and various regional stakeholders. The above examples show that regional companies play a more important role than expected in collaboration with scientists and stakeholders.

We conducted a visiting survey and information gathering on examples in all over Japan of marked achievements in solving regional environmental problems, and invited founders for the establishment of the Local Science Network for Environment and Sustainability from among them. In addition, we held a group leader meeting and brain storming sessions with chief founders invited to discuss the network design and the way that the guideline ought to be. We established a website for the Local Science Network for Environment and Sustainability to promote the widespread proliferation of the vision and significance as well as preparing bylaws by examining how the network ought to be organized and operated. Based on those achievements, the Local Science Network for Environment and Sustainability was formally established on March 31, 2010 with participation of 42 founders. We had various residential researchers, visiting researchers, knowledge translators, trade-related knowledge producers, administrative researchers, regional companies, regional leaders organizing regional stakeholders, and so on participating in the network from all over Japan. We could realize a multilayered and multifaceted organizational structure, which can promote interactive transformation of scientists, experts, and stakeholders through the information sharing about advanced examples in all over Japan and mutual evaluation and studies, by constructing and expanding the Local Science Network for Environment and Sustainability. Toward the designing of the Guideline for Collaboration and the Participatory Evaluation of Local Science, the improvement of visions progressed through questionnaire surveys with the network founders, etc. We implemented the designing of Participatory Evaluation of Local Science by examining the original guideline from the perspective of “scientific researches for problem-solving" and “Collaboration between Communities and Scientists."

It was revealed during the foundation process of the Local Science Network for Environment and Sustainability that the actors and the positioning of problem-solving researches currently under way in all over Japan are complicated and diverse far beyond our expectations, and we were hence urged to radically review the definition of the way how the scientific research directly connected to the community problems, which we aim at, ought to be. The functions and the way of involvement in communities of the extremely diversified knowledge producers positioned at the forefront of knowledge production and use in communities vary significantly depending on the individual personality, regional properties, characteristics of knowledge users, nature of environmental problems, and so on. We examined the process to integrate the findings extracted from diverse individual cases into a highly general guideline for the realization of adaptive governance with the production and

distribution of local environmental knowledge as a nucleus. In March 2010, the “Guideline for Collaboration between Communities and Scientists (First Edition)" was completed and published on the specially constructed website. This guideline consists of “(A) 17 provisions for networking for solutions of problems," which are intended to advance the collaboration with scientists and stakeholders, and “(B) 17 provisions for production and use of knowledge," which are intended to promote sciences contributing to the solutions of problems. We attempted to solicit comments for improvement of the provisions on the Webpage. In September 2010, We held a symposium in commemoration of the establishment of the Local Science Network for Environment and Sustainability, “Pursuit of Sciences Useful for Environmental Conservation and Sustainable Development of Communities," at the Osaka Gakuin University where lectures and panel discussions were held by 15 speakers for two days. As a result of encouraging the publicity of the significance and activities of the Local Science Network for Environment and Sustainability through such activities, the Local Science Network for Environment and Sustainability was extended and expanded smoothly with participation of 127 multidisciplinary members from all over Japan at the end of the project.

On the basis of the “Guideline for Collaboration between Communities and Scientists," we designed the web journal equipped with a peer review system enabling participation of stakeholders, “Future of Local Environment," organized the editorial committee under the leadership of the project members, and started soliciting contributions in December. In addition, seven working groups sharing interests and study information (village beach, village forest, natural energy, wildlife management, social technologies, ecotourism, young "Hiyoko-gumi" scientists) are formed within the Local Science Network for Environment and Sustainability that have started voluntary activities on their own. What is noteworthy is the activities of “Hiyoko-gumi" carried out under the leadership of the young members of the Local Science Network for Environment and Sustainability. This is working group voluntarily formed by young researchers, who started their carrier as residential researchers at their sites in communities, in search of an opportunity for mutual learning to solve their worries and difficulties they face respectively. They have started extremely active and organic interchanges. The “Residential Research Internship" was run as a trial at residential research institutions for graduate students with the activities of the Hiyoko-gumi as a mother body to foster young researchers who promote community-based problem-solving researches. Three graduate students enjoyed internship residential research at community sites in the WWF Coral Reef Conservation and Research at Ishigakijima Shiraho; Tsushima City, Nagasaki Prefecture; and Yumoto District, Tenei Village, Fukushima Prefecture.

In the research and development process, we could see the appearance of many members evolving studies and activities using network resources in various ways. As a matter of course, the participants in this network are highly interested in studies and knowledge structures directly connected to the solution of difficult problems in communities in nature. Through the network activities, however, there occurred a process where many participants increase sol-called “drawers" of knowledge useful for communities by expanding their perspectives of various knowledge technologies useful in addressing their regional problems in areas other than their own special fields or interests. The individual researchers and stakeholders evolved by acquiring various drawers so that they may take multifaceted and flexible measures on the scene of problem solutions. On the other hand, the Local Science

Network for Environment and Sustainability served as a great incentive for young researchers and graduate students who aim to be engaged in residential research. The mechanism of the “residential research internship," which started in 2011 as a trial, will lead to the cultivation of human resources, who can promote residential researches, by providing graduate school internship with a new option. It remains as a large issue to analyze in further detail how the production and distribution of the local environmental knowledge directly connected to the solution of local environmental problems will encourage the decision-making and behavioral transformation of people and how they will lead to the solution of environmental problems and the construction of sustainable society.

As a result of four-year research and development, the mechanism for cultivation of young researchers was developed with the platform and human foundation constructed for the collaboration between scientists and stakeholders promoting problem-solving researches directly connected to the solution of regional environment problems. We wish to promote a dynamic evolution commensurate with the changes in the socioeconomic system while operating the Local Science Network for Environment and Sustainability in a sustainable manner. We are committed to continuing further challenges toward the construction of adaptive governance to challenge the community-based resolution of global environmental problems from the bottom upward with the production and distribution of local environmental knowledge as a nucleus.

2-4. Project implementation structure

(1) The group changing scientist communities through the formation of the Local Science Network for Environment and Sustainability
Group leader: Tetsu Sato (Professor, Research Institute for Humanity and Nature)
Changes of scientists by expanding and deepening the Local Science Network for Environment and Sustainability through the formation of the Local Science Network for Environment and Sustainability, the formulation of the Guideline for Collaboration between stakeholders and scientists, and the construction of the participatory evaluation of local science

(2) The group grasping the actual condition of changing scientists focusing on residential research institutions
Group leader: Mahito Kamada (Professor, Institute of Socio Techno Science, Tokushima University)
Analysis of effective knowledge production for sustainable construction of communities through the review of the roles of residential research institutions, the analysis of regional environment approaches by residential museum

(3) The group grasping the actual condition of interactions and collaboration between stakeholders and scientists
Group leader: Shigeru Yanaka (Associate Professor, Faculty of Regional Sciences, Tottori University)
Analysis of the way how the collaboration between stakeholders and scientists ought to be

through the interactions over the life strategies of stakeholders and the interactions between the conventional knowledge technologies and the imported knowledge/systems

3. Concrete case-studies from the project

3-1. Goals of the project

It is often the case that a proposed scientifically appropriate solution to a regional environment problem is not accepted or applied by the stakeholders of the community. This may not be caused by lack of understanding of the stakeholders but may be caused by the scientific knowledge produced away from the regionally inherent problem structures, the conventional sense of value, the decision-making system, and so on. We grasped the actual condition of the residential researchers, visiting researchers, and so on, who are active in the efforts of conservation and use of ecosystem services such as conservation of ecosytems, natural resource management, and natural regeneration in all over Japan, transforming to the problem-solving type through the interactions with various stakeholders and so on, by participatory observation, visiting surveys, and so on for the cases in various areas. With the achievements as a basis, we created communities of scientists committed to contribute to voluntary solutions of problems by communities by constructing the “Local Science Network for Environment and Sustainability," in which various knowledge producers from all over Japan and regional stakeholders participate, and developing the Guideline for Collaboration between Stakeholders and Scientists, the participatory evaluation methods for scientific researches, in which stakeholders participate, and so on, with the aim of constructing a social mechanism to promote sciences directly connected to community-based solutions of environmental problems. In addition, we newly added the cultivation of young residential researchers to the objective of research and development in fiscal 2011 because the need of cultivating the bearer of the community-based problem-solving sciences and the increased interest in the career path for residential researches among young researchers and graduate students recognized in the research and development process.

3-2. Implemented activities

(1) Collection and analysis of examples

Many researchers in “residential research institutions," who are engaged in research activities by being stationed in communities, have tackled with the research directly connected to solution of problems concerning the natural environment of communities in an advanced manner. In order to conserve and regenerate the dynamically changing complicated regional environment, it is necessary to conduct interdisciplinary/transdisciplinary research directly connected to the solution of regional environmental problems in collaboration with various knowledge producers including regional stakeholders, “visiting researchers," who have a base in large cities etc. and visit communities to implement a study; civil survey

implementers; regional companies and those engaged in agriculture, forestry and fisheries industry; local governments and NPOs, etc., and to promote activities in collaboration with various actors by exploiting the achievements. In addition, in order to cope with the uncertainty of the complicated system, a process of adaptive management is essential to monitor the activity results and improve the activities according to the results. We collected and analyzed the information about the actual condition of the adaptive management process in the transdisciplinary studies realized by the collaboration between various researchers and stakeholders, who aim to solve regional environmental problems, and in the efforts of solving problems by various actors by participatory observation and case studies in various parts of Japan, and analyzed with dynamism of the regional network with respect how the collaboration between scientists and stakeholders ought to be and how problem-solving sciences ought to be. We then developed visions and designed the network on the basis of the analysis of various cases in various areas toward the construction of the “Local Science Network for Environment and Sustainability,” the “Guideline for Collaboration," and the “Participatory Evaluation of Local Science."

(2) Establishment and operation of the Local Science Network for Environment and Sustainability

The “Local Science Network for Environment and Sustainability" was established based on the above multifaceted case studies and started operation. The “Local Science Network for Environment and Sustainability" is a nationwide network that enables stakeholders and scientists in communities tackling with various regional environmental problems to mutually learn and cultivate each other. It can be positioned as a higher-level network to mutually connect the activities of intra-regional networks active in various communities and other nationwide or wide-area networks aiming to solve specific environmental problems to provide those who play an important role in those activities with an opportunity to get together and interchange. Accordingly, the stakeholders, residential researchers, and visiting researchers, who are engaged in advanced activities in various parts of Japan, are important constituents of the Local Science Network for Environment and Sustainability as well.

The stakeholders in various areas can access study results, which are useful for their own activities, through the collaboration with experts in various fields by participating in the Local Science Network for Environment and Sustainability. Scientists can develop new study fields as well as promoting transdisciplinary problem-solving researches by obtaining various resources, which are useful for the expansion of their studies through the interchange with various cases and human resources in problem-solving researches and regional studies. It is an important function of the “Local Science Network for Environment and Sustainability" to support the activation of the problem-solving research and collaboration between various actors at various areas through such interchanges between stakeholders and scientists.

(3)“Guideline for Collaboration between Communities and Scientists"

We repeated discussions on the basis of the analysis of various cases in the Local Science Network for Environment and Sustainability and designed and constructed the “Guideline for Collaboration between Communities and Scientists." In order to solve environmental issues and realize the construction of a sustainable society by bottom-up approach from communities, sciences, which can be used by stakeholders living in communities for the environmental

conservation and sustainable development of communities, and a social system for the use are required. The scientific knowledge, which are produced by scientists everyday, however, does not always harmonize with the way how the indigenous knowledge, which was produced by the people living in the community and has been inherited so far, and the decision-making rules of the community. The Guideline for Collaboration was prepared by local stakeholders and scientists, who constitute the Local Science Network for Environment and Sustainability, by compiling various device in collaboration, which they have produced to solve the problems they face in their respective communities. Thus the guideline intends to provide guidelines and gist in producing and using various knowledge that is required to solve regional problems. This guideline is used for local stakeholders and scientists to confirm the points to note in grappling with problems so that they may review the mutual condition toward better solutions of problems.

This guideline consists of "(A) 17 provisions for networking for solutions of problems," which are intended to advance the collaboration with scientists and stakeholders, and "(B) 17 provisions for production and use of knowledge," which are intended to promote sciences contributing to the solutions of problems. (A) chiefly proposes provisions serving as guidelines that can be used by those who specifically address the solution of problems by exploiting their knowledge on the scene of their activities; whereas (B) chiefly proposes to knowledge producers, who try to produce knowledge technologies useful for solutions of problems, a new way of science that they will evolve it through learning in communities. (A) and (B) are not separated strictly but are closely related to each other of course.

(4) Working groups

Through the previous research and development, a structure of several groups sharing interests and research/activity fields have been spontaneously formed among the members of the Local Science Network for Environment and Sustainability. With the aim of activating various interchanges and collaborative activities within the network, it was decided at the second general assembly of the Local Science Network for Environment and Sustainability held in July 2011 that several working groups will be formed with research and development members as organizers. Seven working groups (village beach, village forest, natural energy, wildlife management, social technologies, ecotourism, young "Hiyoko-gumi" scientists) were formed before the end of the project.

The respective working groups are expected to implement autonomous activities with members recruited from among the members of the Local Science Network for Environment and Sustainability according to the shared problems in interest. The Local Science Network for Environment and Sustainability Administration Office will promote the expansion and deepening of the network by widely publishing the achievements through its the website and so on as well as supporting the activities of the working groups. The working groups have already started multifaceted activities. Before the end of the project, the Village Beach Aquatic Resources Management Working Group held a workshop sponsored by the working group, "Community-led Village Beach Development," at the Kyushu University in January 2012 with nine speakers recruited. The digest is published on the website. The young scientists' working groups "Hiyoko-gumi" held the first field workshop in February 2012 with the objective of learning from activities in the Noto Region such as the "Noto Peninsula Satoyama Satoumi Nature School (present Oraccha Satoyama Satoumi)" and the "Satoyama

Master Education Program" about the processes of producing and developing the trades and activities with the abundant nature and culture put into full use. The Social Technologies Working Group conducted workshops, seminars, and field surveys concerning social technologies with stakeholders in collaboration with the Village Forest Working Group in August 2012 in Geihoku-cho, Hiroshima Prefecture. In addition, the Wildlife Management Working Group has started activities toward the formation of the “International Network for Local Scientists of Wildlife Management." In this way, new activities of the Local Science Network for Environment and Sustainability have emerged from the formation of working groups by agenda and interests.

(5) Participatory Evaluation of Local Science

We developed the visions toward the establishment of the “Participatory Evaluation of Local Science" system to evaluate the achievements of problem-solving researches directly connected to the solution of regional environment problems not only among scientists but also with stakeholders in light of the “Guideline for Collaboration between Communities and Scientists." We advanced the development of rules and standards for peer review by discussing with a wide variety of network members with the editorial committee for the web journal “Future of Local Environment" established under the leadership of the organizers of the working groups. In December, we constructed the web journal site interactive with stakeholders and started soliciting contributions. On the other hand, however, as for the regional activity award program, which had been discussed as another pillar for the evaluation of local science system, we decided to put off the introduction of the award program in the present design because numerous objections erupted from project members and area advisors.

The web journal, “Future of Local Environment," evaluates sciences, which can support efforts on environmental conservation and sustainable community development led by various regional stakeholders and publishes the achievements. The web journal evaluates and publishes the results of studies aiming to contribute to the efforts on sustainable community development by stakeholders themselves by providing guidelines, ideas, and technologies that meet the conditions indigenous to the respective regions, are useful for obtaining agreement from local stakeholders and consensus building, and can be shared by various people with different interests. The web journal contains research papers on knowledge technologies directly connected to the solution of regional environment problems, comments about findings in various fields useful for decision making and concrete activities of people in communities, and reports on regional activities using such knowledge technologies.

(6) Residential research internship

Residential researchers are researchers and experts who are engaged in studies and practices toward the solution of regional problems and environmental conservation as one citizen living in the community. Graduate students and young researchers, who aim to become residential researchers, designed the residential research internship with the objective of learning the basic attitudes and approaches to communities of residential researches and developing the basic skills for collaboration. The internship was re-defined from an activity, which had been proposed as a “short-stay study" in the planning stage, to an internship program for young researchers to experience the actual condition of residential

researches. As a result of discussion with many receiving organizations and graduate schools, a senior-year university student of Tokyo Metropolitan University (expected to go on to a graduate school) could conduct a short-stay study at the WWF Coral Reef Conservation and Research in Ishigakijima Shiraho as the first intern in fiscal 2011. Later, two other students participated in the internship by staying at the residence of residential researchers and could learn about various practical approaches for collaboration with local stakeholders as experts/scientists. This activity had a significant impact both on the participants and the receiving organizations and was considered as significantly contributing to the cultivation of young researchers who aim to work on the research directly connected to the solution of environmental problems, with which communities are faced, and to the future transformation of the entire scientist communities. This activity is expected to be continued after research and development with the collaboration with graduate schools in related fields strengthened.

3-3. Major results and achievements of the project

3-3-1. Collection of case-studies through field workshops and participatory observations

The researchers participating in the project will conduct a participatory study in their respective fields in collaboration with local stakeholders, and the participating researchers and stakeholders will integrate their findings by mutually visiting their fields to reveal the roles of residential research institutions, the actual condition of mutual interactions between various knowledge producers and stakeholders including visiting researchers and civil survey implementers, and the transformation process of scientist communities. In order to promote the interactions between the scientists and community stakeholders and the transformation of scientist communities under the leadership of residential research institutions on the basis of the findings obtained there, communities の stakeholders, residential researchers, visiting researchers, the “Local Science Network for Environment and Sustainability" will be established with various actors involved in production and use of knowledge such as civil survey implementers as constituents. In order to share the achievements of the participatory study in the individual fields and to collect the cases of productive collaboration between scientists and stakeholders in various regions, a series of field workshops were held in residential research institutions and their activity sites in various regions. In addition, since fiscal 2011, we held open symposia along with workshops in order to share the study results with local stakeholders and to improve research and development with feedback obtained from them. Based on the results, we examined the Guideline for Collaboration between Stakeholders and Scientists and the method of evaluating the study results while grasping of actual condition of the scientist communities transformation in the network. We will transmit the network activities widely through webpages and media to promote the activation of interactions between sciences indigenous to communities and the society and knowledge production conducive to the solution of problems in line with the actual regional condition by using the information shared in the network. The continued transformation of scientist communities will be ensured by fair evaluation of achievements of studies and activities indigenous to communities through the formation of new scientist communities promoting regional environment studies for the solution of environmental problems in collaboration with

stakeholders.

(1) Fiscal 2008

In order to implement the analysis of knowledge and system structures usable for stakeholders based on the recognition that the decision maker on matters concerning the Future of Local Environment is absolutely the various regional stakeholders, we held a workshop in November at the Nagano University located in Ueda City, Nagano Prefecture. We analyzed the results of a trial study on the way how the knowledge set produced by the problem-solving studies in the “AUN Nagano University Reforestation Project" ought to be. The Village Reforestation Tool Kit used as a trial in the AUN Nagano University Reforestation Project intends to develop and provide scientifically valid and sustainable various options for the sustainable development of communities by the use of forest ecosystem services, and proposes a role of scientists of continuously providing various options with consideration given to the ecosystem.

We list up potential residential research institutions all over Japan, conducted a visiting survey to the Echigo-Matsunoyama Museum of Natural Science; Kushiro Wetland; Amami Wildlife Center; Ishigaki Branch, Seikai National Fisheries Research Institute; Kanazawa University, and so on, and gathered information about the AMSL Akajima Marine Science Laboratory, the Toyota Yahagi River Institute, and so on. As for the existing networks relating individual environmental problems, we constructed a foundation for collaboration by exchanging information with the Network of Afforested Universities, the Satoyama Satoumi Sub-Global Assessment, the Tanada Network, the National Amamo (Eelgrass) Summit, the National Grass Planting Network, etc. We collected examples of productive collaboration with local stakeholders and visiting researchers, and accumulated information especially about the “EIMY" implemented by the Tohoku University at Tenei Village, Fukushima Prefecture; the “Establishment of the Social System for Sato-umi Creation," implemented by the Kyushu University at coastal zones all over Japan; the wetland conservation by WWF Japan in Kashima City, Saga Prefecture; and so on.

(2) Fiscal 2009

Field workshops were held in Kamikatsu Town, Tokushima Prefecture (July) and in Ishigaki City, Okinawa Prefecture (September). At the workshops, discussions were deepened about the network structure based on case reports in various communities under the theme of “Interactive Decision-making Process and Network Structure Encouraging the Transformation of Scientists and Local Stakeholders." In particular, the analysis of the actual condition of collaborations between various stakeholders and researchers in Kamikatsu Town and the network structure with the aim of enabling collaboration while keeping the difference in views and visions revealed the importance in network activities in the respective regions and the importance in the role of human resources who play a central role in formation, maintenance, and development of the network. At the workshop in Ishigakijima Shiraho, discussions were deepened about the production and use of knowledge by researchers in administrative organizations, interactions between local knowledge and scientific knowledge, the use of ecotourism by stakeholders, and so on. It was revealed through the analysis of the roles, which had been played by a residential research institution, WWF Coral Reef Conservation and Research, that residential researchers and experts, who reside in

communities, play a function of a catalyst that promotes dynamic changes of communities. In addition, we collected new examples from residential researchers and stakeholders energetically active in various communities who participated in those field workshops. From the activities of regional museums including the Echigo-Matsunoyama Museum of Natural Science and various residential research institutions such as the AMSL Akajima Marine Science Laboratory and the Ishigaki Branch, Okinawa Prefectural Fisheries and Ocean Research Center, the diversity of knowledge producers engaged in community-based studies and the actual condition of flexible production, distribution, and use of knowledge emerged.

Toward the inauguration of the Local Science Network for Environment and Sustainability, we carefully selected various scientists, experts, knowledge producers, and stakeholders grappling with the solution of regional environment problems in various regions and called on them to participate in it as founders. We conducted a questionnaire survey with the founders of the Local Science Network for Environment and Sustainability, in February 2010, and held a group leader meeting and brain storming in March in Tokyo with chief founders invited to discuss the ideal and vision of the Local Science Network for Environment and Sustainability.

(3) Fiscal 2010

In order to share the achievements of participatory studies in the respective fields and to collect examples of collaborations between scientists and stakeholders in various regions, and various dynamic movements of intra-regional networks, we held field workshops in Amami City, Kagoshima Prefecture (June), and in Toyooka City, Hyogo Prefecture (February). In Amami City, an intense workshop was held with a small number of participants invited from those who are active in concrete activities related to regional environmental conservation and knowledge production such as residential researchers, NPO organization members, ecotour providers, and Rangers for Nature Conservation of the Ministry of Environment, to have discussions in search of possible contributions of researchers' communities, which are an external actor, while reviewing the actors of environment/landscape protection activities promoted under the leadership of local stakeholders, and the knowledge exploited in such activities. Through the discussion, the actual condition of networks, which enable the collaboration with stakeholders and scientists/experts with various standpoints and viewpoints while maintaining the difference in opinions and way of thinking, and the importance of the regional culture, which plays as a moving spirit in such effort, emerged. In Toyooka City, Hyogo Prefecture, which is known for its advanced cases of sustainable community development with returning of the oriental white stork to the wild as a nucleus, we walked on the field with the Hyogo Prefectural Homeland for the Oriental White Stork, which is a residential research institution; Toyooka City; farmers promoting a farming method that nurture the oriental white stork; NPO organizations that promote wetland regeneration; and so on to grasp the actual condition of the activity of returning the oriental white stork to the wild that promotes the participation and collaboration of diverse stakeholders and drives dynamic movements of intra-regional networks. In the activity, we found that the knowledge about the oriental white stork is produced, distributed, and used not only by residential researchers but also various people such as the administration and farmers and confirmed the importance of various knowledge producers other than scientists and experts.

The Local Science Network for Environment and Sustainability Foundation Symposium

was held in September in Suita City, Osaka Prefecture, encourage the transmission and recognition of the information about the Local Science Network for Environment and Sustainability (Data 1). While having speech by and discussions with various people with marked activity achievements in various regions from the founders of the Local Science Network for Environment and Sustainability, we had a poster session presented by network members. In addition, at the simultaneously held General Assembly for the Establishment of the Local Science Network for Environment and Sustainability, we summarized and discussed the issues toward the establishment of the Guideline for Collaboration and the Participatory Evaluation of Local Science with input obtained from various members, who participated in the network, as well as research and development implementers. For the speech, panel discussion, and poster session presentation at the symposium, the data and moving images were published on the website to widely transmit the activities of the local environmental network. In Toyooka City, Hyogo Prefecture, an open symposium for the Local Science Network for Environment and Sustainability, “Community Regeneration through Nature Regeneration—From Economic and Cultural Perspective," was held along with a field workshop. We invited guests who are engaged in activities relating to regional environment to have active discussions and view exchanges with local stakeholders. At the international symposium “Science in Society -- a challenge in Japan" for the “Interactions between Science, Technology and Society" program, which was held in August, the idea and activities of the Local Science Network for Environment and Sustainability were widely made known to inside and outside of Japan through the speech by and discussions with representative researchers, with Dr. Michael Crosby invited as a commentator from the Mote Marine Laboratory in the United States. In addition, we deepened discussions about the “New Paradigm" toward the collaboration between policy makers and scientists, which has been proposed by Dr. Crosby, and constructed the foundation toward the future collaborations by sharing the understanding about the importance of a “bi-directional translator," who connects various stakeholders with scientists.

(4) Fiscal 2011

With the smooth extension and expansion of the Local Science Network for Environment and Sustainability, the field workshop and open symposium, “For Effective Use of International Systems by Communities," was held in July at Aso City and Kumamoto City in Kumamoto Prefecture with the objective of deepening the discussions about the significance of sciences, international systems, and mechanisms from the standpoint of local stakeholders using the various resources gathered in the network. We deepened analysis of the issue of how local stakeholders should master international systems to enrich the nature and livelihood in communities. International systems such as UNESCO World Natural Heritage Site have been introduced to various parts of Japan with the objective of preserving and using the regional nature and cultures. While communities are expected to obtain various merits such as proper natural environmental conservation and use as tourist resources from international systems, application of a uniform standard or framework from abroad, which is different from the interest of the community, may confuse or upset the community. At the symposium, discussions were deepened about the possibility and issues in using international systems and frameworks for people living in the community to understand their regional nature and culture better and to voluntarily promote sustainable community development.

In October, a field workshop and open symposium, “Regional Environmental Study for Creation of Sato-umi," was held at Zamami-son and Naha City in Okinawa Prefecture. Discussions were deepened on the themes of “Community-driven Ecotourism" and “Regional Environmental Study for Creation of Sato-umi" by network members engaged in practices and studies in various regions. A coastal sea area with biodiversity and productivity increased by human intervention is called “Sato-umi (village beach)" after the example of satoyama (village forest) in continental areas. This concept is nature recognition based on the relationship between human livelihood and nature where people conserve nature while using it, and is an ideal that can become a nucleus for sustainable community development of coastal zones. In the coral reef seas areas surrounding the Okinawa islands, which is a typical example of the “Sato-umi," the coral reef ecosystem in Okinawa has been significantly deteriorated. In order to search for the process to return the correlation that human intervention leads to recovery of the sea, we discussed the issue of “Creation of Sato-umi," which is closely related to the livelihood, with the participation of network members who are engaged in the production and distribution scenes or policy practices.

In January 2012, the joint workshop and open symposium, “From a local community to the rest of the world—mechanism for bonding local communities to the world from a Shiretoko world heritage point of view," was co-hosted with the Research Institute for Humanity and Nature Feasibility Study, “Formation of Local Environmental Knowledge for Creation of New Commons and Sustainable Management," which has been implemented by representative researchers since October 2011 with an eye on the development of the activity after the end of the project, at Hokkaido Shari Town - Shiretoko World Heritage Area. it was reconfirmed through the workshop/symposium held at Aso City and Kumamoto City that a bottom-up approach to cumulate regional activities is important and accumulation of community-based efforts using international systems such as world heritage may be effective to build a sustainable society in harmony with abundant natural environment. To this end, we discussed processes toward comprehensive environmental conservation connecting the community and the world and toward sustainable society building based on examples of activities in the Shiretoko World Heritage and all over the world in an attempt to use various knowledge and systems, which have been cultivated in communities, on a global scene. Those workshops and open symposia have been gradually tinged with transdisciplinary nature capable of addressing various problems, which a community faces, with the expansion of the Local Science Network for Environment and Sustainability and diversification of members. The network became able to cover themes directly connected with various problems as a significant turning point for increase in members. The contents and achievements of those symposia and field workshops were widely published through websites and became significant incentives for network participants, with the network visions and activities penetrated into potential participants in a wide range of layers. In particular, the network came to be obtain participation of researchers who are faced with a gap with the real society and young researchers who have almost established the social position as residential researchers.

(5) Fiscal 2012

In preparation for the completion of the research & development project, a basic study project “Formation of Local Environmental Knowledge for Creation of New Commons and

Sustainable Management (local environmental knowledge project)"(project leader: Tetsu Sato, April 2012 - March 2017) started at the Research Institute for Humanity and Nature with the activities of the Local Science Network for Environment and Sustainability as important study resources (discussed later). In September, the final symposium for the project “The Pursuit of Science for Use in Local Communities The Past, Present, and Future of LSNES" and kick-off symposium for the newly started local environmental knowledge project, “Knowledge Production, Activities, and Adaptive Governance Supporting the Community" was co-hosted by the Local Science Network for Environment and Sustainability and the Local Environmental Knowledge project　for two days in Kyoto City where the Research Institute for Humanity and Nature is located.

At the symposium, “The Pursuit of Science for Use in Local Communities The Past, Present, and Future of LSNES," we attributed the problem that a scientifically appropriate solution proposed for regional environment problems is not accepted or used by the stakeholders in the community to the scientific knowledge produced away from the regionally inherent problem structures, the conventional sense of value, the decision-making system, and so on, at the starting point of the project. From such awareness of issues, we have pursued how sciences ought to be used by local stakeholders with the “Local Science Network for Environment and Sustainability" established to be joined by residential researchers and so on who are resident in communities to produce knowledge useful to solve regional environmental problems. Accordingly, we looked back on the past developments of the Local Science Network for Environment and Sustainability and discussed the problems in the efforts toward the cultivation of scientists and experts who will conduct transdisciplinary and problem-solving studies to support the solution of various environmental problems, which communities are faced, under the leadership of local stakeholders. Through the speech by and discussions with young researchers, who are actively engaged in the actual community sites, and residential research interns who attended the Local Science Network for Environment and Sustainability, discussions were deepened about the problems toward the cultivation of the next-generation residential researchers.

At the symposium, “Knowledge Production, Activities, and Adaptive Governance Supporting the Community," discussions were deepened with an eye on the “local environmental knowledge," which is a combination of scientific knowledge and local knowledge, which has been cultivated in the life of people, as a new knowledge structure, which forms the foundation for the efforts of the community people, in the “Formation of Local Environmental Knowledge for Creation of New Commons and Sustainable Management (Local Environmental Knowledge Project)" that started in April 2012. The Local Environmental Knowledge Project aims to elucidate the how sciences ought to support the bottom-up efforts to build a sustainable society and how the society ought to master the sciences by collecting and analyzing various examples in all over the world and clarifying the system of adaptive governance in communities with the mechanism of the local environmental knowledge formation and the knowledge put into full use. We widely shared the challenge to new sciences for the building of sustainable society with the formation of this formation of local environmental knowledge as a nucleus through the speech given by various project members who gathered at the venue from all over the world. In addition, we held a poster session to introduce the cases of production and use of local environmental knowledge in various regions and to introduce cases of transdisciplinary sciences that support the bottom-up efforts for the

solution of global environmental problems that had been consistently pursued by two projects. Through the discussions at the symposium, preparation was made for the launching the voyage of knowledge production to open the horizon of new sciences with the wisdom gathered from the many participants in the Local Science Network for Environment and Sustainability and the Local Environmental Knowledge Project.

3-3-2. Local Science Network for Environment and Sustainability

(1) Vision of the Local Science Network for Environment and Sustainability

We have discussed the vision and design of the Local Science Network for Environment and Sustainability through the collection and analysis of various cases in all over Japan. The Local Science Network for Environment and Sustainability was designed as a nationwide network that enables stakeholders and scientists in communities tackling with various regional environmental problems to mutually learn and cultivate each other. A chief function of the network is to activate the activities in various communities by information sharing through interchanges and collaborations by providing fora to various scientists and experts engaged in research activities directly connected to the resolution of environmental problems and to community stakeholders working on the solution of problems by using the knowledge at the community sites. In addition, it is also an important issue to support the cultivation of the next-generation young researchers who will assume the research directly connected to the solution of regional environment problems.

Close collaborations between scientists/experts and community stakeholders is indispensable for the solution of regional environmental problems. The Local Science Network for Environment and Sustainability aims to maturate sciences, which provide “useful knowledge” that can be used by stakeholders to solve concrete problems, through the cultivation and support of scientists who will play a role of a good partner for the local stakeholders who assumes the solution of problems. In addition, the network will provide an opportunity for mutual learning to for local stakeholders to improve their respective efforts by sharing the information about the activities in the respective areas. The network will promote the interactions and mutual learning between scientists and stakeholders by providing an opportunity for scientists/experts in various fields and stakeholders in the respective areas to deepen their interchanges.

The Local Science Network for Environment and Sustainability will formulate and publish the “Guideline for Collaboration" as a guideline for local stakeholders and scientists/experts to mutually stimulate and collaborate while evaluating each other. In addition, the “Participatory evaluation of local science" system, which evaluates the activities and study achievements of scientists both from the regional perspective and from the scientific perspective, will be constructed to cultivate scientists and experts who can support the activities of regional stakeholders with thorough recognition that the actor of efforts for the solution of environmental problems is local stakeholders. Furthermore, cultivation of young researchers, who will be engaged in studies to solve local environmental problems as residential researchers, will be promoted through the residential research internship and so on. The Local Science Network for Environment and Sustainability aims to develop the scientific and social foundation for the activities toward the sustainable society by using the

above-mentioned systems.

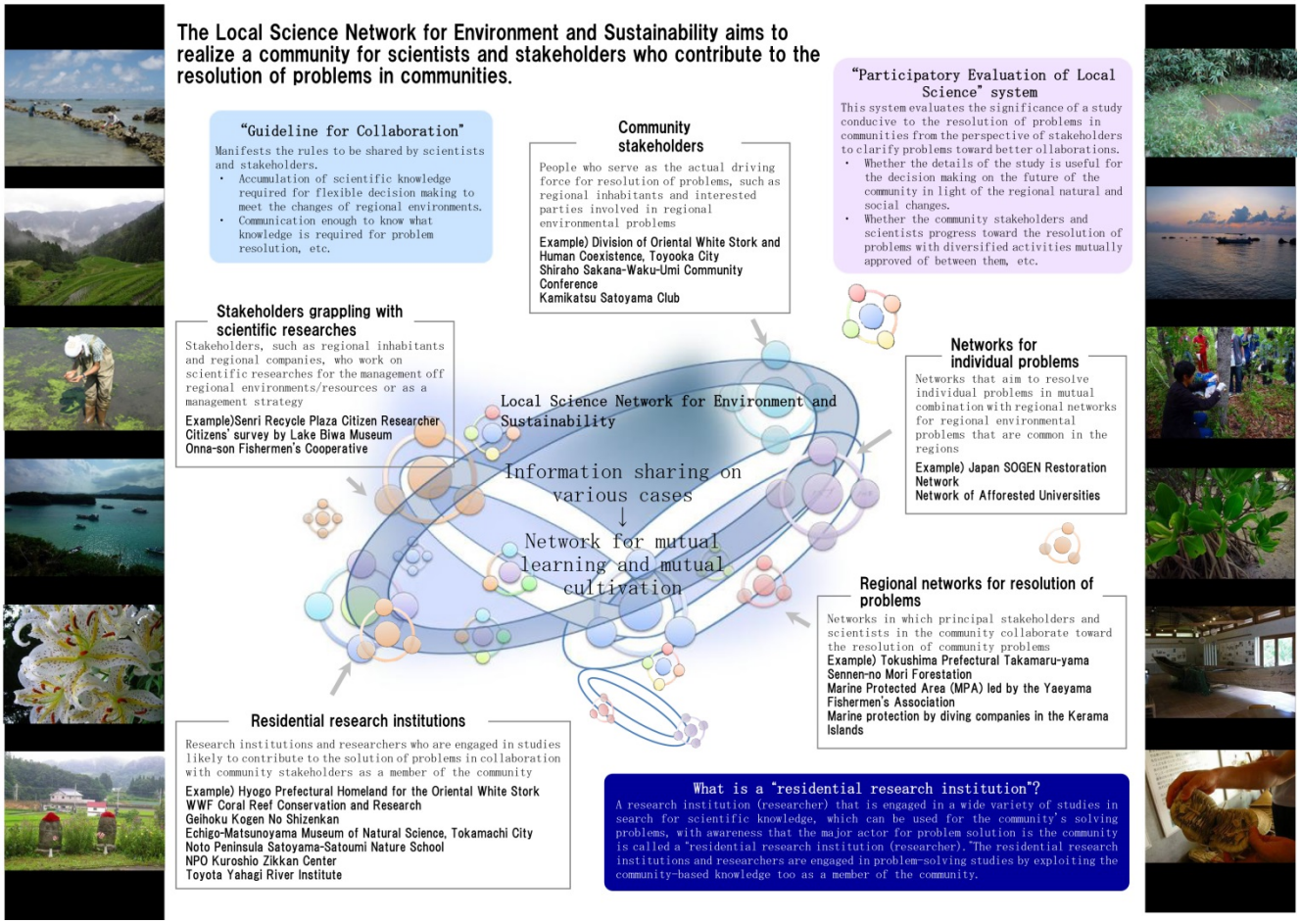
(2) Significance and characteristics of the Local Science Network for Environment and Sustainability

Scientists grappling with problem-solving researches and community stakeholders participate in the Local Science Network for Environment and Sustainability from all over Japan to grope for how the collaboration between communities and scientists ought to be through information exchange. The “Guideline for Collaboration," which shows how scientists and community stakeholders should collaborate in the community sites, will be shared by all participants as a general guideline, and will be improved to a better guideline through the mutual studies.

The “participatory evaluation of local science" will be implemented that is a system to evaluate studies useful for the solution of regional environmental problems and for sustainable community development both from the regional perspective and from the scientific perspective. The web journal, “Future of Local Environment," will be constructed to summarize, evaluate, and publish information about various cases on the Internet. In addition, information exchange and mutual evaluation between members will be encouraged through the holding of study meetings, symposia, workshops, and so on.

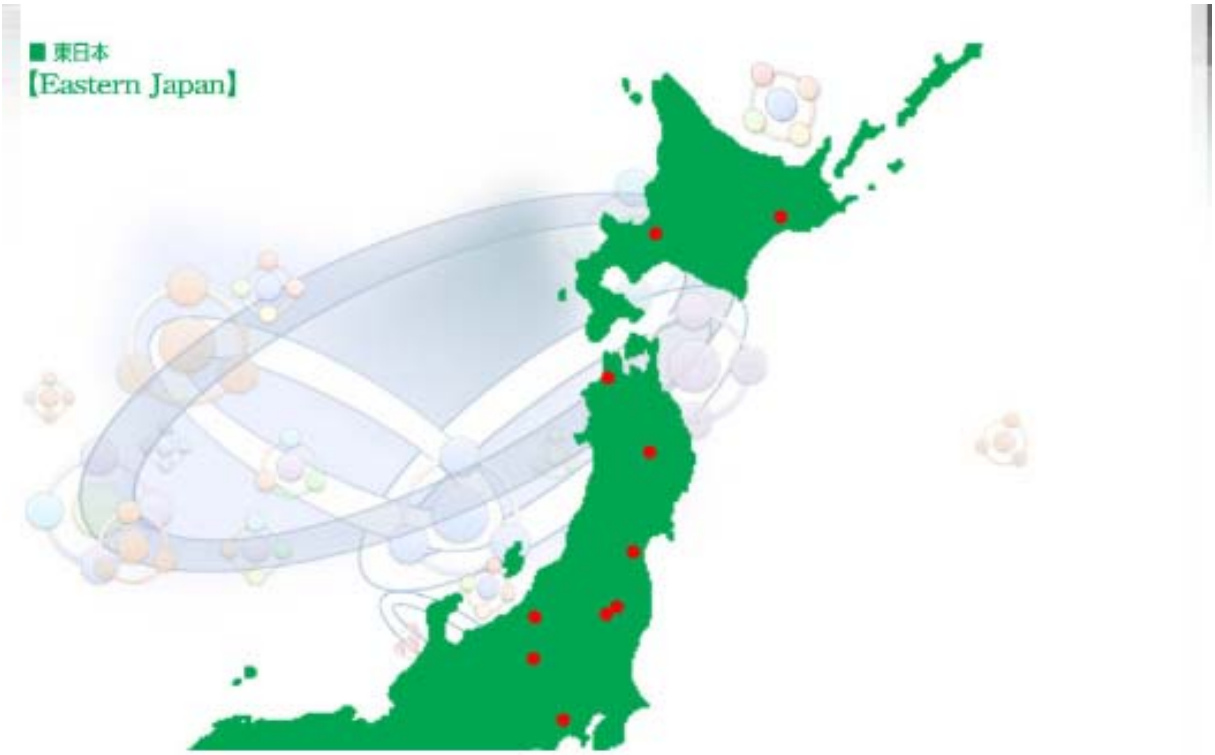
Community stakeholders will be able to obtain ideas useful for the improvement in individual efforts from exchanges with various local stakeholders and scientists who participate in the network from all over Japan. In addition, they will be able to make the first step toward the solution of problems in collaboration with scientists through the exchange with scientists who are willing to work on problem-solving researches. Furthermore, the foundation for steady step-up of efforts through the mutual objective evaluation of the efforts by obtaining the know-how and scientific knowledge and human networks from outside of the community.

Scientists will be able to evaluate the social value of their studies in terms of “contribution to the solution of problems," which are less appreciated at the conventional academic meetings, both from the regional perspective and from the scientific perspective, and hence obtain hints for further development of studies. They will be able to obtain evaluation and cooperation from scientists and stakeholders, who participate in the network from various regions, in the series of processes including the formulation of study plans, the implementation of field surveys, the writing of study papers, and the presentation of study results.



(3) Establishment and Development of the Local Science Network for Environment and Sustainability

The Local Science Network for Environment and Sustainability was formally established on March 31, 2010 with 42 scientists, various knowledge producers, and stakeholders active in advanced cases in various regions from Hokkaido to Okinawa listed as founders with approval for such vision of the "Local Science Network for Environment and Sustainability." We could realize a multilayered and multifaceted organizational structure, whose transformation can be promoted through the interactions between scientists, experts, and stakeholders, through the information sharing, mutual evaluation, and study on the cases of various regions, with participation obtained from those who have promoted advanced activities across the nation. Along with the establishment, we completed a PR leaflet and bylaws (Data 2) for the Local Science Network for Environment and Sustainability, held the Foundation Symposium in September 2010, and started the operation of the dedicated website and mailing list to gain penetration of the vision and significance of the network.



■"One da Green da" project, Nature Restoration Project of Hokkaido Kushiro Wetland, Kushiro, Hokkaido
Support in wetland restoration activities by local citizens and network creation

■Yezo Deer Association, Sapporo, Hokkaido
Yezo Deer Association, Sapporo, Hokkaido

■Iwaki River basin in Hirosaki, Aomori/ Watarase Retarding Basin in Kita-Kanto, Hokkaido University
Reconstruction of Environmental Management System by Local Communities – Role of ecosystem study and metagovernance – (PDF)

■Field Science Center, Faculty of Agriculture, Iwate University, Morioka, Iwate
Field Science Center, Faculty of Agriculture, Iwate University, Morioka, Iwate

■Kawasaki-cho, Shibata-gun, Miyagi・Association for utilizing resources in Kawasaki-cho
Directly Connecting Satoyama and Wood Stove Users –
Society of Kawasaki-Sendai Wood Stove Association –
Thinking about and interacting with forests through firewood (PDF)

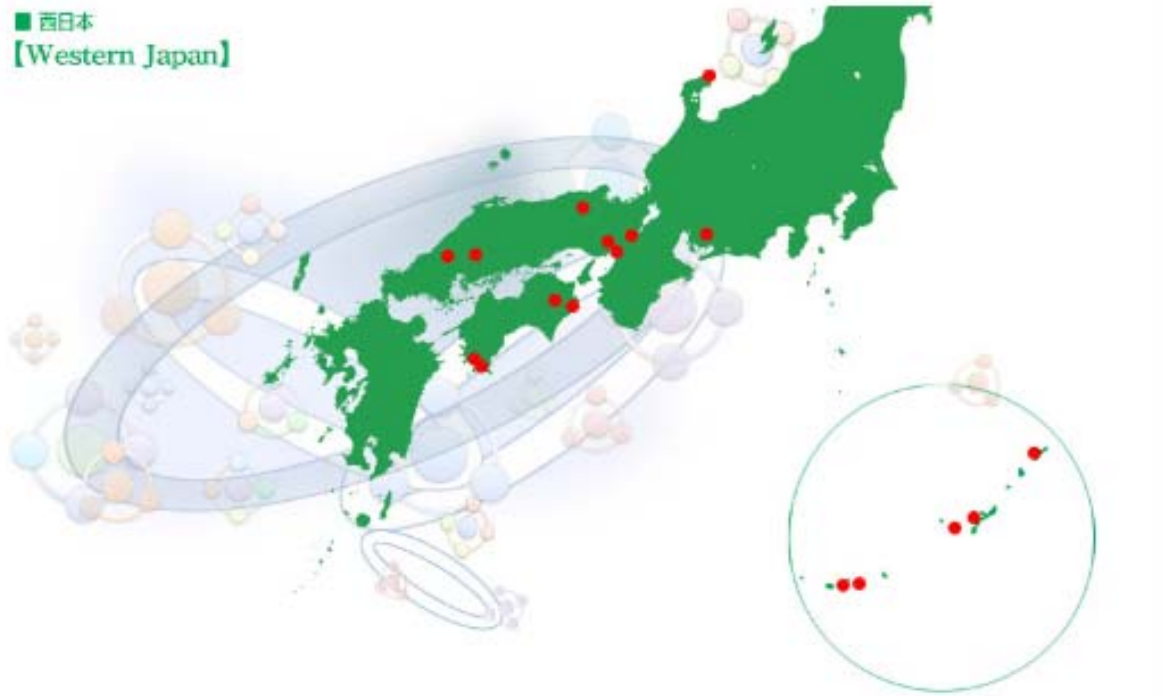
■Shikikobo Co., Ltd., Koriyama, Fukushima
Proposal involving sustainable lifestyles through the provision of environmentally friendly housing ★Details of activities★

■Tenei Village *EIMY*umoto Project in Fukushima,Tohoku University・*EIMY*umoto Regional Conference – Mountains, hot springs, and people – making a living using valuable local resources "EIMY Yumoto Project" – (PDF)

■Echigo-Matsuyama Museum of Natural Science "Kyororo" in Tokamachi, Niigata
Local museum as a hub for rural revitalization research and studies

■AUN Nagano University "Megumi no Mori" project, Ueda City, Nagano Building a tool kit for Satoyama restoration.
Effect of water area within forests on biodiversity and ecosystem service improvement (PDF)

■Tokyo Metropolitan University, Hachioji, Tokyo
Consortium for the Interdisciplinary Study of Human andNature Symbiosis in Island Systems (PDF)



■Noto Peninsula Satoyama Satoumi Nature School, Suzu, Ishikawa
Noto Satoyama Satoumi Restoration in collaboration with Local Communities

■Shiga Prefectural Lake Biwa Museum, Kusatsu, Shiga
Reconstruction of the multidimensional value of Lake Biwa through surveying citizens

■Aozora Foundation (polluted area restoration center), Osaka
Creating actors for community building – Nishiyodogawa Transit Oriented Community Building Project – (PDF)

■Kamikatsu Satoyama Club, University of Tokushima, Kamikatsu-cho, Tokushima
Takamaru-yama Sennen no Mori ★ Details of activities ★ Preliminary study on collaboration formation in local environmental conservation activities (PDF)

■Yahagi River Forest Health Check Committee, Toyota, Aichi
Scientific forest study "Yahagi River Forest Health Check" conducted in cooperation with local residents and researchers

■Senri Recycle Plaza Laboratory, Suita, Osaka
Efforts by citizen researchers to reduce waste and conserve the environment

■Hyogo Prefectural Homeland for the Oriental White Stork, Toyooka, Hyogo
Community building in coexisting with oriental white storks

■NPO Kuroshio Jikkan Center, Kashiwajima, Kochi
Satoumi creation by turning the entire island into a field museum

The Local Science Network for Environment and Sustainability was extended and expanded smoothly with 127 multidisciplinary members participating in it from all over Japan as of the end of the project. The actual condition was revealed through the establishment of the network and the development of the activities that sciences, which produce useful knowledge for the efforts on the solution of problems by the people in the community, are supported not only vocational scientists and experts but also people in various positions, and the fact promoted the pursuit of how the new knowledge production ought to be over the borders of the conventional sciences. This issue is expected to be continuously discussed after the end of the project in the newly started “Local Environmental Knowledge Project" by the Research Institute for Humanity and Nature. In addition, the various people grappling with environmental problems, which communities are faced in the respective regions, form networks engaged in dynamic activities within the communities, where

vocational scientists/experts and various knowledge producers are important constituents. The project has discussed a system, which can promote activities toward the solution of problems with such intraregional networks maintaining their centripetal force, viz. an adaptive governance system, through advanced cases in various regions. This will be also pursued as a chief issue in the Local Environmental Knowledge Project.

3-3-3. Guidelines for collaboration between local communities and science communities

(1) Concept of the guideline

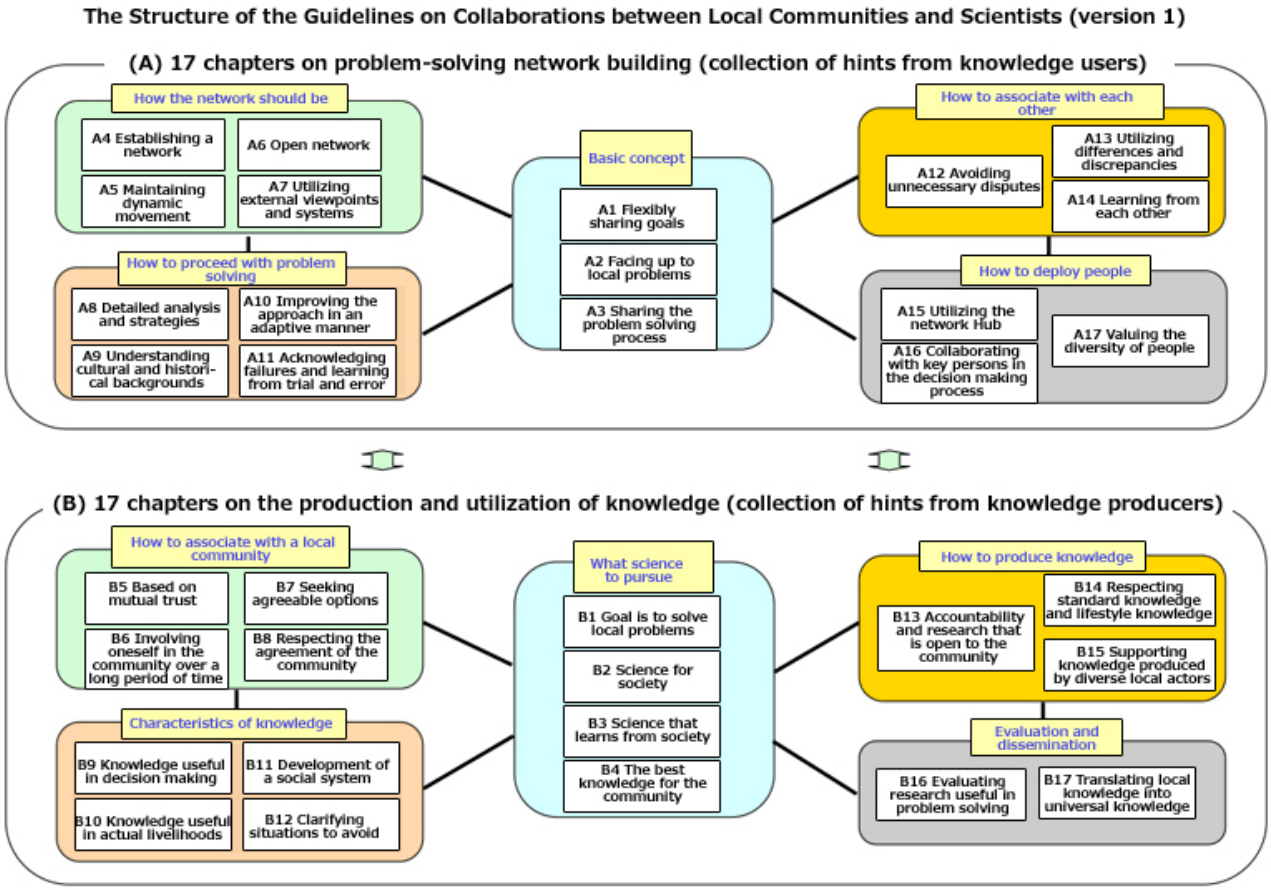
The “Guideline for Collaboration between Communities and Scientists" was worked up over approximately one year by preparing a basic concept through the brain storming etc, by the founders of the Local Science Network for Environment and Sustainability held in March 2010, notifying the original proposal with a summary of previous achievements in research and development to the network members, proposing the first proposal at the inaugural meeting for the Local Science Network for Environment and Sustainability, and then discussing it closely on the mailing list for network members. The final version of the first edition completed after discussion at the field workshop held at Toyooka City in February 2011. The concept, the brief edition, and the full edition of the “Guideline for Collaboration between Communities and Scientists (First Edition)" were published on the website for the Local Science Network for Environment and Sustainability on March 10. In addition, we published a Webpage soliciting comments on the guideline with a system constructed to enable feedback from a wide variety of people.

In order to realize the community-based solution of environmental problems and a sustainable society from the bottom upward, a social system is required that can be used by stakeholders living in communities for the environmental conservation and sustainable development of communities. The scientific knowledge produced by scientists everyday, however, does not always harmonize with the nature of the knowledge produced and inherited by people living in communities or the rules of communities in decision making. The “Guideline for Collaboration between Communities and Scientists" was constructed in the bottom up approach by the local stakeholders and scientists, who constitute the Local Science Network for Environment and Sustainability, by bringing about various device for collaboration, which they have developed to resolve problems facing the individual communities. Thus the guideline intends to provide guidelines and gist in producing and using various knowledge that is required to solve regional problems. This guideline is used for local stakeholders and scientists to confirm the points to note in grappling with problems so that they may review the mutual condition toward better solutions of problems.

(2)Guideline for Collaboration between Communities and Scientists

This guideline consists of “(A) 17 provisions for networking for solutions of problems," which are intended to advance the collaboration with scientists and stakeholders, and “(B) 17 provisions for production and use of knowledge," which are intended to promote sciences contributing to the solutions of problems. (A) chiefly proposes provisions serving as guidelines that can be used by those who specifically address the solution of problems by exploiting their knowledge on the scene of their activities; whereas (B) chiefly proposes to knowledge

producers, who try to produce knowledge technologies useful for solutions of problems, a new way of science that they will evolve it through learning in communities. (A) and (B) are not separated strictly but are closely related to each other of course.



Full text of the Guideline for Collaboration between Communities and Scientists

(A) 17 provisions for networking for solutions of problems

Basic concept

A1. We shall gently share visions and goals for regional activities.

We shall encourage people with different values or visions to collaborate based on their mutual trusts by finding a vision or goal, which can be shared by various factors, and constructing a network that gently involve the people with such vision or goal as a nucleus.

A2. We shall sincerely face the actual condition and problems of communities.

We shall analyze the actual condition of regional environments and problems facing communities from various perspectives, and work on problem resolution by sincerely accepting them.

A3. We shall advance the process of problem resolution in concert with various people.
We shall enable the activities toward the open resolution of problems through the process of a wide variety of stakeholders and scientists/experts in communities to discuss and address regional environment problems.

Ideal networking

A4. We shall network the people who support the community efforts on problem resolution.
We shall form and activate networks of various stakeholders with different interests in order to support and drive the community efforts on problem resolution.

A5. We shall maintain the dynamic movement of the network and avoid rigidification.
We shall maintain the dynamic movement of the network and avoid rigidification. We shall explore how a dynamic network ought to be so that the networks of people aiming to resolve community problems may go on moving with structures and functions flexibly changed.

A6. We shall aim at an open network without preventing the advent of new actors.
We shall aim at an open vigorous network enabling participation of many people by welcoming the participation of new actors in community networks and allowing the roles of the individual actors to change flexibly.

A7. We shall import and make full use of outside perspectives and systems.
We shall endeavor to find a better option by importing the perspectives and foreign systems relating to regional environments by translating them in accordance with the actual condition of the community.

How to advance the solution of problems

A8. We shall advance activities with elaborate and careful strategies.
We shall strategically resolve problems from a perspective of many people by elaborately analyzing the present condition complicated with various values and interests.

A9. We shall understand and make use of cultural and historical backgrounds.
We shall convince and encourage various stakeholders to participate in the network by thoroughly understanding the cultural and historical backgrounds of communities.

A10. We shall improve the efforts in an accommodative manner.
We shall improve the efforts in an accommodative manner by flexibly introducing new approaches with the definitions of problems to be solved and improvement goals reviewed in accordance with the complicated and dynamically changing regional

environments.

A11. We shall acknowledge failures and learn from trial and error.

We shall improve efforts by sincerely accepting the results of the efforts on problem resolution through trial and error without refusing to acknowledge failures.

How to interact with each other

A12. We shall aim to obtain understanding and consent from many people by avoiding unnecessary struggles.

We shall implement activities based on mutual trusts with due efforts in explanation and mutual understanding by trying to explain and mutually understand with every possible precaution paid so that the people with different sense of value or views may not fall into needless confrontations.

A13. We shall explore a way to make use of differences or inconsistencies in the community by respecting the differences of each other.

We shall try to find a common values or views while allowing the differences of each other by accepting as natural the existence of people with various individuality or various problem awareness in the community. We shall explore new needs and buried human resources by accepting and adopting differences or inconsistencies rather than resolving the diversity in values or views.

A14. We shall cultivate younger generations by consistently encouraging them to mutually learn from each other.

We shall cultivate younger generations, who will bear the future of the community, through the mutual learning by consistently encouraging scientists and stakeholders to learn from each other, transform themselves, mutually understand, and deepen interactions.

How to achieve the potential of human resources

A15. We shall give consideration so that the human resources, who are expected to play a central role, may achieve their own potential.

We shall promote the effective functioning of the problem resolution process by developing an environment where the “hub” of the network, which involves people in various positions and the “catalyst," which promotes collaborations through the mutual learning and mutual development among the people, may be generated and play an active role.

A16. We shall emphasize the collaborations with actors who will play a key role in decision making of communities.

We shall take concrete and effective measures in close cooperation with people and organizations, who play a central role in decision of making of the community, with due

understanding of the conventional decision-making system of the community.

A17. We shall explore a way to allow various human resources and technologies in the community to be put into full use.

We shall strive to enable people to naturally achieve their respective personalities and capabilities with expectation for the latent potential of the human resources in regional networks with various professional abilities and skills such as the assessment of regional environments and extraction of issues, scientific knowledge technologies useful for problem resolution, administrative processing, comprehension of legal systems, transmission of information, and fund raising.

(B) 17 provisions for production and use of knowledge

Directions to be aimed at by sciences

B1. Our studies shall aim to solve problems relating to regional environments.

We shall cultivate sciences that can produce knowledge useful for problem resolution in the actual situation of the individual communities. We shall pursue sciences that support stakeholders, who are problem solving actor in communities to solve problems relating to regional environments by using various knowledge.

B2. Our mission is to produce sciences for the society.

We shall pursue “sciences in the society for the society," which does not end up in sciences, with due attention paid to the use by local stakeholders of the knowledge transmitted as research results. To that end, we shall develop our skills in “translating” scientific knowledge in accordance with the actual regional condition with the aim of producing knowledge that are in harmony with conventional knowledge technologies and decision-making systems and are useful for problem resolution communities.

B3. We shall deepen the of sciences by learning from communities.

We have learned much so far through the exchanges with local stakeholders. We shall consistently review and deepen the scientific system itself by developing our knowledge technologies while learning from the actual condition of communities and by making the most of such experience to increase the quality of scientific researches.

B4. We shall pursue producing the best scientific knowledge for communities.

We shall aim at sciences to search for a solution likely the best for the community by learning from the community in the condition specific to the individual community as well as pursuing universal and highly general scientific results. Those two approaches are not opposed to each other. We believe that we can find a clue to the essence, truth, and solution of environmental problems and further deepen scientific researches by

being deeply involved in the community and learning from the community.

How to interact with communities

B5. We shall support problem solving by stakeholders on the basis of mutual trusts.

We shall aim to encourage scientists and stakeholders to trust each other and collaborate by understanding the mutual limitations. The scientists/experts shall learn from and support the activities of various stakeholders with an attitude of leaving the judgment to the stakeholders.

B6. We shall be involved in communities with a long-term perspective.

We shall fulfill our commitment for the future of the community as one of stakeholders by keeping involved in the community either in the position as a knowledge producer or user irrespective of residential or visiting.

B7. We shall respect various senses of values and views and pursue options enabling consensus building and realization.

We shall patiently pursue options bridging the gaps among stakeholders in various positions, which can be selected or realized based on consensus, with awareness of the existence of various and sometimes mutually opposing values.

B8. We shall respect the consensus of the community.

Once a consensus of the community is obtained, we shall pursue knowledge useful for problem solving within the range of the consensus.

Nature of knowledge

B9. We shall emphasize the knowledge that is useful for judgment or decision making.

We shall emphasize producing knowledge technologies, which are useful for judgment or decision making on the problem solving scene in the individual community, in collaboration with and through interactions with various stakeholders

B10. We shall produce knowledge that can be used on the scene of livelihood or trade in communities.

We shall emphasize the development of knowledge and techniques, which are useful for the sustainable use of resources and for the promotion of industries in harmony with the environment, on the scene of agriculture, fishery, and forestry and in the corporate activities using natural resources.

B11. We shall develop social technologies required to construct sustainable communities.

We shall promote the development of consensus building techniques and social systems such as the use and distribution of resources, which are required to enable problem resolution, as well as the scientific exploration of the way of problem solving.

B12. We shall strive to disclose the situation to be avoided.

We shall sincerely face the actual condition where the best solution is difficult to find

due to the actual complexity and uncertainty of the community, disclose a situation based on a consensus, which should be avoided by all means even if it is uncertain in scientific terms, and explore the possibility that the situation may occur and options to avoid the situation.

Method of knowledge production

B13. We shall achieve accountability and implement studies open to communities. We shall achieve accountability by implementing open studies with the study purposes, methods, and study processes such as prospective risks shared with processes stakeholders. We shall enhance the quality of scientific researches by learning a lesson from advance and criticism from various people.

B14. We shall emphasize conventional knowledge and knowledge cultivated in the daily life. We shall deepen various conventional knowledge, folk technologies, and life knowledge to use for solving problems by constructing new sciences aiming to comprehensively understand regional environments along with scientific findings.

B15. We shall support knowledge production by various actors in the community. We shall put importance on the fact that various actors, such as those who are engaged in the primary industry and regional companies, produce excellent knowledge technologies deeply concerning the regional environment, and support such knowledge production activities.

Evaluation and transmission

B16. We shall highly evaluate studies that are useful to solve problems in communities. We shall implement studies with an attitude of highly evaluating the contribution to communities as well as sincerely pursuing an academic value in an attempt to cultivate young researchers responsible for the next generation, who can roll out high quality studies with their passion for the community and involvement in it as spiritual nourishment.

B17. We shall transmit the knowledge and systems cultivated by communities by translating them into universal knowledge. We shall aim to enhance the communities' appreciation of our activities by translating the conventional knowledge and social systems accumulated in communities and widely transmitting them to the communities with confidence.

(3) Assessment of the guideline and future improvement

The Guideline for Collaboration between Communities and Scientists is published on the website of the Local Science Network for Environment and Sustainability and comments are

solicited on it on the web. In addition, we attempted to widely collect views and advice through field workshops, symposia, etc. However, this attempt did not go effectively and we could obtain very few comments. The reason is probably attributed to the high level of abstraction of the guideline. At an informal discussion about the Guideline for Collaboration between Communities and Scientists held by the University of Tokyo graduate students group, they unanimously evaluated that the guideline is “considered very well." In other words, it seems that we produced knowledge “that is generally correct but is unuseful on the community scene" again.

It is apparent that the Guideline for Collaboration between Communities and Scientists needs to be improved for the usability in the daily scene from the field perspective. The basic study project “Formation of Local Environmental Knowledge for Creation of New Commons and Sustainable Management" (project leader: Tetsu Sato, for five years since April 2012), which started at the Research Institute for Humanity and Nature in fiscal 2012, aims to elucidate how scientific researches ought to support the adaptive governance of ecosystem services by various stakeholders in communities and the mechanism of producing, distributing, and using the “local environmental knowledge" by a wide-ranging comparative study and meta-analysis from the perspective of knowledge users. In this project, a detailed analysis will be made on the way how the sciences ought to support the activities toward the sustainable community development led by community stakeholders not only in the cases collected at the Local Science Network for Environment and Sustainability, but also in a wide variety of global case studies and meta-analysis. Through such efforts, the Guideline for Collaboration between Communities and Scientists is expected to mature as a guideline for decision making and actions by people in the community scene. More specifically, the construction of the guideline will be promoted so that it will be effectively used on the scene of real world communities in a manner that the priority of the items be presented according to the nature of problems facing the individual communities.

3-3-4. Working groups

With the expansion in size and the diversity of members of the Local Science Network for Environment and Sustainability, lower structures sharing interests in specific problems came to be produced spontaneously within the networks. Those groups have a potential of rolling out various new activities on the axis of the common interests. Accordingly, the network adopted a strategy of supporting the activities of those spontaneous groups by positioning them as working groups (hereinafter referred to as WGs) within the network. The gathering of members with certain interests in common is expected to produce an incentive in the network activities. In addition, the research activities toward the resolution of the individual problems is expected to be activated with those working groups as a nucleus, resulting in further development through such effects as raising of outside funds.

Seven WGs—“Satoumi and Aquatic Resources Management (organizer: Kakuma)," “Satoyama (Kamada)", “Wildlife Management (Matuda)," “Natural Energy (Niitsuma)," “Social Technologies (Yanaka)," “Ecotourism (Sato)," and “Young Scientist WG (Hiyoko-gumi, Shimizu)"— have been established as of the end of the project and various activities started. What is noticeable among others is the activities of the “Hiyoko-gumi." This working group

was participated in by many young scientists, enabled flexible information exchanges using media such as Facebook, and conducted the first field survey by a working group in February at the Noto Peninsula Satoyama Satoumi Nature School, Kanazawa University with 12 participants. The report is published on the website (Data 3). The design of the residential research internship significantly progressed with the activities of the Hiyoko-gumi as a turning point.

Most of the members of Local Science Network for Environment and Sustainability, who participate in the Hiyoko-gumi, are scientists/experts fresh from a graduate school. A potentially large number of young people exist in the working group who became gradually less attracted to the institutional researchers as a career path. An increasing number of people, who should have gone on a career path of obtain employment in a company after graduation from the graduate school, wishes to go back to their hometowns or communities to do something for the sake of them. For example, there is an increasing number of cases where a botanical researcher who works at a museum located in a suburban area on a permanent basis drops out with an intention to work for the community, which used to his research field, and settled down at the community as a residential researcher. An environment is gradually developing in Japan that enables young people who feel awkward about the research style in the existing system to start residential researches at a field in the community. The Local Science Network for Environment and Sustainability is expected to function as an effective platform to support and cultivate such a young generation.

○Summary of working groups (published on web site)

Satoumi/marine resources management WG

“This summary is provisional including the name of WGs. The situation may change in future with the progress of discussion. We wish to discuss the satoumi for the time being. Topics about the aquatic resources management are also welcome. The term “Satoumi (village beach)" came to be heard often recently. Satoumis exist in all over Japan with diverse landscapes. The problems in satoumi development are also diversified and were classified into six themes, viz. definition, use, system, culture, interchange, and technologies as a result of a certain Satoumi Meeting. The “Regional Environmental Study for Creation of Sato-umi" symposium held by Local Science Network for Environment and Sustainability in October 2011 focused on “Distribution" (theme: interchange). Satoumi development thus requires an interdisciplinary approach that extends over the natural science, the social science, and humanities. Satoumi development getting popular in overseas as well. The Satoumi workshop in Shanghai is held in 2008 and the Satoumi workshop Manila in 2009. At CBD-COP10 in 2010, at least four side events relating to Satoumi were held. Satoumi is expected to further spread in future in particular in the Asia-Pacific region. The MPA (marine protected area) was acknowledged as an important item in the COP10, the National Marine Biodiversity Strategy, and so on. As the MPA is expected to be an effective tool for Satoumi development, it will be discussed at this WG too. As the first activity of this WG, the “community-led Satoumi development" workshop (provisional title) will be held at the Kyushu University in January 20, 2012. The holding of this workshop was enabled by the cooperation of Professor Tetsuo Yanagi of the Kyushu University. Participation of non WG members is also welcome."

Wildlife WG

“Half a century ago, many wildlife species were sharply reduced or in the extinction crisis in Japan due to the effects of human activities such as land development, overhunting, environmental pollution, and introduced species. Later, many wildlife species are about to recover as a result of such efforts as prohibition of hunting, water purification, and pesticide regulation. Rather, an excessive increase of wildlife started to cause new problems including the damage of agriculture and forestry products. The hunters, who used to cause overhunting, continued to decrease and age, reportedly resulting in danger of extinction of the hunting culture. In particular, overpopulated Japanese deer, goats, and Japanese cormorant, not only damage the agriculture and forestry products but are also about to have an adverse effect on the ecosystem such as feeding damage on natural vegetation and soil erosion. The Local Science Network for Environment and Sustainability will encourage information exchanges by taking up wildlife problems in the regional activities not only on the aspect of countermeasures against damage by wildlife but also the effective use and protection activities. We wish to deepen interdisciplinary discussions not only from the biological perspective but also the aspects of economy and culture. we will exchange information and propose plans not only on events of this network but also other activities.

Natural energy WG

“Energy is indispensable for all activities and trades in communities and is deeply involved in the regional environment and ecosystem as well.

This WG will exchange information and views, introduce cases and activities, mutual learning of wisdom, technology exchanges, and liaisons with other related organizations on a wide variety of matters relating to the regional energy with “Consider Energy through Communities and Environment" and “Consider Communities and Environment through Energy" as keywords.

Natural energy includes not only hydraulic power and solar power but also firewood and charcoal, grass, and energy such animals as cow and horse, and energy of human beings, who are a bearer of community life and industries.

Potential agenda include but are not limited to the following:

-Interactions between the sustainable use of biomass in Satoyama, grassland, and reed fields and the ecosystem
-Plantation of secondary forests (forests for fuel) and grassland
-Use of natural energy in agriculture, forestry, and fishery
-Community development using natural energy
-Environmental education through regional energy
-Use of natural energy for regional safety and peace of mind
-Natural energy application technology
-Social technologies for use of natural energy
-Regional traditional techniques for use of natural energy
-Environmental effects of use of natural energy
-Environmental load and environmental destruction resulting from the use of natural energy
-Environmental coexistence society

The participation of those who will study on or are interested in regional natural energy or communities in energy terms are welcome regardless of past achievements."

Ecotourism WG

We will position ecotourism as one of “various approaches for sustainable management and use of ecosystem services (such as natural resource management, ecosystem management, etc.) or as one of methods for sustainable community development. It important to meet those two requirements at the same time. This working group aims to work on the management of ecosystem services and the development of sustainable communities through the promotion of ecotourism at various parts of the world, to mutually learn from the diversity revealed by collecting and analyzing various cases, and to share new ideas. We will discuss, through mailing lists and workshops, the system of exploring the value of regional resources from the promotion of ecotourism, the system of creating additional values from consideration of the natural environment and efforts on sustainable management of natural resources, and the system of compiling success stories of sustainable community development to a resource of ecotourism, and will collect and share sustainable options that can be used in the actual condition of communities. It must be pleasurable if we can construct a “toolkit for promotion of ecotourism," which enables people in various parts of the world to voluntarily select options appropriate for their respective condition, through the collection of various cases."

Youth WG (aka Hiyoko-gumi (chick group))

The young members, who participate in the “Hiyoko-gumi," struggle everyday considering

what they can do for the community where they are stationed or where they grew up in all over Japan.
This WG aims to bring about experiences and problems on the frontline for addressing new problems such as problem-solving researches and community development in collaborations with various actors, and use them in practice as a researcher or a bearer of community development.
Our future events include the workshops to be held by visiting study fields of members and the issuing of the “Quarterly Magazine Hiyoko" (provisional name). We also exchange information and have discussion on the Facebook."

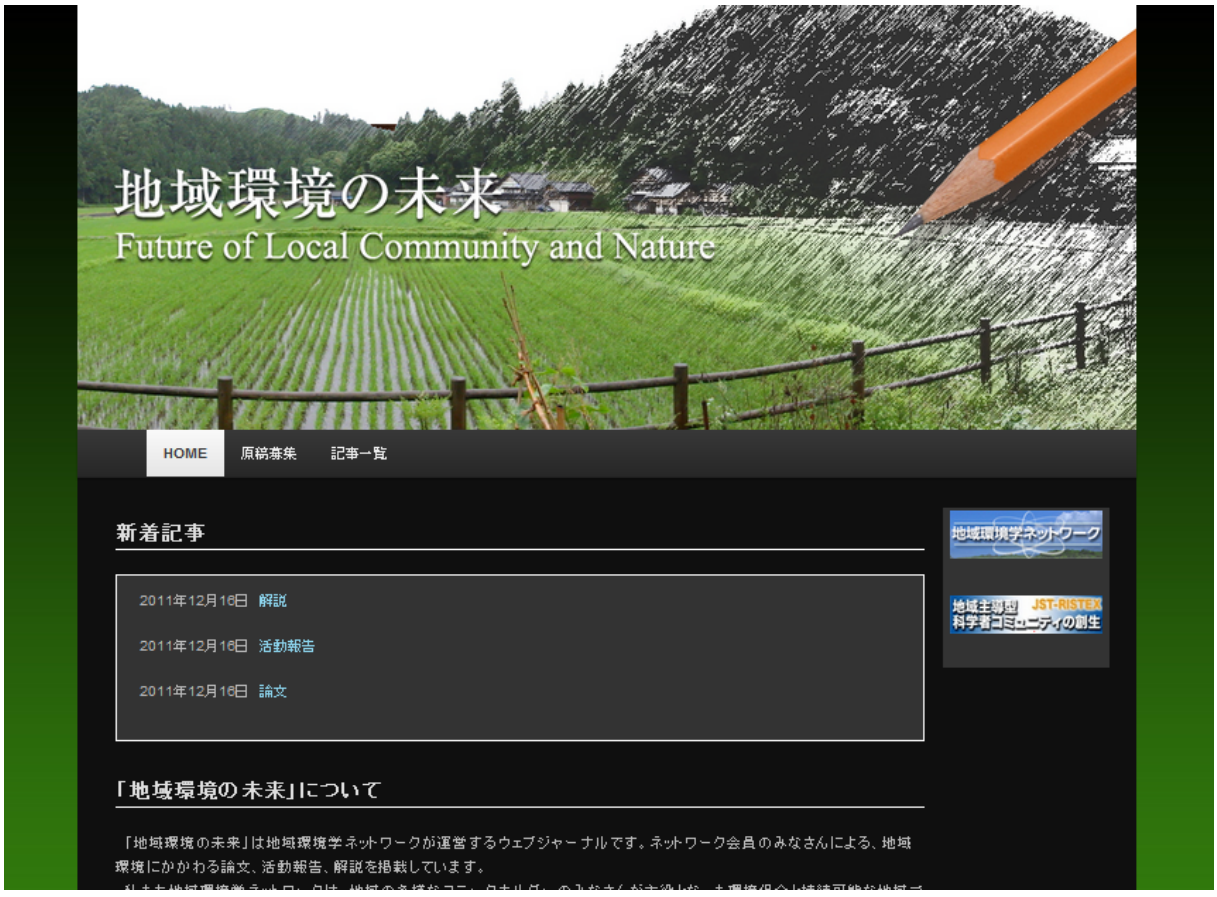
3-3-5. Participatory evaluation system

① Concept of the Participatory Evaluation of Local Science system

We aimed to promote the transformation of scientist communities by appreciating the achievements of problem-solving researches directly connected to the solution of regional environment problems, with light shed on the studies implemented by residential researchers who face the regional properties from the front, through the construction of the Participatory Evaluation of Local Science system to evaluate them both from the regional perspective and from the scientific perspective. The system was concretely designed based on two original proposals of (1) Evaluation of local science in accordance with the 17 provisions for production and use of knowledge and (2) 17 provisions for networking for solutions of problems. (1) aims to support the problem-solving studies by constructing a system to evaluate the sciences, which produce knowledge applicable by local stakeholders to problem resolution, and the results of exploration of social systems conducive to the use of knowledge and construction of a sustainable society system from the perspective of both stakeholders and scientists. To that end, we designed the criteria for peer review by stakeholders on the basis of the Guideline for Collaboration between Communities and Scientists, constructed a website for stakeholder-participatory web journal, “Future of Local Environment" in December 2011, and started soliciting contributions. At present, several authors express their intention for contribution and the first paper is expected to be published in fiscal 2012.

For (2) of the Participatory Evaluation of Local Science system, we effectively implemented activities toward the conservation of regional environments and the construction of a sustainable society through the collaboration between stakeholders and scientists/experts within communities and attempted to design an award program of appreciating successful cases with participation of various members obtained to support excellent collaborative activities. For this activity, however, many objections erupted from project members and area advisors. An especially serious concern is that such award program may result in a new top-down authorization likely to differentiate various regional activities. With respect to the evaluation criteria, which plays a central role in the award program, it was pointed out that the Guideline for Collaboration is only one of guidelines and it should not provide any distinct criteria to evaluate the value of regional activities. From a concern over likely construction of an arbitrary award program without distinct evaluation criteria, it was decided to put off the introduction of the award program in the present design in fiscal

2012. From the recognition that it is important only to evaluate a science contributing to the regional problem resolution instead of evaluating the entire regional activities by returning to the starting point, a new system to select and recognize “Impact Stories" from among reports contributed to the stakeholder-participatory web journal will be deliberated after constructing detailed evaluation criteria. Given a new large research project, “Formation of Local Environmental Knowledge for Creation of New Commons and Sustainable Management," started in fiscal 2012 at the Research Institute for Humanity and Nature, in a manner of effectively taking over this research & development project, we will promote the construction of an evaluation system for sciences directly connected to the solution of regional problems from the perspective of adaptive governance of communities with the production and distribution of knowledge as a nucleus in that project with the previous accumulation put into full use.



(Only Japanese web site is currently available.)

② Outline of the “Future of Local Environment"

The “Future of Local Environment" is a web journal operated by the Local Science Network for Environment and Sustainability that contains research papers, activity reports, and comments relating to regional environments written by network members.

The Local Science Network for Environment and Sustainability pursues sciences that can properly support the activities for environmental conservation and sustainable community development implemented by various stakeholders in communities as an actor. If we can

provide guidelines, ideas, and technologies, which meet conditions specific to the respective communities, are helpful to obtain agreement and consensus building of people in communities, and are shared by various people with different interests or concerns, such knowledge and technologies must be significantly useful for the activities of the people in communities toward the sustainable future. The “Future of Local Environment" will contain research papers concerning such community-based knowledge technologies, comments about findings in various fields, which will help in the decision making and concrete activities of the people in communities, and reports on community activities using such knowledge technologies.

③ Characteristics of the “Future of Local Environment"

1. Summary for Stakeholders

The research papers and comments to be contained in the “Future of Local Environment" are required to provide a “Summary for Stakeholders." The summary will be edited in an easy to understand manner so that “knowledge users (stakeholders)," who are not experts but are in a position of using the knowledge technologies contained in the research papers or comments in their communities, may use the knowledge technologies contained in the account more easily. A significant characteristic of the “Future of Local Environment" is thereby is promote the use of the knowledge technologies at the activity fields in communities.

2. Peer review by stakeholders

All the accounts (including activity reports) contained in the “Future of Local Environment" have been recognized as worth publishing for the contents through the review (peer review) by several referees. Such a peer review is evaluated usually by experts familiar in the respective fields in accordance with scientific accuracy and value. The “Future of Local Environment," which provides knowledge technologies to be used by community people or application cases, requires evaluation not only for the scientific value but also from the perspective of whether the knowledge technologies are significant or usable for the people who will use them on a specific scene. Accordingly, we have developed a system where research papers and comments are subject to peer review by referees, who are non-expert in the field but are stakeholders, with respect to the “Summary for Stakeholders" and activity reports are subject to peer review by the referees with respect to the entire account. We believe that this system permits us to select only accounts that are likely to be actually useful to solve the regional problems as well as for the scientific value.

3. Disclosure of peer review comments and exchange of comments after publishing

The “Future of Local Environment" is a web journal free from space limitations. Accordingly, we disclosed the comments by peer reviewers and answers from the authors for all the published accounts as device to realize a highly transparent review. The “peer review criteria" are published on the “contribution solicitation" page. In addition, we constructed a system to allow readers to enter comments for discussion with the author after the account is published with the interactive nature of the web put into full use. For details, see the “Comment” section in the accounts. The knowledge technologies, which are published in the “Future of Local Environment," are expected to be further refined and improved as a catalyst for new studies

or activities through such discussions.

4. Definitions of “experts," “stakeholders," and “residential researches"
For those definitions, see the following websites.

Website for the Local Science Network for Environment and Sustainability
(http://lsnes.org/index.html)

Website for the Research & Development Project “Construction of a Pragmatic Scientist Community Contributing to Stakeholder-driven Management of Local Environment,” Research Institute of Science and Technology for Society, Japan Science and Technology Agency
(http://localsci.org/index.html)

5. Copyright

(4) Peer review criteria for the Participatory Evaluation of Local Science

The design philosophy of the “Future of Local Environment" is embodied in the peer review criteria. The full text of the “peer review criteria" is shown below.

“Future of Local Environment" Peer Review Criteria (“Future of Local Environment" Editorial Committee)

(Basic concept)

The peer review of the “Future of Local Environment" aims to publish as widely as possible the knowledge technologies, which are useful for the resolution of local environmental problems and sustainable development, and various reports on activity cases in various parts of Japan, which can be used by community people for reference. Accordingly, the peer review shall be conducted with the aim of improving the description of accounts from the perspective of stakeholders, who are a knowledge user, and of achieving the level required for publishing as much as possible. In conducting the peer review, views of peer reviewers shall be disclosed for the following items and concrete improvement points shall be definitely described with the objective of thereby improving the description of the account. Reasonable and convincing reasons are required for peer reviewers to finally make a decision of rejecting to accept the account.

(Disclosure of the peer reviewer selection and peer review process)

Research papers and comments shall be peer-reviewed by two experts, who will be selected by the editorial committee in consideration of special fields, details of activities, and so on, for the full text (including the “Summary for Stakeholders"), and shall be peer-reviewed by one stakeholder in the related field, who is a knowledge user, for the “Summary for Stakeholders." Activity reports shall be peer-reviewed by one expert and one stakeholder. The real names of the peer reviewers shall be disclosed in principle. The views of the peer reviewers, the judgment of the editorial committee, and the response of the author to them shall be disclosed too along with the adopted document. Those measures shall be taken with the objective of realizing fair and highly transparent peer review.

(Publishing criteria)
The contributed papers shall be graded out of 10 for the following items, and the editorial committee shall comprehensively judge the advisability of publishing the papers, which are selected subject to the criteria that they contain one or more especially excellent items graded 7 or higher in average by all the peer reviewers, in consideration of the details of the individual comments. The peer reviewers are required not only to evaluate the respective items but also to encourage the improvement of the texts by providing concrete advice as required. The editorial committee shall provide advice for improvement as required based on the views of the peer reviewers.

1. Research papers and comments

1-1. Criteria for peer review by scientists/experts

1-1-1. (Scientific standard)
As the scientific standard, the description and details of research papers and comments shall meet the reliable reasonableness for the evaluation criteria for decision making by various stakeholders in communities. The scientific standard does not ask about scientific novelty or innovativeness. In addition, an attempt to transmit a value of activity by local stakeholders by translating into a universal science will be also welcome.

1-1-2. (Study design and accountability)
It is important that a study is designed so that it may be consistent with the structure of problems faced with the community, the community's sense of value, and the decision-making system in due light of the history, culture, and conventional knowledge technologies specific to the community. it shall be emphasized that a knowledge technology has been explored that is concretely applicable by community stakeholders in the actual condition of communities. A certain measure needs to have been taken to ensure that the study is conducted based on formation sharing and consensus with local stakeholders and that study results are shared with the local stakeholders in line with the publication of the study results on this journal.

1-1-3. (Summary for Stakeholders)
The “Summary for Stakeholders" needs to explain the study results in an easy to understand manner so as to so that it may help knowledge users in understanding, comprehension, and utilization. In addition, it is important that knowledge technologies, which can concretely contribute to the resolution of local environmental problems and the sustainable development, are described in a concise and obvious manner.

1-1-4. (Nature of knowledge technologies)
Information needs to be included that may contribute to the solving of problems by stakeholders such as information providing scientific grounds for judgment or decision making by local stakeholders, knowledge technologies usable on the scene of livelihood and industries, and social technologies conducive to the resolution of environmental problems and the construction of sustainable society.

1-1-5. (Uncertainty and scope of application)
Uncertainties and insufficient elucidation included in the study results need to be explained with definite consciousness. In addition, the scope of application of the study results need to have been explained, and consideration need to have been given to the possibility of generalization to different conditions.

1-2. Criteria for peer review by stakeholders (Summary for Stakeholders)

1-2-1. (Ease of understanding of description)
The “Summary for Stakeholders" needs to have been written in an easy to understand manner so that stakeholders less familiar with the special field may easily understand and apply the knowledge technologies without due professional knowledge.

1-2-2. (Persuasiveness and reasonability)
The details of knowledge technologies need to be logically explained with sufficient grounds in a persuasive manner with the conclusion and rolled out ideas likely to be understood by a wide variety of stakeholders.

1-2-3. (Effectiveness)
At least one idea or vision, which will serve as an activity guideline on the scene, or finding helpful to understand the actual condition of the local environment or society, or knowledge technology etc. applicable to concrete activities need to be proposed.

1-2-4. (Agreeableness and feasibility)
It shall be emphasized that the knowledge technology can be accepted and realized in the long run by stakeholders with different senses of values or interests, and that a tool or vision is shown that is helpful in decision making or consensus building.

1-2-5. (Insufficient elucidation, application limits)
Indefinite points and uncertain points shall have been explained with definite

consciousness, consideration needs to have been given to the scope that the study result is applicable, and the possibility of improper use of the knowledge technology.

2. Activity reports (common to expert/stakeholder peer reviewers)

2-1. (Creativity and originality)
It is important that limiting factors facing communities such as socioeconomic limitations, difficulties in use of natural resources, lack of human resources, diversity of values, and difficulties in consensus building have been accurately grasped and activities to overcome them have been rolled out. It is indispensable that the ideas and processes, methods and techniques applied there, and the activity results have been reported to provide findings, which may serve as reference for activities in various communities facing their own specific problems.

2-2. (Collaborations among various stakeholders)
It should be shown definitely that the study results have been achieved in collaborations among various stakeholders who participated in the study from their own perspectives. It is important that people with different standpoints and points of view are accepted and various views and ideas are adopted.

2-3. (Flexible activities without rigidification)
It should be definitely shown that various stakeholders promote activities by daringly adopting practically acceptable ideas and collaboratively feasible goals and methods with the mutual relations and differences between various actors in communities deeply understood without being bound by narrow perspectives and senses of values.

2-4. (Use and cultivation of human resources)
It is necessary that human resources in the community with various knowledge technologies useful in constructing a sustainable society, such as residential researchers in the community and translators in various positions, have been recruited and applied and that the aspect of human resource training has been adopted in the activities with a vision toward the cultivation of the next generations who will play the central role in the community in future.

2-5. (Recognition of limitations of activities and future issues)
It is necessary that not only what could be achieved in the reported activities but also problems left unsolved and new problems likely to occur in future have been explained with definite consciousness. In addition, it is important that future visions to overcome them have been proposed and that concrete problems to be considered continuously and activities to be implemented have been shown.

December 13, 2011

3-3-6. Residential research internship

The Residential Research Internship is positioned not as a field study for academic research but as an internship for career formation prepared for future residential researchers. The internship period is approximately one month as a standard and will be set in coordination with the receiving organization in accordance with the provisions of the internship program of the graduate school. The Local Science Network for Environment and Sustainability will coordinate the internship by intervening between applicants and the receiving organizations. The internship accepts applications throughout the year with the expectation that it will be conducted as a part of the internship program of graduate schools.

As of the end of the project, eight organizations have agreed to accept the Residential Research Internship as follows:

・"Echigo-Matsunoyama Museum of Natural Science, Tokamachi City" Tenei Village, Tokamachi City, Niigata Prefecture
・"EIMY Yumoto Regional Conference," Fukushima Prefecture
・"School of Noto Studies, Kanazawa University," Suzu City, Ishikawa Prefecture
・"Hachigoro's Tojima Wetland (Oriental White Stork Shicchi Net, Toyooka City)," Toyooka City, Hyogo Prefecture
・"Environment&Town Planning / Kamikatsu Satoyama Club," Kamikatsu Town, Tokushima Prefecture
・"NPO Tosa No Mori Kyuentai," Ino Town, Kochi Prefecture
・"Tsushima City Upper Prefecture Activation Center," Tsushima City, Nagasaki Prefecture
・"WWF Coral Reef Conservation and Research," Shiraho, Ishigaki City, Okinawa Prefecture

The internship program will cultivate human resources capable of supporting the resolution of environmental problems by stakeholders and the efforts on sustainable community development as residential researchers settled in the region by further expanding the receiving organizations and participating universities.

As a case showing the impact of the Residential Research Internship on the participating student and on the researcher at the receiving organization, the internship report of Mizuki Hosogai (Second Year, Masters Course Student, Majored in Environmental Management, Graduate School of Global Environmental Studies, Kyoto University) (receiving organization: Tsushima City Upper Prefecture Activation Center, internship period: July 19, 2012 - August 16, 2012) is shown below.

Internship Report

〈What I felt through the internship at Tsushima〉

I participated in the one-month internship with a chief objective of learning the attitude required for a residential researcher and the way how to interact with the community from Ms. Kimura, a biology scholar who has been engaged in community development at Tsushima since last year. What I could see in one month was only a rough overview of the community or only a part of the community. Partly because I was treated as a guest, what I could see must have been considerably limited.

Nonetheless, Tsushima was a very attractive place. Japanese mythical landscapes, historical breaths continuously succeeded from generation to generation since the ancient

times, energy of people who have lived in the nature with blessings of sea and mountains. I felt like Tsushima is an island where gods live that is supported by prayers of people living there.

I was struck by words what Ms. Kimura told me when we walked in the community of the Shitaru Area, Kamitushima Town, where she is based. She told me, “I thought that I will be able to do what I want to do as my lifework here." I could have an opportunity of looking back on what I can do and what I want to do as my lifework during my stay in Tsushima by experiencing the nature and culture of Tsushima and through the conversation with Ms. Kimura who is engaged in the activities there. Ms. Kimura was impressive to me so much so probably because she is a woman who is not much older than I. The meeting with Ms. Kimura, who is flexible yet powerful became my treasure.

Actually, before I came to Tsushima as an intern, I was expected to accumulate experience abroad for several years, because I wanted to be involved in developing countries in my career. The vision remains deep in my heart; however, now that I completely rely on the outside economy, I feel that my statement is too superficial. First of all, I wish to increase the areas in which I can procure food, clothing and shelter by myself. To that end, I need to master reasonable techniques and experience. I will form the foundation for several years from now on in Japan. After that, I wish I can be of some help in this community where I experienced the internship.

I have neither specific specialty, doctor's degree nor career as a researcher. In that regards, it is difficult for me to return my research results to the community and I cannot contribute to the community as a “researcher." If a residential researcher needs to have an academic background, I cannot be engaged in the activities as a residential “researcher" with my present competence. In the meantime, while Ms. Kimura is engaged in her activities with her skills cultivated as a researcher put into full use, her activity at site is not research. In that sense, I have not found the definition of residential researchers yet.

On the other hand, I could obtain a feeling in Tsushima that even an inexperienced young person like me may be able to do something in the position of an outsider. I wish to do what I can do now without overstretching myself while living in a community. I believe that I will realize the extent of what I can after I actually start activities in the community.

If I come to want to go on to the doctoral course after all to deepen my specialty in future, I am sure the experience and perspective that I accumulate during the activities in the

community will be useful. My destination may not be a residential“researcher" but something else. I honestly wish to make the utmost efforts to do what I can do step by step through I do not know how many years it will take me to achieve my goal.

I am supposed to start residential research in a community not in an urban region but in a local region. In that case, I came to find out as my own private problem that I will not die of hunger in rural areas but I must obtain earnings enough to pay my insurance premiums and pension. I will clear that issue first of all.

Lastly, I wish to express my heartfelt gratitude to the people in Tsushima City Upper Prefecture Activation Center, who kindly accepted me to the community, to the people in Tsushima City, who kindly accepted my interview, and to Ms. Kimura and the people in the Local Science Network for Environment and Sustainability and the people in JST-RISTEX Research & Development Project “Construction of a Pragmatic Scientist Community Contributing to Stakeholder-Driven Management of Local Environment," who rendered me all the assistance out of their busy schedule. Thank you very much for giving me such a precious opportunity.

Comment from the attendant

Motoko Kimura (Tsushima City Upper Prefecture Activation Center)

〈Contents of intern activity〉

Ms. Hosogai, who decided to be received as an intern, wished to study the traditional apiculture in Tsushima because she had studied traditional apiculture technologies and related religions and culture. Accordingly, I decided to assign her an internship activity of organizing information likely to be required in future for the community development of Tsushima, so that the activity may also benefit the Ms. Hosogai's own apiculture study. In addition, I asked her to support my work with the objective of allowing her to know better about the actual condition of community development.

The contents of activities that Ms. Hosogai actually conducted as an intern are as shown below.

1. Organizing of the technical system relating to apiculture in Tsushima

Ms. Hosogai stayed at the residence of a beekeeper in Tsushima for about one week, and organized and summarized in a report the apiculture technologies; annual schedule; species, distribution, and transitions of bee plants; problems facing the apiculture in Tsushima; and so on. In addition, she presented the study results in front of the students in a summer seminar at the Tsushima Wildlife Conservation Center.

2. Organizing of rice planting system in Tsushima and its association with the habitat of Tsushima wildcat

The effects of agricultural chemicals on bees are highlighted on the nationwide basis. In order to grasp the situation in Tsushima, Ms. Hosogai made an actual hearing survey with several rice farmers based on the planting calendar produced by the JA to collect data on the agriculture chemicals applied and the spraying frequency. In addition, in order to investigate the condition of paddy field use by Tsushima wildcat, Ms. Hosogai collected data of automatic shooting cameras installed at forest roads in the vicinity of farm fields and organized the data.

3. Attendance to work shops

Ms. Hosogai attended the “Appropriate Use and Management of Biological Resources" workshop, which is implemented jointly with the Natural Environment Promotion Department according to my proposal to the city. She also attended a guidance by an instructor.

4. Assistance to the paddy field of Kimura

Apart from the intern activity, Ms. Hosogai helped my rice planting at my small rental paddy field for weeding, installation of animal fences, trapping, repair of water leakage, and so on.

〈New perspectives obtained through the reception of intern〉

I relocated to Tsushima, I was engaged in studies on sustainable society development from the biological standpoint as a researcher in evolutionary ecology. On the other hand, Ms. Hosogai has visited various regions not only in Japan but also in Nepal, Philippines, and Indonesia to observe communities from the “human” perspective with a background of anthropology. I think that the best achievement obtained from the recent internship of Ms. Hosogai was that we could observe the same object from two different perspectives. Ms. Hosogai emphasizes the “traditional knowledge" remaining in the community. The traditional knowledge is technologies and knowledge, which were produced before the globalization of information progressed, and is hence formed by including all the biological factors such as climate condition, soil condition, and biology, as well as disaster occurrence condition, history, and so on. What is best in one region is not always applicable to another region. On the contrary, there is no guarantee that globally “best" or “state-of-the-art" technologies exert a prospective effect in another region. Through the perspective of Ms. Hosogai, I understood the importance of recording such traditional knowledge before technologies and culture are unified due to excessive globalization of information. Biology and anthropology are very agreeable sciences in that meaning and should be collaborated more in the academic world too.

I felt that Ms. Hosogai was very excellent in the approach and technique to fit in a community probably because she has abundant experience of implementing activities in a overseas rural community by communicating with the local people. It may be briefly expressed as a high empirical value, but I felt that Ms. Hosogai has strengthened her "empirical value" not only because she has abundant and high quality experience but also because she has the ability to properly ingest the experience to use it as her skill and she is keen on experiencing. I learned a lot from her attitude.

〈Conclusion〉

One month may have been too short for the intern, but it was a very large profit for me that I could obtain a peer to share the same awareness of issues and dreams and to discuss together about them through the involvement of the intern in the community development of Tsushima. When I worked alone, I sometimes worried over “the feasibility of programs," “the appropriateness of directions," and so on. But I was encouraged by positive words of Ms. Hosogai such as “Interesting!," “Great!," “I wish to work together." I could regain my confidence and incentives, and came to have a concrete image of success. I was involved in this project as a receiving organization, but I was rather favored from this project in that

regard. I wish to express my appreciation to the Local Science Network for Environment and Sustainability and the JST-RISTEX Research & Development Project, “Construction of a Pragmatic Scientist Community Contributing to Stakeholder-driven Management of Local Environment," who provided me with such an opportunity.

3-4. Future perspectives for utilizing the major results and achievements

After the end of the research and development, the Local Science Network for Environment and Sustainability is expected to further activate its activities by functioning as the research base for the basic study project“Formation of Local Environmental Knowledge for Creation of New Commons and Sustainable Management" (project leader: Tetsu Sato, for five years since April 2012), which started at the Research Institute for Humanity and Nature in fiscal 2012, aims to elucidate how scientific researches ought to support the adaptive governance of ecosystem services by various stakeholders in communities and the mechanism of producing, distributing, and using the “local environmental knowledge" by a wide-ranging comparative study and meta-analysis from the perspective of knowledge users. Most of the case of production and use of knowledge by participants of the Local Science Network for Environment and Sustainability function as a site for case studies and social experiment in this project. In addition, the achievements of this research and development may be expanded to a global perspective by a global-scale comparative study including the previous study sites of the Research Institute for Humanity and Nature and the study results of various residential researchers in all over the world. Further, most members of the Local Science Network for Environment and Sustainability are expected to join the new project to analyze the scientific knowledge production from the perspective of community knowledge users. We believe that we can further expand new scientist communities, which promote the knowledge production supporting community-based problem resolution, through the use of the previous achievements of this research and development as important research base for new studies in such a manner.

3-5. Concluding remarks

There are residential researchers in communities all over Japan who fight a lone battle on researches for the resolution of problems relating to regional environment. If there is a network, which enables them to mutually exchange and to learn together with various cases of activities brought together, it must be a great help. In addition, if the collaboration between visiting researchers and residential researchers, who are willing to work on solving regional problems, can be promoted through the network, the community-based problem-solving researches will be able to be expanded throughout the scientist communities.

Local stakeholders must be able to learn the approach to make full use of scientists through the network. There must be great needs for fora for such interactions and learning. From such idea, we founded the Local Science Network for Environment and Sustainability in March 2010 with 41 founders. The network expanded smoothly with participation of 127

multidisciplinary members at the end of this project.

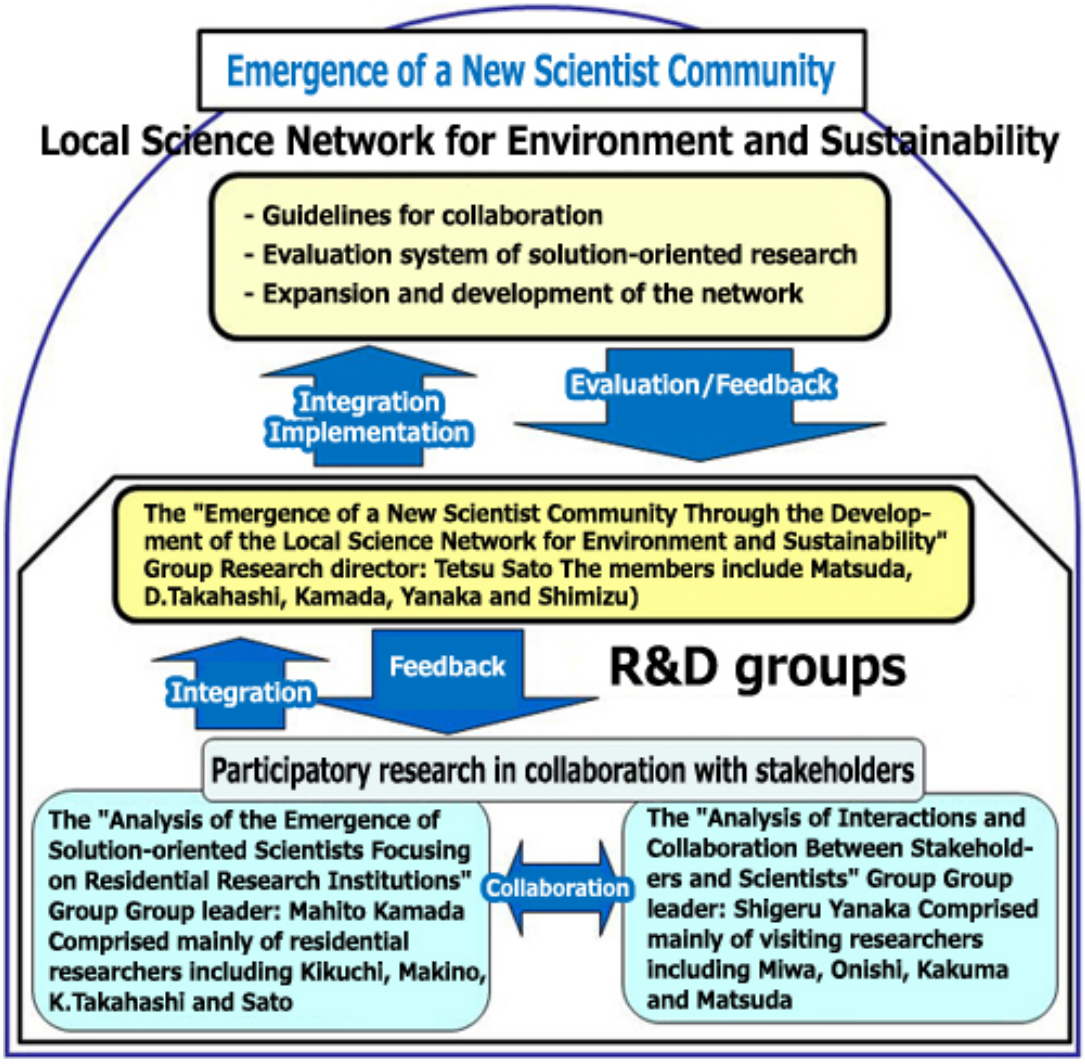
In the research and development process, we could see the appearance of many members evolving studies and activities using network resources in various ways. As a matter of course, the participants in this network are highly interested in studies and knowledge structures directly connected to the solution of difficult problems in communities in nature. Through the network activities, however, there occurred a process where many participants increase sol-called “drawers" of knowledge useful for communities by expanding their perspectives of various knowledge technologies useful in addressing their regional problems in areas other than their own special fields or interests. The individual researchers and stakeholders evolved by acquiring various drawers so that they may take multifaceted and flexible measures on the scene of problem solutions. On the other hand, the Local Science Network for Environment and Sustainability served as a great incentive for young researchers and graduate students who aim to be engaged in residential research. In the “residential research internship," which started in 2011 as a trial, three graduate students enjoyed internship of residential researches at community sites. This mechanism will lead to the cultivation of human resources, who can promote residential researches, by providing graduate school internship with a new option. On the basis of those achievements, the need came to emerge as a significant issue for further analysis on the way how the production and distribution of local environmental knowledge directly connected with the solutions of local environmental problems will promote the transformation of human decision making and behaviors and how it will lead to the resolution of environmental problems and construction of a sustainable society. toward the construction of adaptive governance to challenge the resolution of global environmental problems by bottom-up approach from communities with the production and distribution of knowledge as a nucleus, the basic study project “Formation of Local Environmental Knowledge for Creation of New Commons and Sustainable Management (Local Environmental Knowledge Project)" started at the Research Institute for Humanity and Nature in April 2012. The five-year project will pursue the way how the local environmental knowledge produced by residential researchers etc. will transform the human behaviors and realize the adaptive governance of communities through the process of being distributed between stakeholders and used for the resolution of problems. The international expansion of studies will be implemented on the basis of the various findings and human networks that the Local Science Network for Environment and Sustainability has accumulated so far.

In the Local Science Network for Environment and Sustainability, we could collect many cases where communities ingeniously incorporate and use international frameworks. From those cases, it was gradually revealed that the functions of various bilateral translators, who introduce global values and systems to communities and transmit the local environmental knowledge by transmitting it into universal knowledge, promote the dense distribution of knowledge between different layers. The Local Environmental Knowledge Project will elucidate the knowledge distribution and the knowledge base construction mechanism by those inter-layer translators will be elucidated to clarify the ideal adaptive governance that connects different layers. Through such efforts, we wish to depict the way of promoting a broad-based resolution of global environmental problems by the bottom-up approach from communities.

4. Implementation structure

4-1. Organizational structure

Research and development implementation organization



4-2. List of implementers the project

① "Transformation of Scientist Communities through the Formation of the Local Science Network for Environment and Sustainability" group

Name	Affiliation	Title	R&D implementation items in charge	Participation period
Tetsu Sato	Research Institute for Humanity and	Professo r	Formation of Local Science Network for Environment and Sustainability / Guideline for	October 2008 - March 2013

	Nature		Collaboration, and Construction of Evaluation System	
Hiroyuki Matuda	Graduate School of Environment and Information Sciences, Yokohama National University	Professor	Formation of Local Science Network for Environment and Sustainability / Guideline for Collaboration, and Construction of Evaluation System	October 2008 - March 2013
Daisuke Takahashi	Faculty of Tourism and Environmental Studies, Nagano University	Professor	Formation of Local Science Network for Environment and Sustainability / Guideline for Collaboration, and Construction of Evaluation System	October 2008 - March 2013
Mayuko Shimizu	Faculty of Policy Science Ryukoku University	Lecturer	Formation of Local Science Network for Environment and Sustainability / Guideline for Collaboration, and Construction of Evaluation System	April 2009 - March 2013
Atsuko Fukushima	Research Institute for Humanity and Nature	Research supporter	Data collection / support for data reduction / support for fieldwork administration / support for outreach activities	October 2008 - March 2013

② "Actual Condition Survey on Transformation of Scientists Chiefly by Residential Research Institutions" group

Name	Affiliation	Title	R&D implementation items in charge	Participation period
Mahito Kamada	Department of Civil and Environmental Engineering, Socio-Techno Science Research Department, University of Tokushima Graduate	Professor	Regional universities as residential research institutions with Tokushima University as an example	October 2008 - March 2013

	School			
Ikeda Hiroshi (in memoriam)	Hyogo Prefectural Homeland for the Oriental White Stork	Professor	Study on the role of residential research institutions in efforts on nature regeneration and community regeneration in Toyooka City, Hyogo Prefecture	October 2008 - March 2010
Naoki Kikuchi	Institute of Natural and Environmental Science, University of Hyogo	Lecturer	Study on the role of residential research institutions in efforts on nature regeneration and community regeneration in Toyooka City, Hyogo Prefecture	October 2008 - March 2010
Atsushi Makino	Faculty of letters, Kumamoto University	Professor	Analysis of the approach to regional environments by residential museums with Shiga Prefectural Lake Biwa Museum as an example	October 2008 -March 2013
Kazuaki Takahashi	Faculty of Tourism and Environmental Studies, Nagano University	Associate Professor	Analysis of effective knowledge production methods through the construction of tool kit for Satoyama regeneration in Nagano University Reforestation Project	October 2008 -March 2013
Katsunobu Shirakawa	Geihoku Museum of Nature	Chief Curator	Formation of Local Science Network for Environment and Sustainability / Guideline for Collaboration, and Construction of Evaluation System	October 2008 -March 2013
Toshiaki Sawada	Environment and Town Planning, NPO Commons (Tokushima Prefecture)	Representative and director	Provision of findings relating to scientific researches by residential research institutions	October 2008 -March 2013
Mariko Sakamoto	Environment and Town Planning, NPO Commons (Tokushima Prefecture)	Research Supporter	Data collection / support for data reduction / support for fieldwork administration / support for outreach activities	October 2008 -March 2013
Atsushi	Regional	Division	Provision of findings relating	October 2008

Ueda	Strategy Promotion Division, Toyooka City Policy Coordination Department	Manager	to scientific researches by residential research institutions	-March 2013
Shigefumi Kanao	Lake Biwa Museum	Curator	Provision of findings relating to scientific researches by residential research institutions	October 2008 -March 2013
Tsunekazu Yamashiro	Committee for the Conservation of Shiraho Sea	Represe ntative	Provision of findings relating to scientific researches by residential research institutions	October 2008 -March 2013
Masahito Kamimura	WWF Coral Reef Conservation Research Center, Committee for the Conservation of Shiraho Sea	Director, Director of Center	Participation in the construction of evaluation system for problem-solving researches in collaboration with stakeholders	April 2010 - March 2013

③ "Actual Condition Survey on Interactions and Collaborations between Stakeholders and Scientists" group

Name	Affiliation	Title	R&D implementation items in charge	Participation period
Shigeru Yanaka	Faculty of Regional Sciences, Tottori University	Associat e Professo r	Interactions among scientists, administration, and regional industries surrounding the life strategy of stakeholders and collaborations between various researchers, and the use of accumulated knowledge	October 2008 -March 2013
Nobuya Miwa	Faculty of International Studies, Osaka Gakuin University	Professo r	Collaborations among various researchers surrounding civil surveys and the use of accumulated knowledge, and interactions among scientists, administration, and local industries surrounding the life	October 2008 -March 2013

			strategy of stakeholders	
Hideyuki Ohnishi	Faculty of Contemporary Social Studies, Doshisha Women's College of Liberal Arts	Associate Professor	Interactions and collaborations between stakeholders and scientists with the knowledge and techniques at the residential area as a nucleus	October 2008 -March 2013
Shinichiro Kakuma	Extension Office for Fishery, Okinawa Prefectural Government	Chief Officer	Actual condition survey on the knowledge production by administrative organs surrounding aquatic resources management and the interactions with stakeholders	October 2008 -March 2013
Yoshimi Higa	Onna Village Fisheries Cooperative Association	Councilor	Data collection / support for data reduction / support for fieldwork administration / support for outreach activities	October 2008 -March 2013
Kaoru Kakihana	Kerama Coastal Environment Conservation Association	Representative/ Chairperson	Provision of findings relating to interactions and collaborations between stakeholders and scientists	October 2008 -March 2013
Yukari Handa	Amami Mammalogical Society	Representative	Provision of findings relating to interactions and collaborations between stakeholders and scientists	October 2008 -March 2013
Tadashi Yogi	Yaeyama Fisheries Cooperative Association	Youth Leader	Provision of findings relating to interactions and collaborations between stakeholders and scientists	October 2008 -March 2013

4-3. List of collaborators of the project

Name/Affiliation/Title (or Name of Organization)	Description of collaboration
Daisuke Akaishi, Suzu City Hall / Research Fellow for Society Co-existing with Nature,	Member of Local Science Network for Environment and Sustainability
Jun Akamine, Associate Professor, School of Humanities and Social Sciences, Nagoya City University	Member of Local Science Network for Environment and Sustainability
Tomoya Akimichi Emeritus Professor, Research	Member of Local Science Network for

Institute for Humanity and Nature	Environment and Sustainability
Shogo Arai, Director, Seaweed Research Co., Ltd.	Member of Local Science Network for Environment and Sustainability
Natsu Anahara, Nature guide of Miyake Island, Miyake Island Marine School Executive Committee	Member of Local Science Network for Environment and Sustainability
Ann MacDonald, Professor, Sophia University Graduate School of Global Environmental Studies	Member of Local Science Network for Environment and Sustainability
Minoru Igarashi, Principal, Nihon College of Natural Environment	Member of Local Science Network for Environment and Sustainability
Tsubasa Igarashi, Masters Course Student, Social Innovation Course, Doshisha University Graduate School of Policy and Management	Member of Local Science Network for Environment and Sustainability
Maki Komatsu (Ikegami), Coordinator, Hokkaido University Office for a Sustainable Campus	Member of Local Science Network for Environment and Sustainability
Hiromasa Igota, Associate professor, Faculty of Environment Systems, Rakuno Gakuen University	Member of Local Science Network for Environment and Sustainability
Hiroyuki Ida, Director of Yezo Deer Association	Member of Local Science Network for Environment and Sustainability
Miro Ichijo, In charge of awareness raising and community building at Tsushima Wildlife Conservation Center	Member of Local Science Network for Environment and Sustainability
Takanori Ohishi, Research Fellow, Center for African Area Studies, Kyoto University	Member of Local Science Network for Environment and Sustainability
Ikuko Inamori, Nature Conservation Association of Sonenji	Member of Local Science Network for Environment and Sustainability
Yusuke Iwasaki, Teacher, Fukushima Prefecture Aizu High School,*EIMY* Yumoto Regional Conference	Member of Local Science Network for Environment and Sustainability
Atsushi Ueda, Manager, Regional Strategy Promotion Division, Toyooka City Policy Coordination Department	Member of Local Science Network for Environment and Sustainability
Kohei Ueda, Asago Forestry Promotion Center, Bureau for the Residents of Tajima Province, Hyogo	Member of Local Science Network for Environment and Sustainability
Shinobu Uchida, In charge of “One da Green da” project, (former) Nature Restoration Project of Hokkaido Kushiro Wetland, Hokkaido Environment Foundation	Member of Local Science Network for Environment and Sustainability
Hiroki Oikawa, Associate Professor, Graduate School of Environment and Information Science, Yokohama National University	Member of Local Science Network for Environment and Sustainability

Itaru Ohta, Okinawa Prefectural Fisheries and Ocean Research Center	Member of Local Science Network for Environment and Sustainability
Yoko Ohta, Western Japan Grassland Research Group Western Japan Grassland Research Group	Member of Local Science Network for Environment and Sustainability
Ohtani Ryu, the National Institute of Advanced Industrial Science and Technology	Member of Local Science Network for Environment and Sustainability
Takahiro Okano, Special-appointed Associate Professor, Kagoshima University Education Center	Member of Local Science Network for Environment and Sustainability
Yukino Ochiai, Associate Professor, The Kagoshima University Museum	Member of Local Science Network for Environment and Sustainability
Kunihiro Otonari, Representative, Tancho Community (Japanese crane community)	Member of Local Science Network for Environment and Sustainability
Takenobu Kakinohana , President of 21 Zamami Co., Ltd, former chairperson of Kerama Environmental Conference of Nature Conservation, former chairperson of Zamami Chamber of Commerce	Member of Local Science Network for Environment and Sustainability
Koichi Kaji, Professor, The Graduate School of Agriculture, Tokyo University of Agriculture and Technology	Member of Local Science Network for Environment and Sustainability
Hiroyuki Kajihara, Director, Aso Tanibito Ecomusée	Member of Local Science Network for Environment and Sustainability
Naoki Kachi, Professor, Graduate School of Science & Engineering, Tokyo Metropolitan University/Chairperson, Ogasawara Research Committee/Representative, Consortium for the Interdisciplinary Study of Human and Nature Symbiosis in Island Systems	Member of Local Science Network for Environment and Sustainability
Masaru Kanda, Director of NPO Kuroshio Jikkan Center, visiting associate professor at Kochi University	Member of Local Science Network for Environment and Sustainability
Kenji Kitamura, Specialist, National Institute for Environmental Studies Planning Department	Member of Local Science Network for Environment and Sustainability
Motoko Kimura, Research fellow, One of Tsushima Rangers in charge of conservation of biological diversity	Member of Local Science Network for Environment and Sustainability
Tatsuya Kinjo, Doctoral Course, Hokkaido University Graduate School of Letters	Member of Local Science Network for Environment and Sustainability
Hirofumi Kubo, Okinawa Prefectural Fisheries and Ocean Research Center	Member of Local Science Network for Environment and Sustainability
Takashi Kume, Associate professor, Faculty of Agriculture, Ehime University	Member of Local Science Network for Environment and Sustainability

Koichiro Kuraji, Co-representative of Researchers Group of Yahagi River Watershed Forests, Director/associate professor of Ecohydrology Research Institute, The University of Tokyo Forests, University of Tokyo	Member of Local Science Network for Environment and Sustainability
Noboru Kuramoto, Professor, School of Agriculture, Meiji University	Member of Local Science Network for Environment and Sustainability
Shigeharu Kogushi, Representative, Green Front Research Institute Co.	Member of Local Science Network for Environment and Sustainability
Hideki Kobayashi, Pal System Consumers' Cooperative Union	Member of Local Science Network for Environment and Sustainability
Seiji Kondo, Professor, Research Faculty of Agriculture Hokkaido University, Field Science Center for Northern Biosphere, Chairperson of Yezo Deer Association and Hokkaido Native Horse reservation Association	Member of Local Science Network for Environment and Sustainability
Akiko Sakai, Associate professor, Graduate School of Environment and Information Science, Yokohama National University Vice-chairperson and in charge of administration office, Japanese Coordinating Committee for MAB	Member of Local Science Network for Environment and Sustainability
Rho Sakurai, Technical assistance member, Graduate School of Environment and Information Science, Yokohama National University	Member of Local Science Network for Environment and Sustainability
Takanori Sato, Research Fellow, Palau International Coral Reef Center	Member of Local Science Network for Environment and Sustainability
Shikikobo Co., Ltd., President, Nozaki Susumu (corporate member)	Member of Local Science Network for Environment and Sustainability
Asami Shikida, Professor, Hokkaido University Center for Advanced Tourism Studies	Member of Local Science Network for Environment and Sustainability
Motoko Shimagami, Vice Representative, i-i-network, Research & Action for Community Governance / Visiting researcher, Research Institute for Humanity and Nature	Member of Local Science Network for Environment and Sustainability
Miki Shimizu, In charge of "One da Green da" project, Nature Restoration Project of Hokkaido Kushiro Wetland, Hokkaido Environment Foundation	Member of Local Science Network for Environment and Sustainability
Hiroko Shinkai, Environmental Partnership Office Chubu (EPO Chubu), Ministry of the Environment	Member of Local Science Network for Environment and Sustainability
Yutaka Suga, Professor, Institute for Advanced	Member of Local Science Network for

Studies on Asia, The University of Tokyo	Environment and Sustainability
Toko Suzaki, Co-representative of the Researchers Group of Yahagi River Watershed Forests, Chief researcher at Toyota Yahagi River Institute	Member of Local Science Network for Environment and Sustainability
Katsuya, Suzuki, Institute of Natural and Environmental Sciences, University of Hyogo, Assistant Professor for the Wildlife Management Research Center, Hyogo	Member of Local Science Network for Environment and Sustainability
Masatsugu Suzuki, Professor, Faculty of Applied Biological Sciences, Gifu University	Member of Local Science Network for Environment and Sustainability
Akiko Sudo, Senior managing director, Eaglet Office Inc.	Member of Local Science Network for Environment and Sustainability
Hiroaki Sono, Representative, Environmental Network Amami	Member of Local Science Network for Environment and Sustainability
Hiroyuki Tanouchi, Shikoku Research Center, Forestry and Forest Products Research Institute	Member of Local Science Network for Environment and Sustainability
Toshimori Takahashi, Satoyama Science Research Center, Faculty of Agriculture, Utsunomiya University	Member of Local Science Network for Environment and Sustainability
Amane Takeuchi, Executive Director, Igeta Takeuchi Co., Ltd	Member of Local Science Network for Environment and Sustainability
Hiroki Taniguchi, Research Fellow, Akajima Marine Science Laboratory	Member of Local Science Network for Environment and Sustainability
Toshiyuki Tsuchiya, Professor, Graduate School of Agriculture, Tokyo University of Agriculture and Technology	Member of Local Science Network for Environment and Sustainability
Kenshi Tetsuka, Chairperson, Yakushima Biodiversity Conservation Council	Member of Local Science Network for Environment and Sustainability
Akira Terabayashi, Research Fellow, Norinchukin Research Institute Co., Ltd. Doctoral Course, Hokkaido University Graduate School of Letters	Member of Local Science Network for Environment and Sustainability
Sadayoshi Tohbai, Office chief, WWF Japan Nature Conservation Office	Member of Local Science Network for Environment and Sustainability
Toi Akiko, Professor, Faculty of Environment Systems, Rakuno Gakuen University	Member of Local Science Network for Environment and Sustainability
Hiromi Tokusho, Representative, Wakasa Mori no Kai	Member of Local Science Network for Environment and Sustainability
Sho Tomita (Hoshi), Senior Researcher, Council of Energy in My Yard, Japan (*EIMY*) , *EIMY* Yumoto Regional Conference	Member of Local Science Network for Environment and Sustainability

Ryoto Tomita, Assistant Professor, Faculty of Agriculture, Shizuoka University	Member of Local Science Network for Environment and Sustainability
Chigusa Nakagawa, Project Researchers, Research Institute for Humanity and Nature	Member of Local Science Network for Environment and Sustainability
Kenzo Nakajima, Director, NPO Tosa no Mori Kyuentai	Member of Local Science Network for Environment and Sustainability
Masahiro Nagano, Lecturer, Environment field, Faculty of Education and Welfare Science, Oita University	Member of Local Science Network for Environment and Sustainability
Koji Nakamura, Professor, Institute of Nature and Environmental Technology, Kanazawa University	Member of Local Science Network for Environment and Sustainability
Chie Natsume, Mahae Co., Ltd.	Member of Local Science Network for Environment and Sustainability
Naoko Namizaki, Coral Reef Science Administration Office, National Institute for Environmental Studies	Member of Local Science Network for Environment and Sustainability
Hiroaki Niitsuma, Professor Emeritus, Tohoku University Director, Council of Energy in My Yard, Japan (*EIMY*)	Member of Local Science Network for Environment and Sustainability
Nobuko Nishizaki, Associate Professor, Faculty of Administration and Social Sciences, Fukushima University	Member of Local Science Network for Environment and Sustainability
Hikaru Nishino, Representative, Eelgrass Support (Amamo Supporters)	Member of Local Science Network for Environment and Sustainability
Katsuhiro Nishimori, Shiga Prefectural Fisheries Experimental Station	Member of Local Science Network for Environment and Sustainability
Sakiko Ninomiya, Research Fellow, The Institute of Basic Environmental Research, Environmental Control Center Co., Ltd.	Member of Local Science Network for Environment and Sustainability
Kenji Niwa, Representative, Yahagi River Forest Health Check Committee	Member of Local Science Network for Environment and Sustainability
Shinya Numata, Associate Professor, Department of Tourism Science, Graduate School of Urban Environmental Sciences, Tokyo Metropolitan University	Member of Local Science Network for Environment and Sustainability
Sayoko Hata, Representative, Kayanezumi Network Japan Visiting Researcher, Center for Spatial Information Science, University of Tokyo	Member of Local Science Network for Environment and Sustainability
Takeo Horiguchi, Associate professor, Hokkaido University School of Law (Faculty of Public Policy)	Member of Local Science Network for Environment and Sustainability

Hitoko Fujisawa, researcher in the Research Institute for Humanity and Nature project	Member of Local Science Network for Environment and Sustainability
Mayumi Fukunaga, Associate Professor, Research Organization for the21st Century, Osaka Prefecture University	Member of Local Science Network for Environment and Sustainability
Mizuki Hosogai, Masters Course Student, Majored in Environmental Management, Graduate School of Global Environmental Studies, Kyoto University	Member of Local Science Network for Environment and Sustainability
Yasunori Maezono, Environmental Conservation Coordinator, Katsuyama City/part-time lecturer, Toho University Faculty of Science	Member of Local Science Network for Environment and Sustainability
Mitsutaku Makino, Group Leader, National Research Institute of Fisheries Science, Fisheries Research Agency	Member of Local Science Network for Environment and Sustainability
Yasushi Masuda, Director general, Shiretoko Nature Foundation	Member of Local Science Network for Environment and Sustainability
Takahiro Mano, Chief Researcher, Toyota Yahagi River Institute	Member of Local Science Network for Environment and Sustainability
Yasushi Maruyama, Associate professor, Graduate School of Environmental Studies, Nagoya University	Member of Local Science Network for Environment and Sustainability
Koichi Mikami, Research Fellow, National Institute for Agro-Environmental Sciences	Member of Local Science Network for Environment and Sustainability
Hiromune Mitsuhashi, Institute of Natural and Environmental Science, University of Hyogo, Lecturer for the Museum of Nature and Human Activities, Hyogo	Member of Local Science Network for Environment and Sustainability
Takuya Mineta, In charge of Resource Evaluation, Rural Infrastructure Research Field, National Institute for Rural Engineering, National Agriculture and Food Research Organization	Member of Local Science Network for Environment and Sustainability
Taisuke Miyauchi, Professor, Hokkaido University Graduate School of Letters	Member of Local Science Network for Environment and Sustainability
Yasuda Akito, Research Fellowship for Young Scientists (postdocs), Japan Society for the Promotion of Science/Postdoctoral Research Fellow, The University of Tokyo	Member of Local Science Network for Environment and Sustainability
Tetsuo Yanagi, Professor, Research Institute for Applied Mechanics, Kyushu University	Member of Local Science Network for Environment and Sustainability
Yasuo Yamakawa, NPO Kunigami Tourism Association Director of Board	Member of Local Science Network for Environment and Sustainability
Gen Yamakoshi, Associate Professor, Graduate	Member of Local Science Network for

School of Asian and African Area Studies, Kyoto University	Environment and Sustainability
Kaoru Yamasuga	Member of Local Science Network for Environment and Sustainability
Hiroya Yamano, Chief Researcher, National Institute for Environmental Studies	Member of Local Science Network for Environment and Sustainability
Atsushi Yamaba, Forestry Technology Center, Hiroshima Prefectural Technology Research Institute	Member of Local Science Network for Environment and Sustainability
Shinji Yamamoto, Associate Professor, Field Science Center, Faculty of Agriculture, Iwate University	Member of Local Science Network for Environment and Sustainability
Shinji Yamamoto, Board Member, Pal System Consumers' Cooperative Union	Member of Local Science Network for Environment and Sustainability
Takakazu Yumoto, Professor, Primate Research Institute, Kyoto University	Member of Local Science Network for Environment and Sustainability
Masako Watanabe, Environment Division, Regional Collaborative Center for Science and Technology, Anan National College of Technology	Member of Local Science Network for Environment and Sustainability

5. Dissemination of results and achievements

5-1. Dissemination of information and outreach activities

Date	Name	Venue	Number of participants	Summary
November 14 to 16, 2008	The 1st Field Workshop	Nagano University	20	At the launch of the project, the 1st Field Workshop was held to share an overview of the project, future agenda, , and the R&D roadmap with the participants. We also had an in-depth discussion about research styles suitable for working out solutions to specific problems with Nagano University's Restoration of Satoyama Forest Project and other projects as case examples.
July 10 to	The 2nd Field	Kamikatsu	25	The 2nd field workshop was held

12, 2009	Workshop	Town, Tokushima Prefecture, and Tokushima University		jointly with stakeholders of Kamikatsu Town. Analysis was made on the actual condition between various stakeholders and researchers and on the network structure required to conduct collaborations while maintaining the difference in views and visions. The importance of network activities in communities and the importance of the role to be played by hub human resources in forming, maintaining, and developing networks were revealed.
August 5 to 8, 2009	The 3rd Field Workshop	Naha City / Ishigaki City, Okinawa Prefecture	40	At the 3rd field workshop, joint workshops and discussions were made with stakeholders of the Aquatic Resources Management and the Shiraho Sustainable Community Development. It was revealed through the analysis of the roles, which had been played by WWF Coral Reef Conservation and Research and other residential research institutions such as Akajima Marine Science Laboratory (AMSL), that residential researchers and experts, who reside in communities, play a function of a catalyst that promotes dynamic changes of communities.
February 28 to March 1, 2010	The 2nd Extended Group Leader Meeting & Brainstorming	Hotel in Tokyo and RISTEX	20	The group leader meeting and brain storming was held with actors in various regions, who newly participated in the Local Science Network for Environment and Sustainability as founders, invited to discuss about the ideal and vision of the Local Science Network for Environment and Sustainability. Diversity emerged

				beyond imagination in the ideal of knowledge production for regional environment.
June 19 to 20, 2010	Amami Workshop	Amami City Museum	14	Opinions were exchanged on expectations and complaints in scientists and contributions of scientists with various stakeholders invited who were involved in regional environmental conservation and knowledge production in Amami region.
September 18 to 19, 2010	Symposium to Commemorate the Establishment of Local Science Network for Environment and Sustainability "The Search for Science That is Useful in Environmental Conservation and the Sustainable Development of Local Communities"	Osaka Gakuin University	100	In commemoration of the establishment of the Local Science Network for Environment and Sustainability, the vision and significance of the network were introduced to many people and discussion was made on the Guideline for Collaboration, Participatory Evaluation of Local Science.
February 5 to 6, 2011	Open Symposium "Local Revitalization through Restoration Nature—from the perspectives of the Economy and Culture"	Toyooka Citizens' Hall	60	The symposium was held at Toyooka City, Hyogo Prefecture, a city known for advanced community regeneration activities through nature regeneration, with actors of various activities invited such as Nijibetsu Korokamui-kai and NPO Tosa no Mori Kyuentai.
July 3, 2011	Open Symposium "Toward Local	Kumamoto University	47	The applicability and problems of international systems and frameworks for voluntary

	Communities utilizing the International System”			sustainable community development by people living in communities based on better understanding of their regional nature and culture were discussed in light of cases in various areas of Japan such as Aso region.
October 16, 2011	Open Symposium “Local Environmental Studies on Creating Satoumi”	Yoshio-so (Naha City)	66	Seas where biodiversity and productivity can be increased by human intervention are called Satoumi. This symposium discussed the problems in “Creation of Sato-umi" activities deeply connected with life with those who are involved in production, distribution, and policy implementation from the perspective of how the brilliant relations with seas can be recovered by human intervention.
January 28, 2011	Open Symposium “From a local community to the rest of the world—mechanism for bonding local communities to the world from a Shiretoko world heritage point of view”	Shari Town, Shari-gun, Hokkaido	30	This symposium discussed the mechanism of using international systems such as world heritage for the construction of a sustainable society in harmony with rich natural environment and the mechanism to apply various knowledge cultivated in communities to intenational scenes in light of the Shiretoko world heritage and examples of activities in various parts of the world.
September 16, 2012	Open Symposium “The Pursuit of Science for Use in Local Communities The Past, Present, and Future of LSNES”	Kyoto City	70	At this symposium, the activities of the Local Science Network for Environment and Sustainability were reviewed, activity reports were made by young researchers, who will bear the regional environmental study in future, and future perspectives were discussed in light of the evaluation by guests invited from

				abroad.

① Books, DVD, etc.

'Mita Hyouron' November 2010 edition: Discussion meeting "Special topic What is biodiversity?: Relations between biodiversity and our life" C. W. Niccole, Naoya Furuta, Tetsu Sato, Ayumi Onuma)

'SEEDer' No.3 (Showado) 2010 "Challenge of the "Local Science Network for Environment and Sustainability" Tetsu Sato

② Cons4truction of websites

Construction of a Pragmatic Scientist Community Contributing to Stakeholder-Driven Management of Local Environment
http://localsci.org/index.html (revised and relocated on July 12, 2008)

Local Science Network for Environment and Sustainability
http://lsnes.org/index.html (revised and relocated on July 12, 2012)

Construction of a Pragmatic Scientist Community Contributing to Stakeholder-driven Management of Local Environment
http://localsci.org/jst2en/index.html (Relocated on July 12, 2012)

Local Science Network for Environment and Sustainability
http://lsnes.org/english/index.html (September 26, 2012)

Future of Local Community and Nature (web journal)
http://oths.biz/future/ (February 7, 2012)

③ Invited lecture

Tetsu Sato
October 31, 2009 Hyogo Prefectural Homeland for the Oriental White Stork 10th anniversary memorial symposium (panelist)"Community Development Enabling Coexistence Between Man and Nature" Toyooka City, Hyogo Prefecture

November 29, 2009 1st Symposium of Integrated Studies on NOTO Peninsula "What We Expect from Satoyama-satoumi Activities" Suzu City, Ishikawa Prefecture

January 30, 2010 "Residential Research Institutions Support Regional Activities—Activities in Ishigakijima Shiraho and Local Science Network for Environment and Sustainability" Suntory Foundation Symposium "Environmental Conservation and Decision Making in

Okinawa—Relations between Human Movement and Environment/Culture" Naha City, Okinawa Prefecture

June 23, 2010　Review on Regionalogy, Tottori University Part 2: lecture “What is the Local Science Network for Environment and Sustainability?...Collaboration between Scientists and Stakeholders in Conservation of Regional Environment" Tottori City, Tottori Prefecture

August 24, 2010　Japan Science and Technology Agency / Research Institute of Science and Technology for Society “Interactions between Science, Technology and Society" program, 3rd international symposium “Science in Society - a challenge in Japan": Panelist “Construction of a Pragmatic Scientist Community Contributing to Stakeholder-driven Management of Local Environment" Tokyo Metropolitan Government

December 6, 2010　13th Japan Coral Reef Society Meeting, Coral Reef Conservation Committee: “Toward the Collaboration between Scientists and Stakeholders...What the Local Science Network for Environment and Sustainability aims," Tsukuba City, Ibaraki Prefecture

December 11, 2010　Lake Biwa Museum Forum—What Was the Citizens' Participatory Biological Research—Results, Meaning, and Problems: “Meaning and Problems of Participatory Research—from the Perspective of Community Development," Kusatsu City, Shiga Prefecture

March 11, 2011　Lecture Meeting, Kawanishi Satoyama/Mizube Wo Tsunagu Kai (Ueda City, Nagano Prefecture): “For development of community coexisting with nature in Satoyama and water front--Introduction of the Activities of the Local Science Network for Environment and Sustainability and Cases in Various Parts of Japan", Ueda City, Nagano Prefecture

March 28, 2011　Workshop, Center for Integrated Area Studies, Kyoto University, Trends and Problems of Policies over Global Environmental Problems—Pursuit of Harmony with Communities: “Possibility and Problems of the Concept of Ecosystem Services—Over the Activities of the Local Science Network for Environment and Sustainability toward the Collaboration between Sciences and Communities" Kyoto City, Kyoto Prefecture

April 12, 2011　Niigata University Extra-regional Ibis Project, Nature Regeneration Science Seminar“Toward the Construction of Sustainable Communities through Nature Regeneration: What the Local Science Network for Environment and Sustainability Aims" Niigata City, Niigata Prefecture

May 28, 2011　Hyogo Prefectural Homeland for the Oriental White Stork Symposium “Transmit the Contrivances of Community Development to the World: Geopark and Oriental White Stork, and Return of Hachigoro" panelist, Toyooka City, Hyogo Prefecture

July 22, 2011　SATREPS Workshop “Man and Nature Coexistence Strategy in Tropical Region"　keynote lecture“Ecosystem Services and Sustainable Development of Communities: From Japan and Africa" Kyoto City, Kyoto Prefecture

August 4, 2011　Symposium, Research Institute of Science and Technology for Society, Japan Science and Technology Agency　From the Reconstruction from Earthquake Disaster to the Development of “vigorous towns and communities" — social technologies to extract the regional “potentials”: “Long-term Reconstruction Support for Disaster-stricken Area" Sendai City, Miyagi Prefecture

September 17, 2011　Hyogo Prefectural Homeland for the Oriental, Community Development Seminar for Coexistence with White Stork Round 1: “sciences useful in communities—What the Local Science Network for Environment and Sustainability Aims—" Toyooka City, Hyogo Prefecture

September 30, 2011　Graduate school of Rakuno Gakuen University, special lecture on living together with nature : “Pursuit of Sciences Useful in Communities—Roles of Experts Shown in Cases of Local Science Network for Environment and Sustainability" Ebetsu City, Hokkaido

October 21, 2011　Seminar, Cybermedia Center Osaka University: “Dynamism of Stakeholder Network through the Production and Distribution of Local Environmental Knowledge" Suita City, Osaka Prefecture

November 17, 2011　38th Hokkaido Biological Mathematics seminar, Graduate School of Environmental Science, Hokkaido university: “Social Decision Making and Adaptive Governance Based on Production and Distribution of Local Environmental Knowledge" Sapporo City, Hokkaido

December 7, 2011　National University of Singapore NUS and JST Joint Workshop “Climate Change, Disaster Management, & Urban Sustainability STS Approaches to Three Asian Challenges” : ” Residential Research and Integrated Local Knowledge Supporting Community-based Adaptive Governance”　Singapore

December 10, 2011　Tokyo University of Agriculture and Technology Symposium, Study on Wildlife Management for Sustainable Community-Ideal Governance-“Network for Ecosystem Management and Sustainable Community Development" Fuchu City, Tokyo

Mahito Kamada
November 19, 2011　Hyogo Prefectural Homeland for the Oriental White Stork　Community Development Seminar for Coexistence with White Stork Round 3: “How to Make the Most of Regional Resources" Toyooka City, Hyogo Prefecture

Hiroyuki Matsuda
June 18, 2011　Yokohama National University Ecological Risk COE Symposium　Ecosystem and Man—Fiture of Satoyama and Satoumi Charted with the Community: “Shiretoko World Heritage Sea Area Management Plan and Local Science Network for Environment and Sustainability" Yokohama City, Kanagawa Prefecture

Mayuko Shimizu
March 21, 2012　Korea Regional Foundation 8th Anniversary Symposium　Actor for Collaboration and Solidarity—Vision of New Cooperative: “Sustainable Development and Human Resource Training in Farming Village in Japan" Seoul, Korea

5-2. Publications

(National jounal: 1, global journal: 0)
Author, name of published papers, name of journal, volume, issue, publication year

Tetsu Sato“Face the Nature from the Perspective of Community: Interactions between Folk Knowledge and Sciences" `BIOSTORY'15: 64-67, 2011

5-3. Oral Presentations

(1) Invited lecture　(National conference: 3 times, international conference: 0)
Presenter (affiliation), title, name of conference, venue, date, etc.

Tetsu Sato (Nagano University)“Why Biodiversity Should Be Protected?: Ecosystem Services and Society,"　Joint Symposium (Panelist) held by three major environmental academic societies (Japanese Society for Environmental Sociology, Japan Association for Environmental Law and Policy, Society for Environmental Economics and Policy Studies): June 28, 2009

Hiroyuki Matsuda (Yokohama National University) How Can We Realize the Aichi Target—achievements and problems of COP10—Open Symposium“Landscape Ecology to Protect Biodiversity - Toward the Achievement of Aichi Target"　Japan Association for Landscape Ecology, Tokyo University of Information Sciences　June 25, 2011

Mahito Kamada (Tokushima University): Biodiversity Protection by Collaboration of Different Actors—From Activities of the Local Science Network for Environment and Sustainability—Open Symposium“Landscape Ecology to Protect Biodiversity—Open Symposium“Landscape Ecology to Protect Biodiversity - Toward the Achievement of Aichi Target"　Japan Association for Landscape Ecology, Tokyo University of Information Sciences June 25, 2011

(2) Verbal presentation　(National conference: 1, international conference: 0)
*Other than (1)
Presenter (affiliation), title, name of conference, venue, date, etc.
Sato T, Takahashi K, Takahashi D, Mikami K, Ando H “**Regeneration of Satoyama Ecosystem Services as an Educational Resource**”, URBIO2010: Urban biodiversity & Design, Nagoya, Japan, May 2010.

④ Poster presentation (6 time at domestic meeting, 4 time at international meeting)
Presenter (affiliation), title, name of conference, venue, date, etc.

Shimizu, M and T. Sato “Practices of local science for regeneration of ecosystem services in networks of experts and stakeholders”, URBIO2010: Urban biodiversity & Design, Nagoya, Japan, May 2010.

Takahashi D, Ide Y, Takahashi K, Mikami K, Ando H, Sato T “**Effects of small reservoir pond on improvement of Satoyama biodiversity and ecosystem services**”, URBIO2010: Urban biodiversity & Design, Nagoya, Japan, May 2010.

Takahashi K, Takahashi D, Mikami K, Ando H, Sato T “**Environmental Education curriculum for Regeneration and Use of Satoyama Ecosystem Services**”, URBIO2010: Urban biodiversity & Design, Nagoya, Japan, May 2010.

Mikami K, Takahashi K, Takahashi D, Ando H, Sato T “**Environmental Monitoring Using a Sensor Network System in an Attempt of Regenerating Satoyama Ecosystem Services**”, URBIO2010: Urban biodiversity & Design, Nagoya, Japan, May 2010.

Mai Ohnishi, Shion Takemura, Masahiro Kamimura, Katsunobu Shirakawa, Mahito Kamada (Tokushima University etc.): Process Management Toward the Collaborative Management of Natural Resources Found in Cases of Shiraho and Geihoku, Japan Association for Landscape Ecology, Tokyo University of Information Sciences June 25, 2011

Shion Takemura, Mai Ohnishi1), Katsunobu Shirakawa2), Mahito Kamada (Tokushima University etc.): Network Design for Collaboration Toward the Management of Natural Resources Found in the Case of Geihoku, Japan Association for Landscape Ecology, Tokyo University of Information Sciences June 25, 2011

5-4. Press reports, contributions and awards

(1) Press reports/contributions

Yaeyama Mainichi Shimbun, morning edition dated September 7, 2009 “Opinion Exchanges for Shiraho Community Development between Experts from Japan Science and Technology Agency and citizens, Return Study Results to Community"

Yaeyama Nippo, Morning Edition dated September 7, 2009“JST call for establishment of a network for environmental conservation researchers at Ishigakijima Workshop

Amami Shimbun, Morning Edition dated June 20, 2010“community-based utilization of “knowledge""

Sankei Shimbun Kansai edition dated September 1, 2010 “Local Science Network for Environment and Sustainability Foundation Symposium “Pursuit of Sciences Useful for Environmental Conservation and Sustainable Development of Communities”

Kumamoto Nichinichi Shimbun dated July 4, 2011 “Use of World Heritage System, symposium held in Kumamoto University, Report on Activities of Aso”

Ryukyu Shimpo dated October 12　(contribution) “For generation of ‘Satoumi’ ― Greeting for Symposium” Tetsu Sato

Okinawa Times dated October 13, 2011 (Contribution) “Toward the generation of ‘Satoumi’― ―activities of Onna-son Fisheries Cooperative” by Shigeru Yanaka

(2) Awards

No special awards

5-5. Patent applications

No patent application

■BIBLIOGRAPHY■

Sato, T. Makimoto, N. Mwafulirwa, D. Mizoiri, S. 2008. Unforced control of fishing activities as a result of coexistence with underwater protected areas in Lake Malawi National Park, East Africa. *Tropics* 17 (4):335-342.

Tetsu Sato. 2008. Wildlife and Communities as Environmental Icons—Iconizing Process and Roles of Sciences in Ecosystem Services. Japanese Association for Environmental Sociology 14: 70-85

Tetsu Sato. 2009. Environmental Sociology of Semi-cultivation—Future Relationship of Man and Nature edited by Taisuke Miyauchi,“Semi-cultivation and Ecosystem Services—What We Obtain from The nature"　Showado. pp22-44.

Tetsu Sato. 2009. Residential research institutions in communities—Linkage between Indigenous Knowledge System and Scientific Knowledge— Edited by Syuichi Kito,“environmental ethics". The University of Tokyo press. pp221-226.

Tetsu Sato"Face the Nature from the Perspective of Community: Interactions between Folk Knowledge and Sciences" `BIOSTORY'15: 64-67, 2011

Appendix 1


JST 社会技術研究開発センター・地域主導型科学者コミュニティの創生プロジェクト
地域環境学ネットワーク
設立記念シンポジウム
「地域の環境保全と持続可能な発展に役立つ科学を求めて」
2010年 9/18(土)・19(日) 会 場：大阪学院大学
■9月18日(土)
12:30～ 受付開始：2号館B1-02 前
13:00～18:30 基調講演・シンポジウム第1部：2号館B1-02
18:45～20:45 交流会(会費制)：職員食堂
入会
申し込み
受付中!
■9月19日(日)
8:30～ 受付開始：2号館B1-02 前
9:00～10:00 地域環境学ネットワーク総会(会員のみ)：2号館B1-02
10:00～12:00 ポスターセッション：2号館B1フロア
13:00～17:30 シンポジウム第2部：2号館B1-02
主催：地域環境学ネットワーク
http://www2.nagano.ac.jp/sato/network_localscience/index.html

Program (Day 1: September 18)

【Venue】B1-02, Building 2

Opening speech

13：00～13：10　Tadashi Kobayashi (Professor, Osaka University / Deputy Area Director, "Science and technology and human beings" research and development area, Research Institute of Science and Technology for Society, Japan Science and Technology Agency)

Keystone speech

13：10～13：50　Tetsu Sato (Nagano University)

"In search of sciences useful for sustainable development of communities—the Aim of the Local Science Network for Environment and Sustainability"

I have been studying on the biology and evolution of fish in the Lake Tanganyika and the Lake Malawi in East Africa, and on the eco-system evolution through niche construction and interspecies interactions. I am recently interested chiefly in a practical "regional environmental study" to produce the knowledge useful for environmental protection and natural resource management while exploiting the knowledge to contrive measures for environmental protection and community development. my activity field widely ranges from lakes in Africa to the coral reef in the Ishigaki Island and village forests in Nagano Prefecture.

Break　13：50～14：00

Symposium Part 1　14：00～18：30

"What knowledge is useful for communities?　—Various Study Visions"

14:00-14:05　Coordinator: Shigeru Yanaka (Tottori University)

"Summary of the symposium"

I study on the decision making process and right relationship over community resources management. I work on environmental (problem) studies from the livelihood perspective with Okinawa, Minamata, and so on as study fields.

14:05-14:40　Hiroaki Niitsuma (Tohoku University)

"Science for Solution of Problems Appropriate for

"let's rotate the power generator with wind power and soil power"
EIMY Yumoto Project

I propose EIMY (Energy In My Yard), which is a concept of local consumption of locally produced energy, and am engaged in practical research of EIMY at Yumoto, Tenei Village, Fukushima Prefecture; Kawasaki Town, Miyagi Prefecture; Otari-mura Nagano Prefecture and so on.

14:40-15:15 Yoshimi Higa (Onna-son fishermen's cooperative)
"Studies in Livelihood—Knowledge

I have been engaged in the development of aquaculture technologies and industrialization for mozuku, sea grapes, and so on at the Onna-son Fishermen's Cooperative in Okinawa prefecture. I am also involved in environment/ecosystem conservation activities including coral regeneration, acanthaster extermination, and prevention of red earth spilling.

"Coral Reef Regeneration" activities, Onna-son Fishermen's Cooperative,

15:15-15:50 Hiroyuki Ida (Yezo Deer Association)
"Convert negative resources to positive resources—solution

I am involved in activities concerning the effective use (eat, use, wear) of Yezo Deer as one of population size control measures for 10 years. I wish to expand my activities in future under the theme of sightseeing and foods using natural resources including Yezo Deer.

Yezo Deer Horn Craft Class useful to know about and effectively use Yezo Deer

15:50-16:25 Susumu Nozaki (Shiki Kobo Ltd.)
"Technological Development through Corporate Activities and Communities—Forestation and Community Development for Small Builders in the Community"

We a a small builder headquartered in Fukushima Prefecture with offices in several prefectures including Tokyo and Miyagi. All of our houses are constructed one by one by carpenters using 100% domestic materials by the AirPass Construction Method with Solar House Certification and finished with lime plaster.

Environmentally friendly house building using locally-produced wood.

16:25-17:00 Hiroyuki Matsuda (Yokohama National University) "Vsiting researchers and communities—approaches I took to be accepted and used"

I am engaged in studies to present a specific solution for eco-system management by mathematical ecology while functioning as committee members for environmental impact assessment of EXPO 2005 AICHI, Hokkaido Yezo Deer management, Shiretoko/Yakushima World Heritage, and so on. Representative director for the Society for Conservation of Fisheries Resources and Marine Environment.

Shiretoko Sea Area Management Project / Yezo Deer Adaptive Management

17:00-17:10 Comment from Tomoya Akimichi (Research Institute for Humanity and Nature)

I am involved in studies on the use and appropriation of community resources, collaborative governance between stakeholders, and resource management. I have also engaged in networking toward the "Construction of Global Environment Repository and Creation of New Knowledge in Wide-area Asia" for five years to strengthen collaborations with institutions of national and private universities in all over Japan. As a part of such efforts, I transmit information through the research journal, `SEEDer.'

17:10-18:30 Panel discussion

Program (Day 2: September 19)

【Venue】B1-02, Building 2　(poster session held on the floor)

Local Science Network for Environment and Sustainability General Assembly (for members only)
9:00-10:00

Poster session
10:00-12:00
First core time (odd Number)　10:30-11:00
Second core time (Even Number)　11:00-11:30

Lunch time　12:00-13:00

Symposium Part 2　13:00-17:30

"Active Networks in Communities—collaborations beyond the difference in views or sense of values"

13:00-13:05　coordinator: Mayuko Shimizu (Nagano University)
"Summary of the symposium"

I am trained as a useful researcher for communities. I studied the consensus building process by participated in such activities at the new town as community regeneration, regeneration of polluted communities, and the Local Agenda 21.

13:05-13:40　Mahito Kamada (Tokushima University)
"Constant actors involved in the Kamikatsu Satoyama Club"

Landscape of the Tokushima Prefectural Takamaru-yama Sennen-no Mori Forestation Area

The theme "How has the human being faced and interacted with the nature? And how has the nature reacted to the human being?" is my work basis. During my eight-year curatorship in the Tokushima Prefectural Museum, I was confronted with a question about the meaning and method of transmitting the study results to the public and of contributing to the community. I feel that my activities in this project are answers to the assignment I was given during my service at the museum.

16:00-16:10　Comment from Koji Nakamura (Kanazawa University)

The "Noto Peninsula Satoyama-Satoumi Nature School" and the "Satoyama Master Education Program," for which I serve as the chairman of a steering committee, conduct conservation and regeneration of village forests and village beaches, which are close nature for the community people, hands-on learning,

13:40-14:15 Kenji Niwa (Yahagi River Forest Examination Executive Committee)

"Study Networking People—Medical Examination for Forests"

I have been involved in organic farming movement since I was a university student. After having engaged in agriculture, I joined the Ministry of Agriculture, Forestry and Fisheries in 1980. Besides, I was involved in the foundation of the "Asuke Kikori Juku,""Yahagi River System Forest Volunteer Association," and the "Ise-Mikawa Bioregions Network" after engaging in civil movements for foods and agriculture including a post of director for the "Aichi Association for Foods, Agriculture, and Health of Japan." At present, I am the representative of the Yahagi River Forest Examination Executive Committee and the representative of the Yahagi River System Forest Volunteer Association. I am engaged in the "Wooden Station Project" at the NPO Yudachiyama Forest School and in hearing and writing activities on mountain villages at the NPO Yamasato Bunka Kenkyukai.

Medical Examination for Yahagi River Forest

14:15-14:50 Masahito Kamimura (Shiraho Sakana-Waku-Umi Community Conference)

"Catalyst Supporting Regional Activities—Residential Researchers Behind the Scenes"

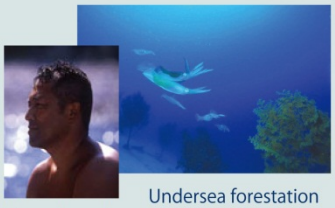
I am engaged in sustainable community development conducive to coral reef protection at the Ishigaki Island Shiraho Village in Okinawa Prefecture. I am also engaged in activities with the aim of holding the International Stone Tidal Weir Summit to promote the collaboration and exchange among regions with stone tidal weir at home and abroad.

Shiraho Reef Village (WWF Coral Reef Conservation and Research)

14:50-15:25 Masaru Kanda (NPO Kuroshio Zikkan Center)

"Meaning of Settling—pride and Affection for the Village Beach"

I am engaged in activities to encourage more people to know and improve the sea together with the objective of developing a "village beach" model, in which the people and the sea can coexist, at Kashiwa Island, Kochi Prefecture. We energetically work on such activities as periodical survey on marine environment, leaning through experience to feel nature, eco-tour, construction of spawning bed for bigfin reefsquid with thinned branches of Japanese cypress, and so on.



Undersea forestation thinned wood was placed on the ocean floor as an artificial spawning bed for bigfin reefsquid

15:25-16:00 Shinichiro Shikakuma (Yaeyama Agriculture, Forestry and Fisheries Promotion Center, Okinawa Prefecture)

"Administrative researcher and community—adviser on useful knowledge and technologies"

I am involved in management of fishery resources and protection of the coral reef ecosystem in the tropical and subtropical zones. Recently, I am interested in MPA (marine protected area) and the village beach. At present, I work as an instructor for proliferation of marine products in the Ishigaki Island, Okinawa Prefecture. I also work as the chairman for the Coral Reef Protection Committee, Japan Coral Reef Society.

Yaeyama sea areas Resource management by MAP

city and agricultural village exchange program, and cultivation of resources development for environmentally-friendly regional development on the basis of agriculture, forestry and fisheries, with residential researchers stationed at the "Noto School Building," which was reconstructed from an abolished school, in cooperation with a wide variety of human resources who are active in the Oku Noto Region.

16:10-17:25 Panel discussion

Poster session

【Venue】Floor in Building No. 2

Odd No.= First core time, Even No.= second core time

No.	Presenter's name　Affiliation　"Title"
1	Akira Terabayashi　Researcher at Norinchukin Research Institute Co., Ltd./Graduate School of Letters, Hokkaido University "TBA"
2	Koichi Mikami, Kazuaki Takahashi, Daisuke Takahashi, Tetsu Sato Faculty of Tourism and Environmental Studies, Nagano University "Possibility of Environmental Monitoring of Satoyama Through Information Infrastructure Development"
3	Katsunobu Shirakawa, Kogen No Shizenkan (Kita-Hiroshima Board of Education) "Regional Biodiversity Strategy Formed Through the Compensation of Mutual Knowledge by Citizens and Researchers"
4	Masahiro Nagano, Chie Ito, Hiroki Yamagishi, Takuo Sawahata, Koichi Mikami Echigo-Matsunoyama Museum of Natural Science, Tokamachi City "Community Activities in Collaboration by Citizens, Tourist Companies, and Researchers - Challenge of the "Satoyama-no Megumi Anainin-no Kai (Village Forest Blessings Guides' Association)" -"
5	Daisuke Takahashi, Yuuki Ide, Kazuaki Takahashi, Koichi Mikami, Hironori Ando, Tetsu Sato Faculty of Tourism and Environmental Studies, Nagano University "Effects of Water Areas in Forests on the Improvement of Biodiversity and Ecosystem Services in Satoyama"
6	Mariko Sakamoto, Environment & Town Planning "TBA"
7	Toshiaki Sawada,　Environment & Town Planning "TBA"
8	Tadashi Yogi　Yaeyama Fishermen's Association "Acanthaster Extermination Activities in Yaeyama"
9	Naoki Kachi / Shinya Numata, Tokyo Metropolitan University "Consortium for the Interdisciplinary Study of Human and Nature Symbiosis in Island Systems"
10	Atsushi Yamaba / Toshikazu Sano, Hiroshima Prefectural Technology Research Institute Forestry Research Center "Development of Communication Tools Useful for Concentrated Plantation of Artificial Forests in Satoyama"
11	Noboru Kuramoto　School of Agriculture, Meiji University "TBA"
12	Tatsuya Kinjo　Hokkaido University Graduate School of Letters Doctoral Course "Environmental Protection and Diversity of Society in Okinawa's Yanbaru region"
13	Maki Ikegami,　Postgraduate Course, Graduate School of Environmental Studies, Tohoku University "'Society of Kawasaki-Sendai Wood Stove' that directly connects village forests with wood stove users"
14	Mitsuhiko Asakawa, Wild Animal Medical Center, Department of Veterinary Medicine, Rakuno Gakuen University "TBA"
15	Ryu Ohtani, Advanced Industrial Science and Technology "TBA"
16	Masako Watanabe1, Naotomo Ota1, Mahito Kamada2, Toshiaki Sawada2 1Anan National College of Technology　2Tokushima University "Secrets" of collaboration among industry, academia, government, and citizens — Networking Council Based in the South Region as a Model —"
17	Noboru Tomita　Postgraduate Course, Graduate School of Environmental Studies, Tohoku University "Mountains, hot springs, people—development of trades and livelihood based on community treasures—"EIMY Yumoto Project""
18	Mayuko Shimizu,　Faculty of Tourism and Environmental Studies, Nagano University "Generate the actors in urban planning—Nishi-Yodo River Transportation Urban Planning Project—"

Purposes of this meeting

It is often the case in the efforts toward the solution of environmental problems facing the community and sustainable development of the community that various scientific solutions are not always effectively used by the regional people.

This may be attributed to scientists who are apt to produce knowledge that is inconsistent with the tradition or culture inherent in the community, or the conventional decision making system of the community, namely knowledge not usable in the community. Under such a problem consciousness, we have promoted the "Construction of a pragmatic scientist community contributing to stakeholder-driven management of local environment" research & development project since 2008 with the support of the JST Research Institute of Science and Technology for Society in pursuit of the way how sciences ought to produce the "problem-solving" knowledge that are useful for the solution of environmental problems and the sustainable development of communities and how scientists and experts ought to collaborate with various stakeholders in the community.

In addition, we established the "Local Science Network for Environment and Sustainability" in March 2010 as a forum for scientists, experts, and local stakeholders in all over Japan sharing such an awareness of the issues and developed a system to promote the sharing and information and mutual studies concerning the cases in various regions. This time, the Local Science Network for Environment and Sustainability Foundation Symposium will be held with the objective of introducing the vision and significance of the network to many people in commemoration of the establishment of the Local Science Network for Environment and Sustainability.

In Part 1 of the symposium, how the new knowledge production ought to be over the borders of the conventional sciences will be explored in light of the actual condition that the sciences producing the knowledge useful for the people in the community to solve problems are supported not only vocational scientists and experts but also people in various positions through the introduction of cases in all over Japan.

The various people grappling with environmental problems, which communities are faced in the respective regions, form networks engaged in dynamic activities within the communities, where vocational scientists/experts and various knowledge producers are important constituents. In Part 2 of the symposium, a system, which can promote activities toward the solution of problems with such intraregional networks maintaining their centripetal force, will be discussed through advanced cases in various regions.

In addition, a poster session will be held in the morning on the second day to have reports on activities in various communities and deepen the information sharing and exchanges with participants.

We wish to enjoy exchanges very much with people from all over Japan who struggle with the aim of sustainable development of their communities in harmony with the natural environment.

Tetsu Sato, Representative, Local Science Network for Environment and Sustainability

Local Science Network for Environment and Sustainability

Member List (as of September 13, 2010) ★ indicates founders and ● indicates steering committee members.

Tomoya Akimichi	Deputy Director / Professor, Research Institute for Humanity and Nature
★Anne McDonald	Director, UNU-IAS Operating Unit Ishikawa/Kanazawa
Maki Ikegami	Assistant Professor, Postgraduate Course, Graduate School of Environmental Studies, Tohoku University
★●Hiroshi Ikeda (deceased)	Former Director, Research Division, Hyogo Prefectural Homeland for the Oriental White Stork
★Hiromasa Ikureda	instructor, Faculty of Environment Systems, Rakuno Gakuen University
★Hiroyuki Ida	Director, Yezo Deer Association / Director, Hokkaido Slow Food Friends Obihiro
★●Atsushi Ueda	Chief of Division of Oriental White Stork and Human Coexistence, Toyooka City
Gohei Ueda	Toyooka Agriculture, Forestry, and Fisheries Office, Hyogo Prefectural Government
★Shinobu Uchida	Kushiro Wetland Nature Restoration (Wanda-grinda) Project, Hokkaido Environment Foundation
Itaru Ohta	Okinawa Prefecture Fisheries and Marine Technology Research Center
★●Hideyuki Onishi	Associate Professor, Doshisha Women's College of Liberal Arts
Yukino Ochiai	Associate Professor, Kagoshima University Museum
★●Kaoru Kakihana	President, Kerama Coastal Environment Conservation Association
★Takenobu Kakihana	President, 21 Zamami / Former President of Kerama Natural Conservation and Environment Council / Former President of Zamami-son Chamber of Commerce and Industry
★●Shinichiro Shikakuma	P&R section, Division of Agriculture, Forestry and Fisheries, Yaeyama Branch, Okinawa Prefecture
Hiroyuki Kajihara	Curator, Aso Tanibito Ecomusee
Naoki Kachi	Professor, Grad. School of Science & Engineering, Tokyo Metropolitan University / Chairman, Ogasawara Research Committee / Representative, Consortium for the Interdisciplinary Study of Human and Nature Symbiosis in Island Systems
★●Shigefumi Kanao	Taga Town Curator
★●Mahito Kamada	Professor, Institute of Socio Techno Science / Department of Civil and Environmental Engineering, Tokushima University
★●Masahito Kamimura	Director, Shiraho Sakana-Waku-Umi Community Conference Center Director, WWF Coral Reef Conservation and Research
★Masaru Kanda	Center Director, NPO Kuroshio Zikkan Center Center Director / Visiting Associate Professor, Kochi University
★Koichiro Kuraji	Joint Representative, Yahagi River Forests Researcher's Group / Instructor, Tokyo University Forest in Aichi
Noboru Kuramoto	Professor, School of Agriculture, Meiji University
Shigeharu Kogushi	Green Front Institute Ltd.
★Seiji Kondo	Professor for Field Science Center for Northern Biosphere and Research Faculty of Agriculture, Hokkaido University / President, Yezo Deer Association / President, Hokkaido Native Horse Preservation Association
★●Mariko Sakamoto	Kamikatsu Satoyama Club / Environment & Town planning
★●Tetsu Sato	Professor, Faculty of Tourism and Environmental Studies, Nagano University
★●Toshiaki Sawada	Director of Environment & Town planning and Visiting Professor at Tokushima University
★Shiki Kobo Ltd.	Susumu Nozaki, Representative Director
Motoko Shimagami	i-i-network (sharing, meeting, mutual learning network)
★●Mayuko Shimizu	Researcher, Nagano University
★●Katsunobu Shirakawa	Chief (Curator), Geihoku Kogen No Shizenkan
★Toko Suzaki	Joint Representative, Yahagi River Forests Researcher's Group / Chief Scientist, Toyota Yahagi River Institute
Katsuya Suzuki	Assistant Professor, Institute of Natural and Environmental Sciences, University of Hyogo / Researcher, Wildlife Management Research Center, Hyogo
Masatsugu Suzuki	Professor, Faculty of Applied Biological Sciences, Gifu University
★Akiko Sudo	Executive Managing Director, Eaglet Office Inc.
★Hiroaki Sono	Representative, Environmental Network Amami
Amane Takeuchi	Managing Director, IGETA TAKEUCHI Co., Ltd.
★●Kazuaki Takahashi	Associate Professor, Faculty of Tourism and Environmental Studies, Nagano University
★●Daisuke Takahashi	Associate Professor, Faculty of Tourism and Environmental Studies, Nagano University
Hiroki Taniguchi	Researcher, Akajima Marine Science Laboratory
Akiyora Terabayashi	Researcher, Norinchukin Research Institute Co., Ltd. / Graduate School of Letters, Hokkaido University
Noboru Tomita	Researcher, Postgraduate Course, Graduate School of Environmental Studies, Tohoku University
Kenzo Nakajima	Director, NPO Tosa-no-umi Kyuentai
★Masahiro Nagano	Chief Curator, Echigo-Matsunoyama Museum of Natural Science, Tokamachi City
★Koji Nakamura	Deputy President (in charge of contribution to society) / Center Director for Institute of Nature and Environmental Technology, Kanazawa University / Co-chair of Science Assessment Panel for Sub-global Assessment of Satoyama and Satoumi in Japan
★Hiroaki Niitsuma	Professor, Core Department Surface and Subsurface Instrumentation Laboratory, Postgraduate Course, Graduate School of Environmental Studies, Tohoku University Tenei Village EIMY Yumoto Project, Society of Kawasaki-Sendai Wood Stove
★Kenji Niwa	Representative, Yahagi River System Forest Volunteer Association
Shinya Numata	Associate Professor, Department of Tourism Science, Graduate Schools of Urban Development Sciences, Tokyo Metropolitan University
★●Yoshimi Higa	Instructor, Onna-son Fishermen's Cooperative
Mayumi Fukunaga	Assistant Professor, College of Sociology, Rikkyo University
★●Atsushi Makino	Professional Curator, Shiga Prefectural Lake Biwa Museum
Mitsutaku Makino	Researcher, National Research Institute of Fisheries Science, Fisheries Research Agency
★●Hiroyuki Matsuda	Professor, Graduate School of Environment and Information Sciences, Yokohama National University
★Takahiro Mano	Chief Researcher, Toyota Yahagi River Institute
Koichi Mikami	Researcher, Nagano University
Hiromune Mitsuhashi	Chief Scientist, Museum of Nature and Human Activities, Hyogo
★Taisuke Miyauchi	Professor, Hokkaido University Graduate School of Letters
★●Nobuya Miwa	Professor, Faculty of International Studies, Osaka Gakuin University
★●Shigeru Yanaka	Faculty of Regional Sciences. Tottori University Associate Professor
★Tetsuo Yanagi	Head / Professor, Research Institute for Applied Mechanics, Kyushu University Representative Researcher for "Establishment of the Social System for the Healthy Coastal Sea Environment (Creation of Sato-umi)"
Kaoru Yamasuga	Department of Tourism Science, Graduate Schools of Urban Development Sciences, Tokyo Metropolitan University
Atsushi Yamaba	Hiroshima Prefectural Technology Research Institute Forestry Research Center
★Shinji Yamamoto	Associate Professor, Field Science Center Faculty of Agriculture Iwate University
★Takakazu Yumoto	Professor, Research Institute for Humanity and Nature / Manager, Diversity Program
★●Tadashi Yogi	Yaeyama Fishermen's Association

Please contact a member or the Steering Committee members to join the Local Science Network for Environment and Sustainability.

Appendix 2

March 31, 2010
Revised on September 19, 2010
Supplementary provisions revised on April 6, 2012

Bylaws of the "Local Science Network for Environment and Sustainability"

Chapter 1 General rules

(Name)

Article 1

This network shall be termed as the Local Science Network for Environment and Sustainability.

Chapter 2 Objective and activities

(Objective)

Article 2

This network shall aim to contribute to the community-based solution of environmental issues through the knowledge production and collaboration by scientists, specialists, and community stakeholders by providing a forum for a variety of researchers engaged in research activities directly connected to the solution of environmental issues at community fields and community stakeholders so that they may activate the activities at their communities by mutual learning and development during information sharing, mutual assessment, and collaboration through interchanges.

(Activities)

Article 3

This network will pursue the following activities in order to achieve the objective as provided for in the preceding article.

1 Hold exchange meetings, symposia, etc.

2 Publish newsletters, web journals, etc.

3 Formulate and operate the "Guideline for Collaboration"

4 Construct and operate the system for Stakeholder Participatory Evaluation of Local Science

5 Any activities as appropriate by the steering committee in addition to those provided for in the preceding four items approved

Chapter 3 Members

(Members)

Article 4
The members of the network shall consist of Individual Members and Corporate Members.
2 Any individuals or organizations, who agree to the objective of this network, may become a member of this network by being recommended by a steering committee member and then approved by the steering committee.
3 A member may participate in activities of this network and attend the general assembly and exchange meetings.

(Withdrawal)
Article 5
A member may withdraw from this network by notifying the steering committee to that effect.

Chapter 4 Operation
(Organization)
Article 6
The representative, the steering committee, and the executive office shall be established within this network.

(Representative)
Article 7
The representative shall promote the sharing of the vision of this network and interactions between members and make necessary coordination for the vitalization of activities appropriate for the vision of the network.

(Steering committee)
Article 8
This network shall be operated in consultation with the steering committee.
2 The steering committee shall consist of up to 20 members.

(Election)
Article 9
The steering committee members shall be elected by a majority of approvals at the General Assembly. If the number of candidates exceeds the number of seats of the steering committee members as provided for in paragraph 2 of the preceding article, the

steering committee members shall be determined by votes.

2 The representative shall be mutually voted by the steering committee and approved at the General Assembly.

(Term)

Article 10

The representative and the steering committee members shall hold their office for three years and may be re-appointed.

(Executive office)

Article 11

The executive office shall assist the representative and the steering committee to facilitate the operation and the activities of this network.

(Accounting)

Article 12

The members shall bear the cost associated with the activities of this network at their own expense in principle. However, any grants, aids, contributions, or other revenues, available for the activities, if any, shall be appropriated to the activities concerned.

(General assembly)

Article 13

This network shall hold a general assembly once a year.

2 The general assembly shall be convened by the representative and chaired by a person who will be elected by mutual votes of the steering committee members.

3 The general assembly is effective with attendance of more than two-thirds of the committee members.

4 The general assembly shall report and deliberate on the following matters:

1) Matters concerning the vision and action policy of this network;

2) Matters concerning the monitoring, assessment, and improvement of the activity status of this network;

3) Election of steering committee members;

4) Revision of bylaws;

5) Reporting of budgets and accounting settlement; and

6) Others

(Delegation)

Article 14

A committee member, who cannot attend the general assembly for an inevitable reason, can offer his opinion in writing on a pre-announced agenda for resolution. He may otherwise delegate a proxy to offer an opinion and vote on his behalf.

Chapter 5 Amendment of bylaws

(Amendment of bylaws)

Article 15

These bylaws may be amended by approval of the steering committee.

2 The steering committee shall report the reason and the situation for amendment at the general assembly.

Chapter 6 Miscellaneous rules

Article 16

The detailed rules for enforcement of these bylaws shall be established by approval of the steering committee.

Supplementary provisions

1 These bylaws shall put into force on April 1, 2010.

2 The start-up members of this network shall consist of the members of the "Construction of a Pragmatic Scientist Community Contributing to Stakeholder-Driven Management of Local Environment" project.

3 The executive office of this network shall be placed under the Research Institute for Humanity and Nature, National Institutes for the Humanities Research Institute for Humanity and Nature, Inter-university Research Institute Corporation for the time being.

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Phone: +81-75-707-2400 (Sato) / +81-75-707-2400 (Fukushima)

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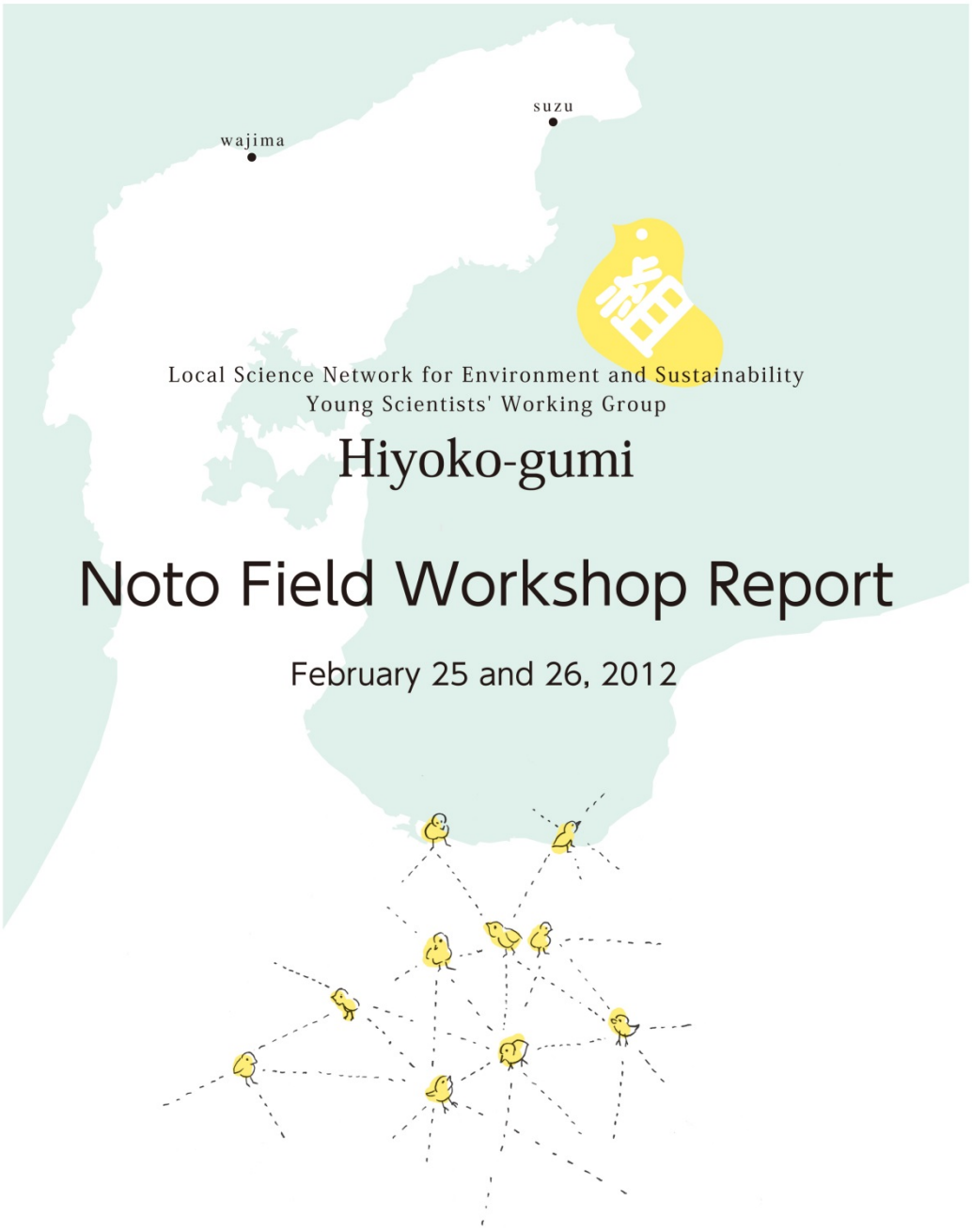
Appendix 3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Local Science Network for Environment and Sustainability
Young Scientists' Working Group
Hiyoko-gumi
Noto Field Workshop Report
February 25 and 26, 2012

Local Science Network for Environment and Sustainability
Young Scientists' Working Group

Hiyoko-gumi

Noto Field Workshop Report

February 25 and 26, 2012

Table of Contents

Preface

This report is an anthology of experience stories by twelve members of the Hiyoko-gumi group, Local Science Network for Environment and Sustainability (LSNES), who participated in the workshop to learn about development of human resources and communities in Noto Peninsula.

Under the tight schedule of two days, what did the young participants experience, and how did they feel after closing of the workshop?

Our immediate purpose of compiling this report was to convey some of our feedbacks to the people we were in touch with in Noto than anyone else. That would be the only measures for us to thank those people properly.

The workshop could not be realized without lots of efforts by the students and staff of the School of Noto Studies, the members of Maruyama-gumi in Mitsui, Wajima, the owner of farm-inn, Hirokichi and his wife, and the people in the local community.

In particular, we deeply thank the students of Noto Nature School who spared their valuable time for us despite being in a period of preparation of their graduation theses. And thank you all who we met in Note!

The Noto Field Workshop was organized, as part of the JST-RISTEX's project of Construction of "Pragmatic Scientist Community Contributing to Stakeholder-driven Management of Local Environment", by Hiyoko-gumi, a working group of young scientists in the Local Science Network for Environment and Sustainability. We thank all the staff concerned.

Mayuko Shimizu,
Hiyoko-gumi,
Local Science Network for Environment and Sustainability

Background Mayuko Shimizu

◆What is the Local Science Network for Environment and Sustainability?

In March 2010, the Local Science Network for Environment and Sustainability (LSNES; chaired by Prof. Tetsu Sato, Research Institute for Humanity and Nature) was founded as a national network to support the scientists involved in research focused on solving local environmental problems. Since then, member scientists in LSNES have been exchanging with the local residents who want to work in collaboration with such scientists, in order to contribute to revitalization of local communities by preserving and relying on nature.

Not science for science's sake, but science for society is needed more than ever in the realm of environmental preservation. But, traditionally science has been far out of touch with the society. Without learning more about local communities, scientists can't work on sciences for local communities, though they actually want to be called for in the public interest. Scientists and the public are now sharing awareness of these issues.

LSNES had its public symposium five times so far, all of which were held in the communities where "residential researchers" resides and are using their professional, scientific knowledge and skills to work on practical investigations and community activities (Residential researcher means a researcher who resides in a particular community and is involved in investigations to solve a problem in the community).

Based on the member's experiences, the LSNES developed the Guidelines on Collaborations between Local Communities and Scientists as "guidelines for residential researches", which summarize and itemize preparations for investigation (or knowledge production) helpful for problem-solving in local communities.

Through those activities described above, we aim at fostering local environmental science for the benefit of local communities.

LSNES web site: http://www2.nagano.ac.jp/sato/network_localscience/index.html

◆Hiyoko-gumi

Hiyoko-gumi is a group consisting of the younger member scientists from the Local Science Network for Environment and Sustainability, who dived into particular local communities on their own will, and who was in search of what investigations they should work on in their future careers. The group was formed by such young scientists

to have the opportunities to talk about and share their dreams and worries with each other, in October 2011.

On a personal note, I perhaps used not accept the lifestyle of residential researcher completely as my own way of living or doing; for I had poor experience of investigation and activities but a tendency to debate so much in my head. I was just interested to hear the true feelings of young scientists who made dives into local communities, and to share them with a lot of people. Or rather, we should create the concept of residential research on our own by learning from the experience of seniors who came to acknowledge its importance, shouldn't we? Such a bit of high-flying ambition was a bit in my mind.

◆Gather in Noto!

The Hiyoko-gumi group members live with a job dispersedly throughout the Japanese archipelago as well as foreign countries. We started their group activities by exchanging views with each other on Facebook. However, it's not easy to communicate our confused feelings… And thus we became to want to talk in face to face; not for just talking in a meeting room, but for seeing other members' activities and understanding each other. I absolutely wished to share the activities at the Noto Nature School with the Hiyoko members, which I had previously visited twice.

The reasons why I chose the Noto School was because (1) it was an example modeling "residential research", where scientists reside in the community and work on restoration of nature and revitalization of the community as well as on fostering of human resources; (2) it has clear positive motives to harness wisdom, human resources, and nature specific to the community; (3) Creating a lifestyle relying on satoyama and satoumi, the goal of the Noto Satoyama Meister Program, is one of key challenges for the Hiyoko members; and (4) the local foods are delicious!

Noto's Satoyama & Satoumi Project is a project well organized by Kanazawa University as one of its regional contribution activities, which has cost pretty money. So, it's not something that can be done by anything anywhere, but might perhaps provide lots of inspiration for our specific activities, as well as give us the opportunities to witness actual residential researches. My suggestion of holding a field workshop in Noto was accepted by Mr. Akaishi, and then realized.

The main topic of the workshop was "What is Residential Research?" To learn from the activities in Noto, I put forward the following questions:

- What roles should scientists assume as a member of a local community (from the

point of view of a scientist)?

- What is the benefit of scientists residing in a particular local community for the local public?
- What is the procedures of forming an organization and network that allow the local public and scientists to work in collaboration with each other
- What would the local public want to learn?

During a two-day, short term workshop, we, the participants were well stimulated and inspired by the landscapes and people in Noto. We enjoyed this opportunity to think about each local community where we reside and about our own "residential researches".

Program

Date: February 25 (Saturday)

12:00-13:00: Lunch at Hen-zai-mon, a restaurant in the School of Noto Studies, Kanazawa University

Menu: rice, sake lees soup with Kajime and Aosa seaweeds, teriyaki spring chicken, kenchin-jiru, okara (bean curd refuse), carrots in sake lees dressing, boiled takuan, vinegared dish, Gomoku soy beans, and pickled vegetables

Session (1)

13:15-13:30:	Opening speech and brief (by Mayuko Shimizu)
13:30-14:00:	Activities of NPO Oraccha Satoyama & Satoumi (by Daisuke Akaishi)
14:00-14:30:	Activities of the Noto Satoyama Meister Program (by Shinsaku Koji and Program staff)
14:30-15:30:	Viewing the conservation areas around the School
15:30-17:30:	Discussion after exhibitions of activities of the participants from Hioyoko-gumi
17:30-19:30:	Convivial party at restaurant "Tenza"
20:00～ :	Discussion and lodgment at a farm-inn, Hirokichi

Date: February 26 (Sunday)

9:00-10:00: Travel from Suzu to Mitsui, Wajima
10:00-12:30: Attending the Aenokoto agricultural ritual by Maruyama-gumi,
12:30-13:30: Lunch together with the Maruyama-gumi member

Session (2)
13:30-14:00: Exhibitions of activities of Maruyama-gumi (by Yuki Ogino)

14:00-14:30: History of landscapes in Maruyama village (by Hideharu Kurita, National Agriculture and Food Research Organization)

14:30-15:00: Brief comments from Hiyoko-gumi members

15:00-16:00 Discussion
16:00-16:30 Closing

Participants

(Listing in the order of living place from southwest to northeast, with affiliations at the time of the workshop, and with feedbacks cited.)

Masahito Kamimura (Ishigaki, Okinawa),

Chief Executive Director, Shiraho Sakana-Waku-Umi Community Conference/Director, WWF Coral Reef Conservation and Research Centre

--- I found it's necessary to create the social system, values and infrastructures that support people's well-being in inherited local cultures of life

Tatsuya Kinjo (Kunigami, Okinawa)

Doctor Course Graduate School of Letters, Hokkaido University

--- The workshop urged me to think of the necessity of securing sustainable relationship between scientists and the local public.

Motoko Kimura (Tsushima, Nagasaki)

Biodiversity staff, Tsushima Rangers

--- I think there is no single answer to the question of what is the best way for scientists to be involved with a local community. Rather, what is actually needed may be the discussion on how the local community would like to use the scientists.

Miro Ichijo (Tsushima, Nagasaki)

Staff for dissemination and awareness raising/local society development, Tsushima Wildlife Conservation Center

--- There may be difference between the things only "Sensei" can do and those only "Yamaneko-san" (or I), who are closer to the local community, can do, both of which might be valuable.

Katsunobu Shirakawa (Kita-Hiroshima, Hiroshima)

Senior Curator, the National History Museum of Geihoku

--- The Satoyama Meister program is very attractive. I think it will be an ideal chance of sharing common perceptions with people from other industries or fields.

Naoki Kikuchi (Toyooka, Hyogo)

Institute of Natural and Environmental Science, University of Hyogo/Hyogo Prefectural Homeland for the Oriental White Stork

--- Perhaps, what I saw in Noto might be “semi” something in the sense of being something as well as another.

Hikaru Nishino (Obama, Fukui)

Representative of Eelgrass (Amamo) Supporters/Graduate School of Global Environmental Studies, Kyoto University

--- “So sweet is Noto, its people and yet soils”. I think my experience in Noto has given me a lot of invisible, ineffable lessons.

Daisuke Akaishi (Suzu, Ishikawa)

Researcher, NPO Oraccha Satoyama & Satoumi

--- We, who are working within a local community, are still debating how far we can remain as researchers and how we can create a novel thing.

Mayuko Shimizu (Ueda, Nagano)

Researcher, Nagano University

--- When thinking of the people I met in Noto and those who might be behind them, the challenge of residential research is increasingly intriguing me.

Akira Terabayashi (Tokyo)

Researcher at Norinchukin Research Institute Co., Ltd./Graduate School of Letters, Hokkaido University

--- I wonder how much the residential researchers and the local public in Noto have shared their respective stories with each other. I wish I could visualize it through social researches. I have been thinking about this.

Naoko Namizaki (Tsukuba, Ibaraki)

National Institute for Environmental Studies

--- It would be nice to visualize what impact the project by Kanazawa University has on the local society.

Sho Hoshi (Tomita) (Ten-ei, Fukushima)

Graduate School of Environmental Studies, Tohoku University

--- It is important to create the business taking advantage of the local resources so that young people would want to live in or return to that community.

Experience Stories

Masahito Kamimura (Ishigaki, Okinawa),
Chief Executive Director, Shiraho Sakana-Waku-Umi Community Conference/Director,
WWF Coral Reef Conservation and Research Centre

◆What I was expecting from participating the workshop

I am living in Ishigaki Island, Okinawa, and working for a conservation group, WWF Japan. The objective of my job is to accomplish the stakeholder-driven conservation and management of coral reef, but personally I have a goal of developing a sustainable local community.

Currently, I am addressing to realize a sustainable self-reliant community where people live with satisfaction in harmony with healthy coral reefs. The challenge I am now facing is fostering of local coordinating researches.

When invited to the Noto Field Workshop, I was interested very much in what activities were undertaken at the School of Noto Studies, Kanazawa Univ., and what elements the Noto Satoyama Meister Program would have. I wanted to gain lessons from Noto by knowing how the local public people feel being involved with or in such activities or program and what perspectives they have about the local biodiversity and community development.

○ How would an external organization get to mingle with the local community?
○ What curriculum would be best to encourage the local public to be involved in developing a sustainable community?
○ How does the local public perceive the local biodiversity and is dealing with conservation and utilization of nature?

◆ Viewing the activities in Noto

I could not come up with complete answers to the three questions mentioned above, but the workshop offered me the opportunities to think about a good deal of things and ask myself: What is the significance for me to be involved with a local community? And how should I live? The following is my thought about the three self-questions.

● Harsh realities of researchers and the keys for residential researchers to remain residential

So far, at the LSNES meetings, topics often have led to the difficulties for residential researchers to remain continuously involved with a local community: the purposes inconsistent with the context of involvement with the local community; problems with the residential research institution such as financial matters or personnel shift; difficulties with research achievement; and change in life stage.

Before visiting the School of Noto Studies, I expected that continuity of activities at the School, as an institution of a university, would be secured. I found, however, that the researchers were actually forced to be in unstable employment situations because of their limited term projects and thus have a difficulty in being persistently involved with the local community.

On the other hand, I was interested that researchers might have varied choices over lifestyle, when seeing Mr. Sho Hoshi from Ten-ei, Okinawa, who, as an ordinary citizen with expertise in scientific research, resides in and is persistently involved with a local community; and Ms. Motoko Kimura from Tsushima, who lives in a local community with the goal of contributing to development of a sustainable community and realizing her own productive lifestyle.

- Impressive concept of Hen-zai-mon!

When I entered into the School of Noto Studies, I found exhibitions for CBD-COP10 in a room with a wood stove. There I saw an advertising slogan, "Relish the satoyama & satoumi through foods at Hen-zai-mon!" This reminded me of the Workshop on Shiraho Local Cuisine, which I commenced in 2004 when I started to live in Shiraho, and subsequent "Shiraho Sunday Market".

In those days, I used to struggle to make the staff of WWF understand association between conservation of coral reefs and food and life culture (…maybe, due to my poor explanation). Perhaps, the peoples from cities might overlook the natural orders of things in the local regions rich with nature or the fact that people have been living with the blessing of nature and in full respect for nature.

I realized that it is important to share ecological knowledge with the people in communities and, (especially for encouraging local people to be involved in the activities) to take over the existing nature-preserving lifestyles from local communities. Moreover, I clearly noticed the roles and potential of local communities to get the sustainable lifestyles in local communities across to city dwellers.

I enjoyed very much the breakfast at the farm-inn, Hirokichi, and local dishes during the agricultural ritual of Aenokoto.

We often tend to think of turning such abundant natural resources into money, but what we should really do, I think, is to develop a social system, values and infrastructures so that people can live satisfactorily in the tradition of local lifestyles.

● Amazing --- Contemporary version of Aenokoto!

I have not made myself clear about the issues of I-Turn phenomenon. I am involved, as an expert, with a local community; so I have thought that the best thing I can do should be nothing but to present options for the local people. I have striven to provide them with information and case examples and organize lecture meetings, for encouraging the community members to undertake activities spontaneously, increase their awareness, and face the natural environment.

The reasons for such my attitude are partially because I have kept in my mind the negative historical relationship between WWF and the Shiraho community (i.e. the conflict about the issue of New Ishigaki Airport), but mainly because I thought who should persistently take the central role in development of a local community is the people of that community, and not me, who would leave the community in the future. Now I worry about the possibility that such my attitude have caused a sense of distance between the local people and me. It makes me to think about the difference between a researcher's views on the community as an object of research or business, and as his/her permanent home.

Perhaps, the LSNES members may need to think in depth about the purpose and significance of being involved persistently with a local community and in improvement of the local environment.

By the way, Shiraho is not facing a problem of depopulation or aging, and has young supporters of traditional events. So, I think it is difficult here to take the same approach as Noto. I am a bit envious of the activities in Noto.

Tatsuya Kinjo (Kunigami, Okinawa)
Doctor Course Graduate School of Letters, Hokkaido University

To participate in the LSNES Hiyoko-gumi Field Workshop, I visited Noto for the first time in my life. The workshop was held for two days on February 25 and 26.

On the first day, the staff of the School of Noto Studies and the LSNES members briefly explained their respective activities.

After moving from the Noto Airport to the School, we took lunch at the dining hall. It seemed the campaign of "conservation of food culture and dietary education of local production for local consumption" is one of the activities at the Noto Nature School. Dishes with local foods were served by the members. I think the School may assume a great role to develop and maintain this kind of activities.

After lunch, the Workshop was started with the School staff and Hiyoko-gumi members reporting their respective activities. The activities at the School, including the Meister programs for the local public, made me notice the roles of researchers in a local community. The staff of the School has been conducting the bioassessment in collaboration with the local public to develop local resources, which demonstrated an interactive relationship between researchers and the public. I also saw restlessness among the staff over looking for the posts of researcher or continuing their activities. As a doctoral student, I have to take this in my mind, and confirmed the need of something to secure the continuity of relationship between researchers and the local public. Without establishing such a relationship, a researcher has to be increasingly considered as a person who would eventually leave the community, and the continuity of his/her involvement with the community would not be secured; his/her research would eventually vanish in smoke, however potentially productive it is. The activities, as a whole, could be continued within the community, but if not, the roles of residential researchers would fade away.

While being a student, I have a position in municipal administration of cultural heritages. As an expert researcher for the cultural resources inventory survey by the local government of Amagi, Tokunoshima Island, Kagoshima, I was greatly interested in the activities by the Maruyama-gumi members we met on the second day. Guided by the local people, they performed the "contemporary" version of Aenokoto ritual in practice. The activity of this kind would be meaningful to conserve local cultures.

The Aenokoto ritual was started with praising gods at home. Subsequently, all the participants went in the snow to paddies for restoring a god of paddies to paddies. It was challenging and exciting for me, who is from Okinawa and not used to skiing, to go with

skiing in the snow. In the paddies, we performed the ritual to restore the god to the paddies. After taking lunch with local foods at Ogino-san's home, we had a presentation with activity report by Maruyama-gumi, and then boosted exchanges with each other.

Looking back on the stream of events described above, I realize that there were various participants in the workshop, including the local and external people. I see potential in the activities by Maruyama-gumi, in which each event is not limited to participation by parties out of the community, to contribute to sustainability of cultures and natural environment.

I have learnt and thought about a lot of things from the Noto Field Workshop, including those on natural environment, cultures, and sustainability of a local community. During its short term of two days, there might still be many things I missed to hear. Naturally I should not expect that the people of the School of Noto Studies and Maruyama-gumi could make mention to all the things concerned. I hope I will visit the Noto field again, and learn in some more depth about the activities by the School and Maruyama-gumi, and about the relationship of Maruyama-gumi's activities with the local public. With that in mind, it might be a good idea to give though to how the activities at the School of Noto Studies are associated with the local public. As well as their bioassessment activities, such a socio-scientific approach of research might be useful.

My thanks go to the staff of the School of Noto Studies for kindly coordinating the LSNES field workshop, the farm inn's owner and his wife for providing our accommodation, and the Maruyama-gumi group for their presentations. It's my sincere wish that I will see them again!

Motoko Kimura (Tsushima, Nagasaki)
Biodiversity staff, Tsushima Rangers

In June, last year, I marked a closure to my life in academia, and went to live in Tsushima for making use of my experience in ecology in the real world. As a researcher, I had been aiming at developing a new academic field of "ecosystem adaptability science". So far, human beings have been developing by controlling the fluctuating natural environment by force. Ecosystem adaptability science is a science to realize an "adaptive society" where living organisms and ecosystems can adapt to the natural environment with their inherent adaptability. To realize an adaptive society, it is not

sufficient to explain the ecological mechanisms through basic researches, but is necessary to develop a system that allows the ecosystem to infiltrate into the society. Back in my researching days, I could not help but feel that the issues of biodiversity involve consensus building and economy within a local community. It may be indeed important and influential to develop advocate a systematic theory in the academic world. But I had a desire to develop and put into practice a typical model of "adaptive society" within a small yet real society. I thought such a lifestyle would be likely appropriate for me. Just then, under the Local Activation Program of the Ministry of Internal Affairs and Communications, the local government of Tsushima was offering a job as the professional staff to "preserve and utilize the local natural resources to revitalize the community". "That was it!" Immediately I decided to go to Tsushima.

As you know, Tsushima is a remote island, which I thought would be a best experimental field, because of its isolation, to study the processes of establishing an energy self-sufficient system and circulation system of goods, and consensus building in a local community. I intended to be a coordinator who should develop a system for bringing together the researchers who sought for such an experimental field, collecting knowledge from them, and using the knowledge in the community. Therefore, I participated in the Noto Field Workshop with the objectives of hearing what the researchers involved in a field work were seeking for, and how they were involved with their local community, and then gaining lessons on how I, as a researcher, should be involved with my community. A nice experimental field is a nice learning tool. In this context, the Noto Satoyama Meister Program of Kanazawa University is very interesting.

My feelings after the workshop are described below.

◆ To play a significant role in a community

I was encouraged very much by seeing Hoshi-san, who were married and created an opening to earn money, and had an intention to live in the local community. In addition, the framework, in which a researcher, like Akaishi-san or Kamimura-san, resides in a local community, has a face-to-face relationship with the people there, and develops a research program in collaboration with the people, (including the presence of such a researcher), would contribute to development of the community. To be successfully involved with a local community, however, the researcher might often need to keep the relationship dry or to be involved with multiple communities. I think there is no single answer to the question of what is the best way for scientists to be involved with a local community. Rather, what is actually needed may be the discussion on how the local

community would like to use the scientists. If the community wants to collect knowledge or findings from those researchers who stay temporarily in the community or are involved with the community without staying, that community should establish a window or mechanism to do so.

◆ Noto Satoyama Meister Program

The Noto Satoyama Meister Program is a very ideal program in terms of quality of instructors, curriculum, field work, and others. If programs like this were disseminated to the entire nation, I guess it would greatly contribute to improve the society. But no private organization might be able to copy this program. It requires recruitment of professionals from academic organizations, like university, under public funding for education. It would be too hard for the private sector to meet such a requirement. At any rate, the Program inspired me in a number of respects.

On a remote island, like Tsushima, an education program might be unavailable on a live-out basis, but available on a long-stay basis. The curriculum of Noto Program might be applied to a one-year live-in course, not to once-a-week course. If there is shortage of professional staff, how about the students acting for them? With clothing, food and housing secured, the live-in program would attract a sufficient number of students. In addition, the concept of Hen-zai-mon had a great deal to learn: local foods that are routinely consumed within the local community will appeal, by its locality, to the visitors from a distance, which may reflect the regionally specific wisdom. The concept would work well in a remote island, again, if the traditional local cuisines are introduced into the learning curriculum, rather than just given as meals to the students at dining hall. It's amazing…but would be impossible in Tsushima…now I remember! Following such a flow of thoughts, I found a number of things I should and can borrow from the Program.

◆ Aenokoto ritual by Maruyama-gumi

Indigenous belief may be a valuable resource to indicate how the local people have perceived and interacted with the local natural environment. I noticed the importance of preserve the diversity of belief, as well as conserving the biodiversity. In Tsushima, there are many traditional beliefs in the local communities, but what bothering each community is aging and shortage of the flame keepers. The people who have lived in the community since their birth or early childhood tend to see such a traditional culture as a bothersome déjà vu. In this context, I suppose that "strangers", like the Maruyama-gumi members, might make a great contribution to conservation of a

traditional culture.

Miro Ichijo (Tsushima, Nagasaki)
Staff for dissemination and awareness raising/local society development, Tsushima Wildlife Conservation Center

I certainly participated in the LSNES field workshop, but actually I am not a "researcher". After graduating a college of agriculture and forestry and then a technical school of environmental studies, I have been working in a remote island, Tsushima, Nagasaki, as an "interpreter" who shares the researchers' knowledge and information with kids and the public and guides them to enjoy the wonderful nature, including the leopard cat, in Tsushima.

My motive for participating in the Field Workshop was to gain lessons on activities in collaboration with a local public and apply them to my efforts of developing the community living in harmony with Tsushima leopard cats. The following is the things I learned and thought after the two-day workshop.

Previously, I knew about the School of Noto Studies, and was much interested in how the university was involved with the local public. At the dining hall, Hen-zai-mon, we enjoyed the regionally specific cuisines with local products, called "Hen-zai-mon", all of which were really delicious. In the hall, it was an elegant space with the menu board, monitor displays, and other furniture giving a sense of thoughtful attention by the caretakers. That was well communicating their nice climate to us, visitors.

After lunch, I could enjoy, with keen interest, looking around the matsutake mushroom forest. In Noto, Dytiscidae insects (diving beetles) were used as a measure of natural abundance. I imagine that such common insects to the local people could not be covered by the protection without the researchers' knowledge and data, and their great efforts (which I think most important). On the other hand, in the red pine woods in which matsutake mushrooms will be picked, Cleyera (called "Sakaki" in Noto) is preferentially conserved to make the habitat favorable for growth of matsutake, according to the local people's experience. Then, the branches of Sakaki are sold as offerings at household altars. Well, I realized that knowledge of the researchers and wisdom of the people are working well together.

In the farm inn, "Tenza", we were impressed by the "irori" fireplace, which were provided as the venue of talkfest. Among others, the most impressive dish was onigiri

rice balls with the fish sauce called “ishiru”. Sake lees soup (with Kajime and Aosa) served at Hen-zai-mon, shiitake mushroom “Noto 115”, tofu of Ohama soy beans, the cuisines served after the Aenokoto ritual, and …. All those foods demonstrated that the local people in Noto practice the principle of local production for local consumption, and live in harmony with nature.

“I don’t care for biodiversity,” said the owner of Hirokichi.
“As Akaishi-sensei researches on sharp’s diving beetles (Dytiscus sharpi) and flogs, I wondered how they are so important, and became to assist him.” This episode was very impressive to me.

Mr. Akaishi is called “sensei”. We talked about whether the honorific title of “sensei” could cause him to drift apart the local community, we settled into the thought that there may be difference between the things only “Sensei” can do and those only “Yamaneko-san” (or I), who are closer to the local community, can do, both of which might be valuable.

It was a fun that, in Noto, the word “sharp” does not refer to a large home electrics manufacturer, but to a dydiscid. Dydiscid has become so familiar with the people, but that is because Mr. Akaishi the Sensei and other researchers of the Noto School taught the people how important sharp’s diving beetle was, and the people understood it.

Under the Tsushima Leopard Cat Conservation Planning project, now I am striving to develop the communities comfortable for people and leopard cats in three districts. I would be able to apply to Tsushima the spirit of hospitality making the most of nature in Noto. I would like to share the lessons from the field workshop with the local people in Tsushima, and think and discuss with the people what I can do on my own in Tsushima.

Mr. Akaishi, Ms. Shimizu, and all the people who welcomed us, thank you very much for providing an invaluable opportunity for us.

Katsunobu Shirakawa (Kita-Hiroshima, Hiroshima)
Senior Curator, the National History Museum of Geihoku

I went visited Noto to participate in the Suzu Conservation Program council on February 24, 2012, and the Hiyoko-gumi group of LSNES on February 25 and 26. I had been aware of the Noto Satoyama & Satoumi Nature School (hereinafter called "the Nature School") of Kanazawa University, but had not exposed to its details. During the three days of stay, I gained many ideas, perspectives, and feasts. Meanwhile, I realized how difficult to keep up an institution rooted in the local community.

Whenever I visit a place under the LSNES field workshop, I hear from the local researchers and people from the viewpoints of "how and what system is built into the local community? This time, again, I have been thinking about what system is working to enable the activities of the Nature School, and what hurdle we must overcome to apply that system to another (or my) community. My thoughts are summarized as follows.

◆ Promoting mainstreaming

On its website, the Nature School is aimed at conserving and revitalizing the satoyama and satoumi as the natural environment familiar to the community and presenting recommendations for regional development based on eco-friendly agriculture, forestry, and fisheries. The most challenging task for sustainable conservation of a semi-natural ecosystem is to secure the workforce. Conservation activities by volunteers will work temporarily, but not be enduring.

What I was interested in was that the workforce members were requested to make recommendations for regional development under the Satoyama Meister Program. At the end of the Satoyama Meister Program, each student will be making a presentation of his/her thesis. There they will develop an "attitude" toward thinking about what they should do for conservation of satoyama and satoumi, rather than just gaining technical skills.

Occupation of the subjects certified as the Meister fall into a variety of sectors. Their presentation of the thesis seemed to be equal to their determination toward involvement with the satoyama and satoumi. The graduates who passed through the program course and are working in every sector in the region will significantly contribute to promotion of "mainstreaming" in the context of biodiversity strategy. In the Oku-Noto area with about 73,000 people, approximately 60 Meisters would not be scarce.

◆ The presence of Kanazawa University

The Nature School seemed to be conscious of academic tone, as demonstrated by the fact that the staff of the Nature School was called “sensei”, and the presentation held at graduation of the Satoyama Meister course was called “thesis presentation”.

Nevertheless, every sensei was not “arm’s-length” from the students or local people. Through talking with the staff of farm inn and Hen-zai-mon, I realized the sensei’s were building friendly relationships to work together with such students and people. It should not easy to establish such relationships without losing their position as a teacher. At a committee or policymaking meeting, they may be often needed to make remarks from a standpoint of a teacher or scholar. Such remarks do not necessarily require a scientific support, but need to be a message from above authority beyond reason, personal relationship, or administrative convenience. A sensei’s voice of authority may often allow things to progress. This authority does not rely on personal confidence, but would be secured by the university. I think the presence of university is essential for the Meisters to work with reassurance and self-confidence.

A similar relationship is not found between curators of local museums or residential those research institutions (other than university facilities) I visited as part of the LSNES workshops and the local public, but seems to be shared by the curators of the Museum of Nature and Human Activities, Hyogo, and the staff of the Prefectural Homeland for the Oriental White Stork. Of course, research activities are going on at a museum, and what relationship the researchers would build with the local public should rely on their individual qualities and skills. Still I realized through the Field Workshop this time that their authority in their dealings with the students or local public would be influenced significantly by a university.

◆ Harvests from Noto

I deeply regret that the Nature School is endangered. Its staffs are very competent and rich in humanity, as noticed through talking with the local public. The local public and government must be aware of the value of the Nature School before its closing. The Nature School has accomplished many things in a short amount of time that could not be done by other local governments. I hope that Kanazawa University and the local government of Suzu will make a wise decision.

The Satoyama Meister program is very attractive. I think it will be an ideal chance of sharing common perceptions with people from other industries or fields. I can’t imitate it completely, but learned from it valuable perspectives toward my future

activities. It was also my harvest that I found benefits of collaboration with a university in the context of research or field activities. The local government of Kita-Hiroshima is going to draw up the local biodiversity strategy. To promote the strategy, I will take a lot of reference to the Nature School with regard to conduct of an organization, collaboration with a university, and project execution.

Naoki Kikuchi (Toyooka, Hyogo)
Institute of Natural and Environmental Science, University of Hyogo/Hyogo Prefectural Homeland for the Oriental White Stork

◆ My personal history

In 1999, when the term "residential research" was still not coined, I was posted in the Hyogo Prefectural Homeland for the Oriental White Stork (affiliated with the Institute of Natural and Environmental Science, University of Hyogo). My task was to promote the wildlife recovery project relying on environmental sociology. The scene was Toyooka in the northern part of Hyogo Prefecture. I was new to the town, and surrounded by natural scientists, government servants, and nature lovers. The green-young, top-heavy but shy guy was spending his days worrying about what line of work he could do.

"It's a mistake employing you!", poured out my then boss. I don't know now his real intention, but maybe he hoped that I wanted me to be more actively involved in working and to strive to change the people's awareness and behaviors. I was shy and not very good at cheering or prompting people. Rather, I intended to create a relationship between people and nature by listening to and understanding the voice of people. This approach was circuitous, time-consuming, and unclear. But, to listen to the voices of oriental white storks, I spent my days walking around the region.

My job of hearing the voices of storks caused a decisive effect on my attitude toward the wildlife recovery project and stance in researching. My concept was that I would get a sense of reality of symbiosis between human beings and storks by listening to the voices of the people who was natural-born and raised and would pass away in that land; and I became to deal with recovery of wildlife by residing in Toyooka. Since then, it has always been my style to combine the viewpoints of the researchers, public servants, and local public.

In 2007, Mr. Tetsu Sato, the president of the Local Science Network for Environment and Sustainability, first introduced the term "residential research" at the symposium in the 37th annual convention of the Japanese Association for Environmental Sociology. This terminology brought a new perspective into my mind. I increasingly had the opportunities to be aware of the researchers who reside in a local community to conduct their research and activities. I felt that words are influential.

◆ My first visit to Noto

With focus on residential research, I found a number of local communities providing

similar programs. Among others, I was most interested in the Satoyama Meister Program at the School of Noto Studies, Kanazawa University. In Noto Peninsula suffering from declining population, young researchers resided in a local community and were dealing with the project aimed at facilitating young people in settling down as major players for the future of community. I wanted to have an on-site review of the School, as the Tajima region, including Toyooka, had the same problem as Noto. I made contact with Prof. Koji Nakamura, whom I met in the Katano-Kamoike workshop. Then, I was asked by him to lecture at Wajima High School, and talked with Mr. Akaishi and the students, about storks and satoyama in Noto. In the heavy snow, I was led by Mr. Akaishi to see "Senmaida" and the School of Noto Studies, thereafter, until late at night, I talked with him in the farm inn, Hirokichi, about the present and future of Noto. I must confess that I hate shiitake mushroom. My thanks go to Hirokichi-san who warmly welcomed us. It was my first visit to Noto, and was in February 2010.

◆ As a member of Hiyoko-gumi

I am too old to be called "Hiyoko". As a "senior hiyoko", or as a member of the Hiyoko-gumi group, I visited Noto again.

Again, their hospitality was excellent. "Hen-zai-mon" giving a sense of satoyama & satoumi through dishes, "Tenza", an old farm dwelling providing local ordinary foods, "Hirokichi" with the owner couple having nice smiles, and "Maruyama-gumi" providing abundant country cuisines…all they offered elegant foods and spaces with a sense of blessing of local nature. It was not just me who would like to visit them over and over again. I personally guess that such activities relying on local resources might be inspired by the School of Noto Studies, on which sheds light through the eyes of science.

I attended the contemporary version of Aenokoto ritual, which was being kept alive by the settlers from urban towns. A number of people gathered at the hose of Ogino-san, and thanked a god and ate some local foods. They created a mysterious atmosphere. It was like I witnessed the hybrid traditional culture generating among the people dressed with colorful outdoor wears.

The Satoyama Meister Program aimed at fostering the major players for the future of community has already seemed to work successfully on different aspects. The young researchers, called "sensei", might be treated kindly, while providing the local people with a lot of stimuli. A school, casting the navel of the community, is going to be closed. In this context, the School of Noto Studies provides a model. Young researchers reside at the School. Old ladies get in and out of the School. It looks as if the naval of the community is regenerating during formation of relationships among cross-generational

people with different personal histories. I thought about what is needed to enable such activities in Toyooka.

Certainly I hope the Satoyama Meister Program will continue, but I realized there are many difficulties: financial problems and treacherous footings of the staffs. These difficulties may be represented by Mr. Ito's question: "What is happiness. I was very curious how the local people and young researchers were involved with each other and how they were changing.

◆ Being residential and researching

So far, at the LSNES symposiums, we have fairly often raised the difficulties for residential researchers in being continuously involved with a local community or the definition of residential research. Being residential and researching --- the two concept would not be necessarily linked with each other. What is called for to link the concepts together? This has been my question for the past years.

The word "residential" here principally means to move from another area to reside. What is to reside? This time, I visited Noto in the heavy snow. For a visitor who visited Noto just for a few days, the snow might look beautiful or troublesome. Recently I hear the note in Hokkaido: "Different regions have different cultures, depending on whether snow shoveling is needed or not. As a person who was born in Shikoku and thereafter migrated to a snowy region, I understand this note well. By experiencing snow on a routine basis, one may come to understand instinctively what it means to live in a snowy region. In the summer in Toyooka, sometimes the temperature rises to nearly 40 degree C with such a high level of humidity that everything gets moldy. About once a decade, Toyooka is hit by a flood disaster. In 2004, my home was inundated with the depth of 1 me above the floor. But these climate conditions are favorable for oriental white stork to live.

Perhaps one of the significances of being a residential researcher should be to create the knowledge in light of community specific challenges and options for the future by building himself/herself into the community while relying on scientific perspectives.

Such a physical sense may be different that of the people who was natural-born and raised and would pass away in the community. A residential researcher shares the community life with the local public, yet has different perspectives and knowledge. And these differences would enable the linkage between different persons or different things to produce human resources or things of hybrid nature. I think a researcher should not cling to a particular specialty, and should try to alter or broaden his/her field. To live is a comprehensive matter. I think that residential research is not just to research in a

community, but a new form of expression that generates between living and science. We can use various forms of expression to conduct a research.

◆ “Semi-“

My thoughts described above reminded me of the charms of Mr. Ogino’s home where people with different individualities gather together, such as local old lady, non-Japanese, incomer, and Hiyoko-gumi member. If you ask if the hose is open to everyone, the answer is no. It’s a private house, but open to the external world. It seems like providing a public space, but actually it’s not public. The comfort I enjoyed at Ogino-san’s house may be characterized by such semi-public nature.

Looking back to the Noto field workshop, I found “semi-“ is not just a characteristic endemic to Maruyama-gumi. The School of Noto Studies is a university in one sense, but not in another sense. It is a place for human resources development at one time, and is a working place of old ladies at another time. Mr. Akaishi is Akaishi-sensei as well as Akaishi-kun. One space is not limited to one single function. One person is not limited to one single specialty or role. Perhaps, what I saw in Noto might be “semi” something in the sense of being something as well as another.

I, myself, am a researcher for a university as well as a government staff. I am a stranger as well as an inhabitant of the community. Thus, being semi-something may mix different persons or things and thereby increase the potential for producing another thing.

While being “semi-something“ for a while, which may be seemingly halfway, I would like to come and go between residence and research. Maybe it will be still come that the senior hiyoko leaves the nest.

Hikaru Nishino (Obama, Fukui)
Representative of Eelgrass (Amamo) Supporters/Graduate School of Global Environmental Studies, Kyoto University

Noto was not so distant place for me who spent 6 years in Kanazawa since college. Looking back over, however, more than 15 years has passed since my last visit to Noto. Sometimes, a place name, word, or a piece of dialect I happened to saw or heard brought my distant memories back. The two days were indescribably a profound time for me. Burdened by work, I had no preparation to participate in the workshop. What I was concerned about was what the School of Noto Studies left behind for the local community. In comparison with "my local community without the School Noto Studies", what I felt and personally thought about the School will be described below.

At the old private house restaurant, farm inn, and Maruyama-gumi, I could get settled in an at-home atmosphere. (Because I got there late, I missed the Sen-za-mon dishes. Maybe those would be nice, too!) Then, some thought passed through my mind. Would these facilities would actually exist without the School of Noto Studies, I wonder? The answer should be "yes" in one sense, and "no" in another. Thanks to everyone's wish, efforts, and abilities, probably they would be there. But, I doubt they would be as brightened as is. Now, what did the School of Noto Studies" do?

Most likely, the School gave the locals self-confidence, motivations, and feeling of tension. Most of country people may consider their community as "menial", "empty", or "petty". And they might regard themselves as "minute", "meritless" or "niggling".

Then, the university came at there, and said. "This country, your country is nice". The researchers starts to pour out, "this is technically valuable", "Oh my God! there's "xxxxx" (scientific name in Latin) !", or "Cool! "yyyyyy" still remains". Then, the "meritless" being would be turned into "a being with a bit of pride". They uncounciously come to ask, "how about that? "what about this?" "say, he has XXX at home". They start putting spotlights around their daily life, and digging up their hidden treasures.

This is to renew their awareness of themselves, evoke their feelings of gratitude to their parents, ancestors, and nature around them, and stirs their wishes to hand their valuable things on the next generation, all which develop zest for living.

The local people might perhaps perceive that their daily life, itself was a treasure. I felt they did not try to sugarcoat themselves in front of their guests. Generally the people doing tourism business tend to learn "a sense of hospitality" or customer-care skills and sugarcoat everything. I was comfortable with their attitudes toward us, which

did not offer a sense of ready-made hospitality. Perhaps they regarded us as visitors to the School of Noto Studies, and treated us with the same feeling of distance as that to the staffs of the School and not to tourists.

At the farm inn, the proprietress told us that her husband gathered butterbur sprouts, and that he, as an only child, used to be so shy and less talkative. The proprietor talked out with smiling, "as for pizza, making it more, losing money more, as mozzarella cheese is too expensive. " We all helped preparation of the dinner with lots of fun. I appreciated as the best hospitality such unpretentious, homelike relationship with them, and the fact that they look like happily running the farm inn.

The Aenokoto ritual by Maruyama-gumi. The samples of dragonfly and wild flowers were offered to the gods, as the local people were assuming that the god of paddies, and eight million gods would be the ecosystem itself. At that time, it did not make sense to me. But later, I became aware, through the blog of Shin-san (a young farming settler), of that more than 30 species of dragonflies were found in the paddies.

The staffs of the School are trying to visualize through the eyes of science, the things that the local peoples have felt vaguely, and the ancestral values that they have respected. It reminds us of how valuable the things the local people have kept alive.

Through the Satoyama Meister and the Ikimono Meister programs, the School of Noto Studies provides the students with the opportunities to learn scientific mindset, logical thinking skills, and systematic knowledge; not just a collection of fragmental information. The student's experience of preparing the thesis with the subject self-determined would empower the student's body and soul. The feelings I had while learning at the graduate school for the past year may be shared with the people in Noto. My former self was somehow remiss, but now I am clearly conscious of what I want to do and what my goals are, and can put them in words dignifiedly. That makes me feel refreshed and radiant. Finally, I remember Ogino-san's words. "I、myself, am enjoying in running Maruyama-gumi. I don't want to turn my activities into money by organizing a tourism business. But, if there is anyone to help me, I would like to pay some fee."

For creating a new tourism, we are now gathering a number of ideas: "We can no longer continue the activities on a voluntary basis. So, found a profitable NPO"; "If we become to support ourselves financially, it will be model cases of nature-friendly lifestyles for the next generation". So, Ogino-san's words weigh a bit on my mind. How can we go through our lives without damaging the things to be protected? I want to regard this question as my homework.

"So sweet is Noto, its people and yet soils". I think my experience in Noto has given me a lot of invisible, ineffable lessons. Sure, I want to visit Noto and meet you again! I

thank the members of Hiyoko-gumi and you all I met in Noto.

Mayuko Shimizu (Ueda, Nagano)
Researcher, Nagano University

In 2009 and 2011, I visited the School of Noto Studies in Suzu, and Mitsui, Wajima, together with the students of Nagano University. I accompanied the students who participated in the Satoyama & Satoumi activities". I was deeply impressed by abundant nature, their lifestyle in the profound history, and warmness and vitality of people.

This time, I visited Noto with a bit different perspective from the former. My topic was "to reside in and conduct researches in a local community", or "residential research". First, I directly heard from the researchers who reside (or inhabit) in the community, and gained the perspectives to think about practical approach of local research. In Mitsui, I attended the Aenokoto ritual by Maruyama-gumi, and then talked about "learning" with other participants.

The following describes the stimulations I received in Noto for the two days, and my feedbacks.

◆ Roles of residential researchers

I was amazed by the activities of Oraccha Satoyama & Satoumi, where a wide range of experience of the locals seemed successfully combined with a "trust-worthy" Mr., Akaishi's scientific knowledge. If the process of creating ideas on the NPA activities and the local's perception toward the activities were visualized from the viewpoints of the local public, then it would make clearer the roles the residential researchers play in the local community.

Many of the comments from the residential staffs working for the Satoyama Meister program were thought-provoking. Someone pointed out that when stepping out efforts toward development of human resources in a local community, the university actually requires support from experienced local farmers. Yes, that may be only proper. Since the Satoyama Meister course is aimed at fostering, not just researchers, but the professionals of living in a local community, and not at fostering just researchers. Therefore, without resting with the local wisdom and occupations that have been formed over a long time, nothing will take root in the community. At most it will remain

an armchair theory.

On the other hand, I was satisfied with the opinion that a weapon of science is more sophisticated than intuition. Certainly nature (or ecosystem) is so profound as not to be completely explained even by science. But science actually elucidates the world clearly to some extent. If a person who is engaged in an occupation that is routinely involved with the local natural environment gains the scientific mindset, in addition to the traditional wisdom relying on nature, the, what will happen? The answer will appear in the future. Perhaps this might be a magnificent experiment.

What are the roles expected of residential researchers, in the context of local revitalization or human development? Surely, the residential researchers may have always been addressed this question. Incoming settlers or researchers become familiar with nature, and work, and live in Noto, and eventually come to be part of the community. Those who have positive awareness or issues will gain a wide range of knowledge and perspectives. And such attitudes of researchers might stimulate the local community. Maybe, when they are learning from their partners (or the locals), the partners may be learning from them.

◆ Learning for the local people

This is related to the things I felt when participating in the activities by Maruayam-gumi. People somehow gather now at Ogino-san's home from across the world, and thank to the gods and take a meal. Why such a space is created? It's very mysterious, but we somehow got settled in that space. Putting aside my daily worries and concerns about tomorrow for now, there we can be exciting.

The reason why I have such feelings is because I am in Wajima, far away from home, isn't it? I think there is more. Ogino-san told me that a batch of the things that constitute Maruyama-gumi is absolutely the abundance of Maruyama. The things are ordinarily scattered and minute. However, once they gather together and viewed through the eyes of different people at Maruyama-gumi, they reveal their brilliant charms. Tomorrow the people will return to their humdrum routine life. But they see the world in different manner from yesterday. Somehow they feel to have more things they want to or can do than the past. "I came up with a thing to do together when we gather here again…" We should value such a thing.

◆ The future of residential researchers

My motive for visiting Noto as a member of Hiyoko-gumi was to think, upon on-site review, more deeply about the meanings of living on farming or NPO activities within

the local community while conducting the research and activities for the community. (which is called “residential research” in the LSNES).

In the workshop at the School of Noto Studies , the first day, someone said “a residential researcher is meaningless without being “happy”. This is quite true. How does he/she become happy? What is “happiness”? These are the questions the Hiyoko-gumi members should address from now on.

This time, we could not afford enough time to hear from the locals. This is a point to be improved. Now, I would like to think from the viewpoints of a researcher. That is my position.

I was encouraged very much by seeing that each member of Hiyoko was striving respectively to establish a variety of styles of residential research and visiting research. Mr. Hoshi, from Ten-ei, Fukushima, told that he was secured of his grave, or his ultimate destination, by being a son-in-law. As a person living like a rootless wanderer, I was envious of him, as well as I noticed his style is a way of living as a residential researcher. The lifestyle of using his free time to conduct a research that he really wants to do would be possible just because his life has been basically rooted in the community. (When working for a college, the researcher’s time is occupied with odd jobs.) Perhaps Hoshi-san research will be incorporated into his life together with his rice cropping and firefighting activities, and his life, itself is incorporated into the community of Yumoto. Despite troublesome matters, he might have decided to reside in Yumoto.

By hearing from Akaishi-san about a vision for the future activities, I came to be aware of the broader potentials for residential researches. To make good use of accumulation of the previous activities in Noto, Akaishi-san seemed to have a strong will to act as intermediary between the university and local government or other local organization, and thereby to make recommendations of the projects or programs that may be useful for the community.

When stepping out of an ivory tower into a local community, the staffs or researchers of a university should be well prepared. Possibly, they could not imagine financial difficulties or absorption into an existing organization would take place. Residential researchers are now working for local small-sized museum or local university, but I think they should have more varied chances.

If the researcher address the chance with strong will from early on after finishing his/her graduate school, then it might not be impossible to meet his/her wish in three to five years. This is my thought after hearing from Kimura-san from Tsushima, and Akaishi-san. Kimiura-san admitted that she would like to lay the base of local revitalization activities in Tsushima in the three years while working for the municipal

government.

To encourage “learning” in a variety of manners in the community, the community and researchers need to interact with each other. A residential researcher may assume an intermediary role between them in offering the opportunities to link the people who have different knowledge or perspectives to each other. He/she must not necessarily be from the academic sector. Rather, he/she is needed to discover and foster potential residential researchers. The activities of the School of Noto Studies were just such ones.

When thinking of the people I met in Noto and those who might be behind them, the challenge of residential research is increasingly intriguing me. I myself have yet no clear picture of when or where I address such a challenge. So, I will think about this through discussion with the Hiyoko-gumi members.

Akira Terabayashi (Tokyo)
Researcher at Norinchukin Research Institute Co., Ltd./Graduate School of Letters, Hokkaido University

I walked on in the snow. Sunshine filtering through the red pine trees, accentuated the dark green on sakaki leaves. I gazed at the Sea of Japan just behind a post station. In the brilliantly transparent water of the sea with shoals, ulva was on a gentle swing. An array of hoda-ki woods, a ritual for thanking the god of paddies, and marvelous smell of ishiru.

Noto was charming without limit. All members of the School of Noto Studies and Maruyama-gumi were providing such excellent activities that visualize the charms in Noto, from the viewpoints of scientists or incomers. Lots of local dishes available at Hen-zai-mon, Tenza, and Hirokichi, the Aenokoto ritual by Maruyama-gumi, and the biodiversity under survey by the School….I realized they are invaluable charms offered by Noto, and the resources to attract many tourists. Also I feel immeasurable potentials in the Meisters who passed through the Noto Satoyama Meister program.

However, things I was exposed to for the two days were just a small portion of Noto, or symbolized Noto. Now I feel I am carrying a lot of points of Noto I am unaware of. As a sociologist, who have been always conducted surveys or researches with the subjects of the local public, I was curious about how the locals were involved with such researchers' activities, as well as to what extent the researchers have been involved with the reality of life or "compelling problems" in the community.

Over years, I was involved in conservation of reedy fields on the river called Iwaki-gawa, in Aomori. With regard to these reedy fields, an ecosystem rich in rare species of birds and plants, many researchers have been claiming conservation. On the other hand, the reed grasses are used for the thatched roof, reed blind, and the nest of fertilizer insects. The local people provide the management of the reedy field through mowing and intentional burn.

I have heard from the locals about how they have been using the reedy fields, and why they think the reedy fields need to be conserved. Then, the topic automatically turns to dike management. Why do they fall into talk about dike management at the mention of reedy field? I had no idea at first.

After some years where I had been repeatedly visited them, I came to realize how the reedy fields are linked to dikes. For the local people there who were attacked by flood repeatedly, dike management is just a compelling issue in the life. Whenever they were at the risk of flood, they protected their community by sandbagging, and repaired

their dikes. Even now, semiannual weeding at the dikes is a major event in the community. The dike management is generally conducted by each community, but some communities formed the association for dike protection, in which they hold meetings on critical issues.

Actually the dikes and reedy fields are national lands administered by the Ministry of Land, Infrastructure, Transport and Tourism. Because they are closely related to the local life, however, they have been under the management by the local communities. Naturally, the local people claimed their rights to be involved with them. The same can be said for the reedy fields. The local public has been always conducting the management, so they claim they should have the rights to be involved with and use the reedy fields. Reedy field management and dike management are linked together in the context of land management.

The linkage of reedy fields to dikes makes sense only to the local public. Their concepts of ownership and use of land are slightly inconsistent with our common sense. This is the "story" of c reedy field conservation by the local public, reflecting perceptions by the managing subject. Now I have been aware that the local people have a great deal of discomforts on the external scientists and conservation groups who are involved with the reedy fields as "nature".

The benefit of my social research on the reedy fields was that the research helped the scientists better understand the story of the local public. In fact, after this benefit became a common awareness, ecologists' and the MLITT officers' attitudes toward the local public were significantly altered. Ecological stories focused on biodiversity are relativized in the communities around Iwaki-gawa, like "that is just one of the values". Now, the local people, scientists, and public officers are creating "the story of reedy field conservation", by mutually acknowledging the differences in values and stories.

I' m just guessing that perhaps a similar scenario is being played out in Noto. As for satoyama, for example, when and who used it for what purpose? Was the user was an individual, or community, or association? What about the rules on use? The rules may vary with different products, such as chestnut, mushrooms, oak, and so on. As for reservoir, who were responsible for its management? Paddy owner, or community? What about the relationship with association or land improvement? And what are the rules. Thus, the fields you are dealing with may be covered by "social matters" in a finely meshed pattern, such as history, custom, organization, rules, or difficulties. Without respecting these matters, your research and activities on the satoyama or reservoir would be inconsistent with them. Your relationship with the local public would be

uncoordinated.

Meanwhile, all of you, dealing with the fields Noto, should have been in touch with local stories or realities, and altering your attitudes toward the local communities, regardless being conscious or unconscious. On the other hand, the local people have been, to some extent, acknowledging the stories you offer as a new comer. I think such alternation should be most important in the context of environmental conservation, because it is a compromise based on mutual understanding, and may lead to create new collaboration. I feel these may not be realized without social research. Now, I wonder how much the stories have been shared between the researchers in Noto, and the local public. I hope it will be visualized through a social research..

Naoko Namizaki (Tsukuba, Ibaraki)
National Institute for Environmental Studies

This time, I visited Noto for the first time. It also was the first time that for me to participate in a field workshop in the LSNES. I was mixed feelings of anxiety about how I could come up with discussion, and anticipation of what I was going to come across. As a secretariat of "Coral Reef Science", a research project to the Ministry of Education, Culture, Sports, Science and Technology, I am now involved in cross-disciplinary collaboration and cross-regional collaboration. The Coral Reef Science project is providing for visiting research based in Ishigaki-jima and Sesoko-jima islands, Okinawa. So far, I have strived for cross-regional collaboration for visiting research project. My activities include presentation meeting and poster exhibition, cross-regional communication through education program, feedback of local needs. Now I am seeking for a cross-regional collaboration that allows bidirectional communication just rather than unilateral reporting by researcher. By participating in this field workshop, I wanted to know about other cross-regional collaboration and learn from activities in Noto.

◆ Noto Satoyama & Satoumi Project to Kanazawa University

First of all, the most surprising thing was that a number of researchers in the different specialty fields, including ecology and anthropology, resided and took root in the local community, through human development for business persons or participatory ikimono research. Using their expertise, the scientists were involved with public biomonitoring and resources management. In addition, they strived for development of local resources, such as traditional cuisines, and development of ecotourism. Like this, some researchers were doing double duties.

Anthropologist Prof. Nakayama spoke that he is seeking for a new knowledge system with mixing of traditional wisdom and scientific knowledge, rather than unilateral knowledge communication from experts to the public. I am curious about what will be produced if scientists of different specialties are involved with local communities. The activities by Kanazawa University was rooted in and mingling with the community

◆ Noto Satoyama Ikimono Meister Program

The Noto Satoyama Ikimono Meister course is a two-year course with graduation thesis. It makes a sense of academism, and in that regard, would attract people with

strong awareness. The proprietor of the farm inn told that he used not be interested in creatures, but he learned bioresearch in the Ikimono Meister Program, and now is enjoying talking about bioresearch. This might be just the scientific knowledge value-added through communication. He is planning to use the networking with the graduates.

◆ Activities by Maruyama-gumi

A graduate of the Noto Satoyama Ikimono Meister Program, Mr. Ogino participated in the Meister course as he was just curious to know what is Maruyama-gumi. His presentation of thesis told that he were striving for drawing and table through a trial and error process. In particular, the illustration using roots was excellent!. "I learned, but am still not familiar with it. But it's exciting!". I felt there are things that do not well communicate through scientific, logical thinking or words.

◆ Overview

It might be interesting if what impact the activities through the School of Noto Studies by Kanazawa University had on the local community could be visualized. Mr. Kikuchi, environmental sociologist seeking for evaluation of such social alteration, told me privately that he was thinking of creation of knowledge, networking, and changes in stakeholders as rating scales. I am going to prepare a questionnaire form focused on alternation of individual, which introduces the rating scale based on environmental education and socio-psychology. As discussion on the evaluation of social alternation goes on, it will be very interesting fir local research.

So far I assumed that the role of residential researcher is to collect and providing knowledge useful for a local community beyond specialty. In this workshop, I found that the potential roles should be different between ecologist and sociologist. The potential roles of ecologist would be (1) to make technical knowledge value-added through communication, (2) to measure the effects of conservation, and (3) to evaluate the impact on the community.

Sho Hoshi (Tomita) (Ten-ei, Fukushima)
Graduate School of Environmental Studies, Tohoku University

Three years ago, I was unemployed because of some turnoff in the work place, and decided in desperation to migrate into a village in Fukushima. I was unfamiliar with the social structures in country, and the way of thinking of the local people. At first, I was struggled to build social relationships, and to utilize the forestry resources. Now I have some things in my vision, but not confident well of how they could be linked to local job creation and nature recovery.

I participated in the Noto Field Workshop. I often wanted to learn from other activities, but did not have enough amounts of opportunities due to my laziness. It was grateful to be invited the workshop.

Noto in late February offered a bit a sense of early spring even in the snow. At the first presentation, activities at and outlines of the School of Noto Studies and Satoyama Meister Program to Kanazawa University were provided. What impact have those activities had on the local communities and environment? After the field review and communication with the local public, my feedback is as follows.

The successfully revitalized red pine trees are going to be Matsutake-yama. In Tokyo, I saw many controlled satoyama's, which were just for fancy, afforestation of which are not linked to the people's life. But this red pine trees are not so. It will be a place for production of matsutake mushrooms and its management is surely linked to earning.

I found an egg mass of salamander in a small reservoir by the roadside. In Noto, biota research has been frequently conducted, and advanced, the importance of which has been increasingly emphasized in recent years. However, most of the local people would not be interested in unbeneficial, harmless creatures unrelated to their life. In Yumoto, I was called "a bone sufferer playing around (lazy)" as I was excited to find endangered species in chemical-free paddies

Such rare creatures may potentially increase the attractiveness of the community and be harmless. Possibly it may be useful for branding of crops. The local people, who participated in the field review, told us that they became aware of a variety of creatures". Generally people's concern tends to focus on whether harmless or beneficial, but their perception of biota was altering through the biodiversity research.

I notice the importance of food culture as a local resource. We enjoyed lunch Hen-zai-mon, which was a farmer restaurant running on holidays only, and was like

that I wanted to have in Yumoto, Fukushima. It's a model. I enjoyed Noto's local tastes at Tenza and Hirokichi as well. The owner told us "Sorry, almost all these are our daily dishes". Contrary, we find those are the best elegant cuisines. This kind of gap was found in Yumoto as well. "Sorry, I have only wild vegetables and mushrooms" I repeatedly heard such words. That is linked to life.

Next day, I saw the Aenokoto ritual at Maruyama-gumi. The things in depth of local values, including farming, nature, and belief, are certainly inherited to the next generation. The members of Maruyama-gumi's told that they cannot explain their activities", but it is quite natural. When you are asked, "Why are you living here", or "why are you continuing this event?" No one can answer clearly. It is so natural.

In Noto, the activities led by Kanazawa University are increasingly causing effects, and the people became aware of the merits of their own community and seeking for the system for using such merits. I gained from the workshop many lessons that can be useful for Yumoto. I spent very valuable time.

I have a question that I forgot to ask in the workshop. How many young people among the local public have been involved with these activities? The local people who positively take an interest in these activities may be mainly derived by those people aged more than 60 who have the time and money to spare for. As those older people will be difficult to assume the responsibility for such activities 10 years later, the current manner of activities might not sustainable. Incoming settlers can't easily afford the "leading role". After all, we have to put our hope on the homegrown young people rousing themselves. It is important to create the business taking advantage of the local resources so that young people would want to live in or return to that community. I kept reminding myself it, on the way to my home.

Looking back at the Noto Field Workshop --- Skype meeting

On April 14, 2012, we had a Skype meeting for retrospective review of the Noto field workshop.

Daisuke Akaishi attended the meeting at the School of Noto Studies to Kanazawa University (Suzu, Ishikawa), and Mayuko Shimizu and Akiyoshi Terabayashi joined at the Research Institute for Human and Nature (Kyoto). All they talked together about their questions they missed in the Workshop.

Shimizu: First of all, can you tell me your honest impression you had on the arrival at the School of Noto Studies?

Akaishi: We had an experience of receiving a short term inspection, so we didn't struggled so much. Fortunately, we exhibited a variety of points, and I hope the visitors have now become familiar with our activities to some extent. But I wanted to talk more about how we should deal with such activities toward the future. Including the perspectives on the activities, we should discuss more about the issues puzzling us.

Shimizu: I had a feeling, too, that it's just the time to think about the perspectives on the activities. Some of the visitors were curious to know how the staffs of the School are involved with the local peoples. How are the locals viewing the staffs?

Akaishi: I think there are some hierarchies. Some people attend the Satoyama Meister course, while other locals have just a few opportunities to contact with the School staffs. The former and latter would have different impressions from each other. I think not a few people in Misaki-cho regard the activities of the School as those of the university, which don't matter with them.

Shimizu: The Satoyama Meister is the activities for developing potential community leaders. So, different persons might have different perceptions. But some people are inspired in one way or another by the course, and others are positively getting going by networking. That's amazing!

Akaishi: Another point. To what extent the university should deal with it has always been debated. Community development can be done by non-researchers. At present, we

are dealing with everything. I wonder if it's how we should do. Actually I think it isn't.

Terabayashi: Akaishi-san, your group's relationship is that between ecologists, right?

Akaishi: Right in a sense. Our staffs are experts of population ecology. Working for conservation oriented agriculture, we are addressing pest-control together with the local public. That's beneficial immediately to the farmers. Generally, creating biotope spaces in non-farming lands is a popular way for rare species conservation, but it is a burden on the farmers. So, we are demonstrating with the farmers that maintaining the farm maintenance works well for conservation. The same is true for mushrooms. So, It's not true that ecological approach has not contributed to agriculture. On the other hand, such activity is getting out of our main activity frame. The Meister system itself is aimed at human development. Although some of the 60 students' preferences and needs don't matter with ecology, I am now lecturing. The thesis advice on seeing the things objectively from a step back viewpoint may be proper in universities, I think.

Shimizu: Writing a thesis or doing a research is a chance for reviewing the region.

Akaishi: Yeah, that is a work that one can't experience in other systems. One day, consultants came here, and showed us their results of research. But they don't work together with the local people. University allows us to share such process stream with the students.

Shimizu: The meaning of learning by the local people is important for the School staffs. It should be respected.

Akaishi: That is the point the staffs tend to undervalue. As a third party most close to the scene, I want to evaluate things from a step back viewpoint, but I do thing that should be continued. As workers in charge, they might be nitpicking on their own activities.

Shimizu: I think, in fact, the local people are learning lessons from writing or practical works. But actually, there are many things the researchers are learning from the people. What about your perception?

Akaishi: Well, that's fairly difficult to answer. As I said before, one problem with the

staffs is that their minds have losing objective viewpoints.

Shimizu: As they are addressing the issues together with the people, a researcher would become a practical person. Perhaps the researcher there should not forcedly distance himself from the position as a worker in charge. Or, do you think that's no good?

Akaishi: It's only a matter of supposing. That's might be a job of a person like "local taskforce".

Shimizu: The eyes of science can't coexist with the eyes of "local taskforce", can it?

Akaishi: I would be happy with having both. As we are now involved as researchers with them, it's difficult to be always objective.

Terabayashi: The problem of this kind may be found everywhere. In sociology, a researcher has an approach of seeing a campaign from a step-back viewpoint, whereas there are increasing opportunities for a researcher to be involved as a worker in charge with people. There is controversy over which approach is better. Someone says that a research not biased by the researcher is a true research. This controversy itself is part of research, isn't it.

Shimizu: Is there collaboration with sociologists?

Akaishi: Mr. Shin'ichi Kitano, Kyoto University, was a staff of the Meister program. He himself used to be a residential researcher, so he was familiar with field working. He was very much welcomed by the local people, and played a key role in the field. Again, he had a step-back attitude. Or, as he wanted to keep his own style to himself, he seemed to be careful about getting too involved in. He told me that he was scared to get unable to clearly point out the community's challenges. I know someone who is suggesting withdrawal from an underpopulated area. When talking with the staffs of the local government of Ishikawa and Kanazawa University, he said "don't mention withdrawal!" with fairly emotional criticism. When Kanazawa University refuses the matter, the local people showed a reaction like "perhaps, that might make sense…". Well, we are outlander, after all…

Terabayashi: Rather, I think, it is a reasonable approach of scientists to reveal what

awareness the people have.

Akaishi: Yeah. This is what I am now involved in…"Globally Important Agricultural Heritages" have been determined last year, and there are many opportunities of debate at the popular level on "what from Noto and Suzu does fall into the agricultural heritage?" I think it might be a good subject of research to reveal the process of how the local people find out the "Suzu's traditional touches"

Shimizu: Without seeing the process, we have nothing clear in essence, or with it, we see the light… That's how it should be, I think.

Terabayashi: What I was concerned about is whether or not there is anyone among researchers of biodiversity, who had a research about what social system the environment of Noto is supported by. For example, think of a reservoir. Poor management of reservoir may affect the life of diving beetles. Then, for conservation of the diving beetles, it is needed to alter the social system related to the reservoir. The same is true for forests. Ownership, use, and management may affect the ecosystem of forest. I was much concerned about how the researchers have communication with the personnel in charge for such like social system.

Akaishi: Indeed. Unfortunately, no one has such like research as the expert, at least at the level of scientific research. But they have communication and share information with the local public. Yes, I hope there is a researcher who can deal with a research focusing on such information.

Terabayashi: To reveal such like aspect is a task of sociologists. As we get involved more closely with the community's issues, I suppose, our researches will increasingly get borderless, in terms of arts vs. science, ecology vs. sociology, or researcher vs. the local public. Division of roles is not negligible, but I think this perspective is also an important subject. So, aside from the issue like that ecologist should do or not do to this extent, I think we should talk about approach of research on interdisciplinary matters.

Akaishi: Yeah. Just now, we are on the fifth anniversary. The staffs are planning to take a looking-back survey within the community to summarize what changes took place. Well, certainly I am curious to know how the community has changed, but I'm not sure about how to survey…

Shimizu: I sometimes interview the locals, and ask about what perception they have about each activity. Still I feel I couldn't find out the changes without the relationship of the party to ask vs. the party to be asked. Observation by a researcher who has relationship with workers in charge as well as the third party's eye, changes in the students noticed by the staffs of the Meister program, and the students' self-evaluation… I think these parameters should be used in combination

Terabayashi: In that context, I suppose Akaishi-san who is in the position close to the third party will play a key role.

Shimizu: I think there is not something like "true picture" of the change, but, just a picture of the change viewed through an individual's subjective eye, after all. That's all right, somehow.

Terabayashi: Another point. I am concerned not only about change of each individual, but also about change in the community. In a farming, forestry, or fishing area, a researcher often has an interview with the head of the community association, rather than individuals. Research often goes on under relationship with a local organization.

Shimizu: The Meister system is on the basis of individual. What about change of an entire village or mura?.. Perhaps this may be the next step.

Akaishi: Hum, fairly difficult. I'm not sure this is a social change, but recently the administrations tend to fund such activities. University does, too. The activities were financed by the subsidies for the promotion under the Ministry before, but now are funded by the municipal governments and university. If you ask me, it's a fairly significant change.

Terabayashi: You are right, indeed. As the activities get public-natured, or get to gain public recognition, the administration will get cooperative, and thus budget for. By the way, the graduates of Meister are networking?

Akaishi: Yes. Maybe due to its long course period of two years, they become friends. The alumni association has been formed. But, without gaining the momentum of doing something within the association, possibly they could lose access to each other. For now,

being fresh out of the course, they are on good terms. For me, I think it's a good idea that a Meister should attend a lecture as an education assistant who does something with the students, or students go as an intern to the Meister's workplace.
should have lectures as education assistants,

Shimizu: Discussion is endless…Skype meeting is pretty nice.

End

Comments from Noto: Welcoming the Hiyoko-gumi Field Workshop

Daisuke Akaishi
Researcher, NPO Oraccha Satoyama & Satoumi (Then)
Natural Symbiosis Unit, Planning & Finance Division, Suzu-city (Present)

On the Noto Field Workshop, organized by the Local Science Network for Environment and Sustainability on February 25 and 26, 2012, young researchers , who are involved in research of local environment, gathered in Noto from around the country. They viewed a variety of activities at Kanazawa University and other venue in Noto, and introduced their activities, and got acquainted with each other. In the following, I would like to describe the lessons we gained and my insights, from the viewpoint of the receiving side or as a young researcher working in Noto.

1. Preparations

When I received an offer of workshop from Ms. Shimizu in December 2011, the ideas of the things we should exhibit, and venues of meal and accommodation came up to my mind, regardless of who would be participant candidates. Promptly I worked out the plan. Since we had some experience of receiving visitors for field viewing or training, I had general pictures of time allocation and budgeting. The local people were ready for cooperation with us. That's just how the institutions chanting a slogan of regional collaboration, and their local staffs should be. My position title is "researcher", but for the last five years, I spent most of my official time in coordinating of such like events. Let me talk about coordinator a bit here. It has been repeatedly acknowledged that the position of coordinator is very important, and training of coordinators is the key element for promoting collaborations between academic sector, local government, and local public. By the way , should a residential researcher who undertakes his/her activities within a community be a coordinator? My answer is "yes". A residential researcher should be a coordinator to provide the linkage for his/her research and institution to the local community, and for visiting researchers to the community. If a professional coordinator is available, that coordinator needs to have his/her own theme and to be involved with the community, as well as providing support for residential researchers. However, it is not easy to balance research with coordination. I have to admit that I am a coordinator who does not do research to enough extent, and spend most of his time in coordinating. With limited budget and time, I had to give priorities to the jobs with more

clear-cut results over the researches of my specialty. I wish to secure the time for my own research, but I have no idea what might happen. I would like to talk about this problem with other residential researchers.

2. Method of objective assessment

The general arrangements for the workshop have been made. This time, the field workshop is not just field viewing nor inspection tour, but a workshop where young residential researchers gather together and talk about regional environment. Could I evaluate my activities objectively, and communicate the results of evaluation to the participants, and provide the opportunities for profound debate and discovery? At that time then, at the School of Noto Studies, the staffs stood on the verge of announcement of course completion issues for Satoyama Meister in the 4th class, and could not spend their time for discussion with me. It's not the time for looking back their own activities, as it was at the end of the final year of the project. I still remained unaware of good answers, even by the first day of the workshop.

As for assessment of activities, Shimizu-san and Terabayashi-san said that the activities themselves would be interesting theme". But I have never seen the activities themselves as a research theme, because I and many of other staffs¥, as researchers in natural sciences, are unfamiliar with methods of sociological analysis. What a shame! I strongly wish to summarize the assessment of activities by comparing, sorting or relativizing my own and other activities (sociological approach is like this?),

3. Overvaluation and undervaluation

As described above, we were unable to evaluate our own activities properly, I am afraid I couldn't show you the issues on the School. It was the first time for you all to visit the Noto region and the School of Noto Studies, and we chose the activities that were easier to illustrate. Thanks to this, we obtained very good appraisals from you. On the other hand, the restaurant "Hen-zai-mon" has made little profit. It is run by ladies from the neighborhood with fun, but actually fairly cash strapped. It might not be easy to make promotions. There are numerous problems. Workers in charge might tend to be nitpicking, and undervalue their own activities. Again, objective assessment is needed.

4. The future of LSNES field workshop

The Workshop was very valuable opportunities of hearing about activities both from the School and the participants. I obtained many different comments from the participants, which provided me with perspectives and insights about the future of the

School. In 2012, the School made a new start. Increasing amount of requests is gathering at the School from the university and the local community. As researchers who work within a community, to what extent will we remain a researcher? How can we create a new thing. These issues are now under discussion.

As a member of Hiyoko-gumi , I wish to continue workshop like this time. I want to have opportunities for residential researchers to, offline and online, exchange information, mutually evaluate, and talk about issues. Again, I want to visit pleasant fields, together with you

(June 2, 2012)

Shinsaku Koji
Doctoral research fellow, the Center for Regional Collaboration to Kanazawa University

First of all, I thank you, the members of Hiyoko-gumi, the Local Science Network for Environment and Sustainability, for visiting the School of Noto Studies, and giving us feedback. We have received many visitors ever for field viewing, but never seen such passionate feedback as you gave us. I am greatly delighted. Looking back to the Workshop, now I would like to speak about the future of the Noto Satoyama Meister Program, which I was engaged in.

The 5 year project of the Satoyama Meister was closed at the end of last year. Funding from the Ministry was then stopped. But, funded by the Kanazawa University and the local governments (Ishikawa Pref, and4 municipals in Oku-Noto) , the University has decided to conduct a successor project. This decision reflects on the wish of the Univ. and the governments to have satellite bases in Noto, though the School of Noto Studies is still endangered. Two staffs left the School, and now three temporary staffs of the Univ. (doctoral research fellow and registrar assistant) and are striving for planning of the new project (To be opened in October).

One of the Workshop themes, “What is the learning that the local people are calling for”, is the question we have been discussing over months for the successor project. On this project, we will need to communicate the achievements to the Univ. and the governments. There seems to be a great gap between the governments calling for economy revitalization, and the Univ. focusing on performance of education and research. As the residents in the School, we have been exchanging with the Satoyama Meister graduates opinions on the future of the School. In the course of discussion, they

appreciated that they found many acquaintances with varied predicable and intentionality, and that they gained a wide range of knowledge and broadened their perspective. Not specializing in a particular field (business, tourism, etc.) the School should remain a venue where various people learn things from different viewpoints). On the other hand, the problems to be resolved included that the program is nice for growth of each individual, but its achievements are hardly reflected on the community. Their efforts on the basis of individual would end with thesis, and do not take root in the community. In the successor project, we are planning to scale up the subject of education from individual to group, from point to plane, and thereby reflect our efforts on the community. For instance, how about regarding Maruyama-gumi as a core unit, where stakeholders gather to learn with varied perspectives from each other, and produce the common single thesis? Depending on the theme, researchers might join the class and produce an academic achievement… I wish to create such-like system.

With regard to the roles of residential researcher, I was somehow unsure,… as I myself have been half-baked both as a researcher and as a resident. As a researcher in basic science (insect ecology), I think that it is best to tell interesting stories from my research results in clear, ready-to understand manners. Recently I had a session of reporting the results of bio-research for the local public. It should be important to do my best in such a meeting.

I regret that I couldn't spend enough time to talk with you, because I was somehow very busy due to the days close to thesis presentation. I hope to see you again, and talk with you.

(June 22, 24)

To the members of Hiyoko-gumi

In February last year, when you visited us, Maruyama was in the heavy snow. Now, when Arai-san finished his rice planting, Maruyama is alive with dense green forests and a variety of creatures. We had never imagined that we see various people from around the country, and thank with them to the god of paddies.

You, the Hiyoko-gumi, have the theme of balancing residing with researching. But for me, I think residing is same as living. I don't think about the future. "Are you

sure to live in here?" I am often asked by the local people. And I always answer; "I am now building my house. There is no place to go, so I'm here for the time being." Actually, I never know what the future hold. I may die tomorrow, or I may have somehow a fateful encounter. But, the fact I am here now is undeniable. Here now, I just do something I can do.

Is he from this country? Are you from others? When do you leave? Where I came from, and where I go…Such like questions I had while I move to or from USA, Tokyo, and Noto. But I could not find the Blue Bird.

In the question "Are you sure to live in here?", I think "live" might have the same meaning as "bear a responsibility". Can you bear the responsibility for cutting grass, shoveling snow, digging up the earth, thanking for harvest, and lamenting the death. I am not sure to say "Yes, I can". But, regardless where I am, and even if I am in Tokyo, or even in America, I would not be able to elude that responsibility.

Things that city dwellers have pretended not to see over the last generations. Now, I am, as a representative, addressing those things. There are many things that I notice, discover, and am impressed by, every day. I want to share them with someone, someone behind me, or some friends of "yesterday's me" who live in a convenient country.

I hope the locals perceive a sense of city dwellers being behind me, when see a strange person, or me. This is why I am running Maruyama-gumi.

Through the experiment of residing rooted in Maruyama, one can foster the eye to see the community internally. By monitoring the abundant nature, you will see what position Maruyama is in, objectively, from an external eye.

By having the two eyes above, I became confident about living now here. Well, rather than confident, I might want to say I plucked up my courage. I wonder why? I used to ask "Where is here, who am I!" Now, I am confident about saying "I am in Maruyama" in your respective field.

Thank you for hearing my desultory talk. Hope you all will stack up your one and only "now".

Yuki Ogino, Marumaya-gumi

Editor's note

At the Noto Field Workshop, I encountered many variable residential researcher from around Japan. I found vagueness about your position, motivation, roles, and results. I am not a residential researcher, I would like to think about its meaning and significance in local communities, with reference to your activities in the future.
Terabayashi)

I have now a feeling that those snowy paddies are far away.
This report is the first report by Hiyoko-gumi. It was well born after hard labor due to some trouble on editing.

I hope this report will suggest a chance for you to face forward again when you are unsure, or discouraged, and hope Hiyoko-gumi will remain the venue where members learn from and give encouragement each other.

（Shimizu: ）

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