Japan Society for the Promotion of Scientific Research
Scientific Research B (General)

Research Plan

The Establishment of Traditional Knowledge/ Wisdom Database for Community-based Environmental Governance
Fiscal Years: 2010-2012

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Research Objectives

<Abstract>

This research attempts to answer the question: "How can we present information about traditional knowledge and wisdom that have been locally ground and in use for many years so that this presented information can best contribute to the sustainable use of the environment?" In order to answer this question, this research proposes to establish a database that presents information about traditional knowledge and wisdom and by doing so contributes to the community-based environmental governance. In recent years, the rapid advancement in technologies and economic developments has marginalized the importance of locally ground environmental ethics and traditional knowledge/ wisdom. This research aims to revitalize the locally ground knowledge/ wisdom by establishing the traditional knowledge/ wisdom network among intellectuals and experts as well as ethical guidelines for dealing with traditional knowledge/ wisdom. These research efforts are designed to contribute substantially to the good of the public. Ultimately, this research aims to establish the foundation for the future academic (both research and education) center for traditional knowledge and wisdom about the environment.

1. The Background of this research

Since the 1990s, the idea of sustainable development has been promoted through various environmental mitigation activities of the United Nations and developed countries such as the Rio Summit and the Convention of Biological Diversity. In Japan, technological innovations that mitigate global warming have advanced greatly and gained international acclaim. However, researchers have not yet greatly contributed to the systemic studies of traditional knowledge/ wisdom even though these are often considered to be important other than sciences and technologies in establishing the solid foundation for environmental governance.

So far, United Nations agencies and individual researchers in EU, Canada and Australia have led the studies on traditional knowledge. For example, Leird's *Biodiversity and Traditional Knowledge* (2002) and Lewisnski's *Indigenous Heritage and Intellectual Property* (2004) are the outcome of good initial effort to understand the roles traditional knowledge may play in dealing with environmental problems. They also tackled with the issues about the limit and extent to which intellectual property rights regime can handle the protection of traditional knowledge and wisdom. In Japan, an increasing number of researchers has shown their interests in this field, but they still need international

collaboration as most Japanese scholars and people in general are not familiar with intellectual property rights issues and traditional knowledge/ wisdom; in turn, we believe that this networking effort between Japanese researchers, intellectuals and international experts will develop into an original and distinguished form of traditional knowledge/ wisdom studies.

The initial idea of establishing a study on traditional knowledge/ wisdom began in January 2009, when Matsui and Ito established the Applied Environmental Ethics Study Group at the University of Tsukuba. One of its most urgent matters for the Study Group to deal with has been the question as to how we may "establish the field of applied environmental ethics that is based on traditional knowledge and wisdom." This research initiative then won the funding from the Graduate School of Life and Environmental Sciences, the University of Tsukuba, for the fiscal year of 2009 (April 2009 through March 2010). In the same year, Matsui obtained another research funding for "The Creation of the New Watershed Study based on History and Environmental Ethics" from the Japan Society for the Promotion of Science's (JSPS) Grand-in-Aid for Scientific Research for two years.

Co-researcher Misa Masuda received the research funding from the JSPS Grants-in-Aid for Scientific Research (Scientific Research B) to undertake the research, "The Conditions for Disseminating Participatory Forest Management and the State of Resources" for three fiscal years (2009-2011). This research aims to analyze the potentiality of participatory forest management in Southeast Asia. Shigenobu Sugito received the Grants-in-Aid for Scientific Research (Scientific Research B) from 2004 to 2006 to engage in "Applied Anthropology Study on Kinship Database and Family Chart Use," which created an innovative kinship database called the "Alliance." In addition, Matsui has been collaborating with a number of researchers, including those at the United Nations University-Institute of Advanced Studies on water issues, and those at Canadian universities on traditional economy of indigenous peoples. Based on these past research activities, we have been convinced that traditional knowledge/ wisdom has a good potential in contributing to the environmental governance.

In conducting research about traditional knowledge/ wisdom, this research group considers traditional knowledge/ wisdom as both traditional heritage and intellectual property. By doing so, we believe that there is an urgent need to establish research ethics; and we have worked on this aspect for years. One of the solutions to protect traditional knowledge/ wisdom is to establish a database that is specifically designed for properly presenting traditional knowledge/ wisdom. For example, this database should recognize

individual traditional knowledge holders or groups as the authors so that this database will be beneficial not only to learners but also traditional knowledge/ wisdom providers.

However, other than ethical issues, this type of database has to overcome cultural and language barriers in presenting information as accurately as possible. In dealing with these problems, we first establish the international collaborative network on traditional knowledge/ wisdom. Also, we intend to establish an educational course on traditional knowledge/ wisdom that can be taught in both universities and public lectures.

Our proposal for this research is based on these past research ideas and activities.

2. Expected outcome of the research in three fiscal years (June 2010-March 2013)

This research will engage in the following five activities.

(a) <u>The development of a database, information entries, and the effective use of the information</u>: We will complete the framework of our database and make it possible for local data entries. In entering the data, the principal researcher and co-researchers will engage in reviewing the credibility of the collected data by consulting with designated traditional knowledge/ wisdom advisors.

(b) <u>The establishment of an ethical guideline with a due consideration of the access-and-benefit-sharing (ABS) concept for collecting, entering, and releasing traditional knowledge/ wisdom information</u>: The database must be easily accessible (free) and protect the copyrights of information providers. It also must provide a place for users to deepen their understanding of intellectual property rights and intellectual heritage. At some point of our research activities, we will publish the ethical guideline for collecting, entering and releasing traditional knowledge/ wisdom information by incorporating the opinion and experience of traditional knowledge holders, researchers and users. This guideline will be improved and updated by using the PDCA (Plan-Do-Check-Act) cycle.

(c) <u>The establishment of the network among researchers, legal experts and traditional knowledge/ wisdom holders</u>: This research attempts to promote international connections among different key stakeholders such as researchers, legal experts and traditional knowledge/ wisdom holders. This network is expected to create an original and a *sui generis* form of traditional knowledge/ wisdom study that can contribute to the better understanding of locally ground traditional views in environmental governance.

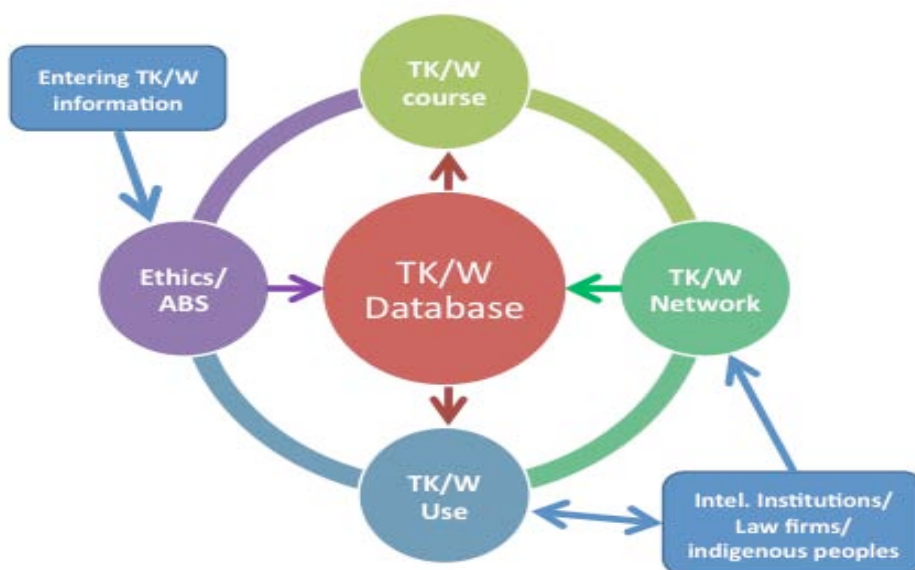(d) <u>The creation of traditional knowledge/ wisdom course:</u>

Our effort to better understand and present traditional knowledge/ wisdom can be enhanced by engaging in public and university education. This public engagement effort attempts to

increase the number of people, including students, who have good knowledge about locally ground environmental governance. Having more people understood the importance of protecting locally ground knowledge/ wisdom can lead to the revitalization of local community-based governance effort over environmental issues. For example, in rural areas of this country, the younger generations tend to pay much more attention to scientific "management" of local resources without listening to local elders and other traditional knowledge/ wisdom holders about how traditionally this local community has managed a certain use of the environment even though some locally sustained knowledge/ wisdom may give much better understanding of the ecological system. This oversight of local knowledge may result into the "thinning" of cultural resources and detachment to the local environment.

(e) The publication on traditional knowledge/ wisdom related topics:

We also attempt to publish our research works. Matsui will focus on locally ground traditional knowledge/ wisdom for the watershed management/ governance. Ito will focus on the function of protected areas as the space to contain traditional knowledge and the roles of inhabitants there. Masuda will focus on participatory forest management by examining the roles traditional knowledge/ wisdom may play. Sugito will focus on the roles and conservation of traditional knowledge/ wisdom in the community and kinship space.

The basic structure of our overall research efforts is summarized in the diagram below.

3. Academic features and distinctive/ original ideas and expected results

(a) Socially responsible traditional knowledge/ wisdom study and the contribution to legal development: The establishment of the traditional knowledge database, ethical guideline and international network along with publication will contribute to the better understanding of locally ground understanding of the environment and the sustenance of traditions. In recent years, local communities have faced changing traditional value systems due to depopulation and others. This research will establish the foundation for many people to re-discover traditional value systems and locally viable ecological perspectives.

(b) The establishment of the ethical guideline and use: So far traditional knowledge related research ethics have focused largely on the protection of intellectual property rights to the development of genetic resources and medical/ pharmaceutical products from plant or other organic properties. This research, however, will deal with traditional knowledge/ wisdom that are often considered to be part of "the commons" and cannot be fully protected under the intellectual property rights regime. The ethical guideline will respond to the needs to develop a *sui generis* form of protection and eventually aims to provide some suggestion for the future development of more viable legal protection of traditional knowledge/ wisdom.

(c) The establishment of traditional knowledge/ wisdom study: This field has not been firmly established as an academic discipline either in Japan or overseas. The development of the study and incorporation of the field into academic and educational activities through the international network will produce more experts. These experts (not necessarily academics) will bridge the gab between the traditional world and scientific and modern communities.

4. Plan and Methods

<Abstract>

For the purposes of establishing the database and its operation, this research will conduct both field and documentary research. After some preliminary research work, we will select specific focus areas or communities for database. Also, regarding the data entry, release and use, we will consult and exchange opinion with traditional knowledge holders and legal experts in Japan and overseas through workshops. This dialogue will eventually lead to the establishment of the ethical guideline. The principal researcher and co-researchers (possibly collaborative researchers) will publish their findings on their specific interests. Eventually these research findings will be put together for a publication on traditional knowledge/ wisdom. After three years, we aim to use these research activities as the foundation for establishing an education/ research center for traditional knowledge/ wisdom.

(a) <u>2010 Fiscal Year (June 2010 to March 2011)</u>

In this year, the principal researcher will meet regularly with co-researchers for the purpose of compiling a bibliography (as comprehensively as possible) on traditional knowledge and wisdom. This bibliography will contain information of published materials such as archival documents, academic papers, books, newspapers, magazines, visual resources, and websites. This bibliography will guide our research in terms of setting priority as to which information we will enter first.

Before completing the design of the database, we need to clarify problem areas of using database by consulting with indigenous peoples, legal experts and others. For example, we recognize that those who are not familiar with traditional knowledge/ wisdom may find it very difficult to understand the information we intend to present. A gap that exists between the traditional world and the modern (academic linear) world will have to be buried, but this effort requires us to clarify the ways or methods of effectively presenting traditional knowledge/ wisdom so that the presented information may represent traditional teaching methods as accurately as possible. The incorporation of visual effects may suffice the written documentation, but in doing so, we, the researchers, must understand better about the traditional worldviews.

We also will have to carefully decide how much information we may be able to enter in three years as the information can be very expansive and wide-ranging. One of the most practical solutions to this question is to limit the geographical areas. At this time, considering our past research experience, we may select areas in Southeast Asia (e.g., Indonesia and Bhutan), Hokkaido (Japan), western Canada, northern Australia and

northern New Zealand and Brazil though we still need to consult and negotiate with people (as many stakeholders as possible) in these areas to begin with. Then we will have to decide the feasibility of conducting research in these areas. In doing so, we will ask for advise from collaborative researchers and our international network. We also will present our research guideline and engage in revising or refining it through consultation process and inviting experts for workshops. We intend to finish the first draft of the guideline by the end of this fiscal year.

(b) <u>2011 Fiscal Year (June 2011-March 2012)</u>

We intend to begin our data entry into the database in this year although the actual use of the online database will be sometime in 2012 fiscal year. We will continue our field research and the revision/ refinement of the ethical guideline. The data we obtain will be transmitted to excel files or other files that can be easily convertible. In entering the data, we also will continue our communication with traditional knowledge/ wisdom providers if the information was directly obtained from them. Notes from published materials should be properly cited and the name of the traditional knowledge holders also should be noted.

Once the basic form of the database is completed, we will go out to each community and explain how to use it. By doing so, we can incorporate users' and providers' perspectives in further developing the usability of the database. Our experience in designing, building, and revising the database can benefit other researchers or communities who are interested in developing similar database along with the guideline. Public and academic presentations along with some form of publication can be done on this aspect.

During our research activities, we also try to establish the network among researchers and communities who are developing similar projects. This network will help us improve the quality of the database presentation of traditional knowledge/ wisdom. Here we are also interested in improving our ABS functions.

(c) <u>2012 Fiscal Year (June 2012-March 2013)</u>

In this year, this research team aims to clarify a potential model for community-based environmental governance within a glocal context. This model will lead to the creation of traditional knowledge/ wisdom study, including new academic/ public lecture or seminar courses. We intend to apply for the curriculum committee of the Environmental Sciences Program of the University of Tsukuba (master's program) to install these new courses to begin with. In response to the MEXT's project for globalizing Japanese universities (called "Global 30"), these courses will be offered in English and try to attract students from as many countries as possible. This curriculum experience also in turn provides feedback

from students from various countries about traditional knowledge/ wisdom and glocal environmental governance. Matsui belongs to the Environmental Sciences Program and its curriculum committee and knows that these courses properly fit into the education mission of its existing curriculum. These courses also closely correspond to the recently commissioned project from MEXT on "Environmental Diplomatic Leader Education Program (EDL)," which is mainly managed by the Environmental Sciences Program and the Sustainable Environmental Program (for doctoral students). This EDL program will be funded for five fiscal years (from 2009 to 2013 fiscal year). Matsui also served for the committee of this EDL program.

Another important aspect of this year's research activities is that the database will be installed so that local participants can enter their data online. This arrangement will provide more incentive for revitalizing local traditions and respect for local governance (including the regaining power of traditional elders).

The data entry from local communities may need clarification for those who are not familiar with the locality and its geographic, historic, and cultural information. If necessary, we will consult with designated local information advisers for assisting, annotating or clarifying the information entered by community participants before release. This effort is important to secure the credibility, reliability and educational quality of the database. Also, community participation will provide this research team more opportunities to improve the database. The PDCA cycle will be used for this improving work so that our database model can be continued and expanded to include other communities or areas in the following years after this project period.

At the end of the third year, we intend to produce a final report. This report will summarize our past activities and suggest some future development, including the outline of the future traditional knowledge/ wisdom study center. This means that we will find more co-researchers in this area and apply for a bigger funding for the ensuing years.

5. Preparation Works, Facilities, and Readiness for conducting this research

(a) <u>Research facilities</u>: Although Matsui and his co-researchers will use the University of Tsukuba and Sugiyama Jogakuen University as the base for their research activities, other research institutions will be used, including the United Nations University-Institute of Advanced Studies, the National Museum of Ethnology, the Ainu Association of Hokkaido reading room. Overseas institutions include the following (by nation): (the United States) the Library of Congress, the Smithsonian Museums (e.g., Museum of American Indians),

Newberry Library in Chicago, the Water Resources Center Archives at the University of California, Berkeley; (Canada) the National Library and Archives of Canada in Ottawa, the Museum of Civilization in Hull, Quebec, the Museum of Anthropology and libraries at the University of British Columbia; (Australia) the National Archives of Australia in Canberra, Australian National University libraries, the Australian Institute of Aboriginal and Torres Strait Islander Studies in Canberra; (New Zealand) Oakland Museum in New Zealand, among others.

(b) <u>Research support</u>: We intend to use the home page address for the Applied Environmental Ethics to showcase our research and education activities. The database will be located within this site. The Environmental Sciences Program has an IT expert, who can provide us with proper technical support for installing and operating the database and other IT services within the Program web pages. Matsui also has involved in creating a database of Métis people in Canada for three years (led by Professor Frank Tough of the University of Alberta). Sugito has developed a kinship database for Australian Aboriginal families since 2000.

(c) <u>Resources</u>: Matsui and co-researchers have accumulated a vast amount of documents and other resources in the last ten to twenty years. Using our collection as a basis, we intend to collect more information for the purpose of establishing a special resource room for traditional knowledge/ wisdom.

(d) <u>Public engagement and socially responsible research</u>: One of the important purposes of creating the traditional knowledge/ wisdom database is to contribute database activities to community-based environmental governance. Community participation in our activities or information exchange among different ethnic and local communities can lead to the generation of new ideas for environmental governance and reinvigorate or rediscover the importance of local traditions.

6. Past funded research activities

(a) Research funded by Grant-in-Aid for Scientific Research, Japan Society for the Promotion of Science (JSPS)

Fiscal Years	Title of Research (Type of Grant)	Researcher (Role)	Main activities
2009-2010	The Creation of the New Watershed Study Field based on History and Environmental Ethics (Challenging Exploratory	Kenichi Matsui (Principal Researcher)	This study attempts adopt some environmental ethics and bioethics principles for evaluating the impact of watershed developments on

Fiscal Years	Title of Research (Type of Grant)	Researcher (Role)	Main activities
	Research)		culture and biodiversity. In doing so, it seeks to clarify the next generation watershed use as well as the recovery of the healthy watershed environment. In 2009, this research focused on the collection of information about the Pick-Sloan Project and American Indian traditional use of the Missouri watershed.
2009-2011	The Conditions for Disseminating Participatory Forest Management and the State of Resources (Scientific Research B)	Misa Masuda (Principal Researcher)	This study aims to analyze the potentiality of participatory forest management in India and Southeast Asia by examining the forest management infrastructures. It also seeks to find the participatory system and its dissemination while meeting local needs.
1994-1996	American Influence to and Originality of Japanese Nature Conservation (Scientific Research C)	Taiichi Ito (Principal Researcher)	This study focuses on the theoretical background of American wilderness and considered its relations with forest space. In addition, it tried to find out the link between the American Wilderness Act and Japanese nature conservation.
2006-2008	The Comprehensive Study on the Establishment and Operation of Kinship Database.	Shigenobu Sugito (Principal Researcher)	Through the establishment of the kinship database and promoting its use among Australian Aborigines, this study facilitated the inheritance and understanding of indigenous knowledge. It conducted collaborative research activities to establish the comprehensive database. It also achieved "the Indigenous Knowledge Management System" for collecting Indigenous knowledge.
2000-2012	The Development and Study of Cultural Anthropology Survey Tools that accompany Image Processing (Scientific Research B)	Shigenobu Sugito (Principal Researcher)	This study established the research tool for conducting field works on the field of family-kinship. It realized the concept of "field computer" for field work analysis and released the result.

(b) Others

From the University of Tsukuba, Graduate School of Life and Environmental Sciences, Research Project Support Grant (Internal Competitive Grant)

Fiscal Years	Title of Research (Type of Grant)	Researcher (Role)	Main activities
2008	The Development of Tsukuba-Style Environmental Ethics	Kenichi Matsui (Principal Researcher)	Rather than placing the environmental ethics within the field of ethics and philosophy, this study sought to find its place within applied environmental studies, which may

			contribute to the better understanding of glocal environmental problems.
2009	The Establishment of Applied Environmental Ethics based on Traditional Knowledge and Wisdom	Kenichi Matsui (Principal Researcher)	This study was mainly devoted to prepare for the larger funding on traditional knowledge/ wisdom study. It built its own web site and began to release its academic activities.

7. Human rights protection and other legal implications

As this research will deal with personal information (e.g., names and affiliations) and knowledge/ wisdom, our research activities will have to carefully observe human rights, intellectual property rights, copy rights and portrait rights. We also must establish our activities in accordance with the requirement that was established by Convention of Biological Diversity 8(j), UN human rights declarations, various bioethical principles and research ethics, which are partly originated from the Nuremberg Cord. In conducting international research activities, international environmental laws as well as domestic laws must also be observed.

In collecting, entering and releasing traditional knowledge and wisdom, prior and properly informed participants' free consent must be obtained as the first priority. Second, the information presentation must consider that the way to be released will not harm information providers. The released information must be accessible from the provider(s) and the community and will be shared fairly and equitably. Third, we must make sure that our research activities will not fall into paternalism for the participating community. In order to avoid this paternalism, our important task is to establish a good communication with the community in order to understand the needs and requirements. Fourth, by collaborating with legal experts and traditional knowledge holders, we will make the best effort to clarify all foreseeable legal and moral problems. This understanding is essential in consulting with participating communities or persons for cooperation with this research project. Fifth, we also must make sure that the released information won't be exploited or misappropriated.

These five principles will guide us throughout our research activities. And these will in turn be incorporated into our drafting of ethical guideline for traditional knowledge/ wisdom database. During the course of our research activities, these ethical principles will be revised, refined, and improved in dealing with various stakeholders we may face. As a result, our ethical guideline can greatly contribute to the larger on-going international efforts to establish proper, updated ethical guidelines.

Above all, regardless of social status and interests, all stakeholders should

recognize the importance of inheriting community-based environmental governance as human heritage. This recognition naturally requires the deeper mutual understanding between traditional knowledge/ wisdom holders and researchers (and others) with good wills and intentions for establishing the better future.

8. Selected Researchers' Academic Works (last 5 years)

<u>**Matsui**</u>

-"Waterpower Developments and Native Water Rights Struggle in the North American West in the Early Twentieth Century: A View From Three Stoney Nakoda Cases." In *Aboriginal Title and Indigenous Peoples: Comparative Essays on Canada, Australia, and New Zealand*, edited by Louis A. Knafla and Haijo Westra. Vancouver: University of British Columbia, 2010. (peer reviewed)

-"North American Native Treaties as Cultural Hybrids," In *Japanese Journal of Cultural Anthropology* 74: 2 (September 2009): 238-261 (peer reviewed)

-*Native Peoples and Water Rights: Dams, Irrigation, and the Law in Western Canada*. Montreal: McGill-Queen's University Press, 2009. (peer reviewed)

-"If Water is In Crisis What About Culture?" Symposium Presentation, "Water in Crisis in a Changing World: Innovative Approaches and Policy Initiatives." United Nations University-Institute of Advanced Studies, September 2009.

-"'White Man Has No Right to Take Any of It': Secwepemc Water Rights Struggle in British Columbia." In *Wicazo Sa Review* 29: 2 (2005): 75-101. (peer reviewed)

-"Canada's Indigenous Rights and the Powley Test: A History of Métis Rights." In *Japanese Journal of Cultural Anthropology* 69: 4 (2005): 582-590. (peer reviewed)

<u>**Masuda**</u>

-with M. Dhakal, "Local Pricing System of Forest Products and its Relations to Equitable Benefit Sharing and Livelihood Improvement in the Lowland Community Forestry Program in Nepal." In Forest Policy and Economics 11: 4 (2009): 221-229. (peer reviewed)

-with N. Onda and F. Zamzani, "Effectiveness of Buffer Zone Support Programs in Mitigating Illegal Logging by Rural People: A Case of Gunung Palung National Park in West Kalimantan, Indonesia." *Tropics* 17 (2008): 109-117. (peer reviewed)

-with E.K. Damayanti, "Implementing Process of Indian Ecodevelopment Project and the Sustainability: Lessons from Periyar Tiger Reserve in Kerala State, India." In *Tropics* 17

(2008): 147-158.

Ito

-with G. Kato, "The Role of a Hut System in Promoting Community-based Tourism in Bhutan." *Global Partnership* 2009.

Sugito

-"The Artistic Activities and Copyrights of the Australian Aborigines: The Ownership and Diaspora of Culture." In *The Commons and Culture: Who Owns Culture?*, edited by Shoji Yamada. Tokyo-do Shuppan, 2010: 147-179.

-"Alliance Project: Digital Kniship Database and Geneology." In *Information Technology and Indigenous People*, edited by L. Dyson et al. Idea Publishing Group, 2006.