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A Study on the Theory and the Method of Inquiry-Based Education for Democratic Environmental Restoration

Dissertation Presented for the Degree of Doctor of Philosophy in
Department of Value and Decision Science,
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Abstract

It is the purpose of this dissertation to elucidate the framework of environmental education that facilitates democratic environmental restoration. In the search for a relevant educational framework, the focus of research is placed on the quality of the agents. I employed the term *environmental autonomy* as a key concept to describe the essential aspect of an environmentally responsible agent. One of the aims of this dissertation is to establish a new logic and ethic that acknowledge the interrelation of human beings and their surroundings through the contemplation of the notion of environmental autonomy.

The uniqueness of the approach developed in this dissertation is the deep integration of theoretical and practical research. The field research was conducted on Sado Island, where environmental restoration has been carried out with a view to re-introducing the endangered bird called *toki* (*Nipponia nippon*).

On the basis of theoretical and practical research concerning the education aimed at democratic environmental restoration, I conclude that the promotion of democratic environmental restoration rests upon the growing participation of empowered agents in deliberative decision processes. Environmental autonomy, which has been employed to describe such empowered decision-making ability, transcends the Kantian metaphysical autonomy and designates communicative and deliberative competences as well as the sensitivity to various aspects of our environments. The cultivation of environmental autonomy is possible through the practice of *multi-perspectival inquiry*, which facilitates the process of deliberation and decision-making through the non-hierarchical exchange of ideas.

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Introduction

The aim and scope of the research

It is the purpose of this dissertation to examine the question: “Is it possible to facilitate democratic environmental restoration through the practice of environmental education?” Should the answer to this question be affirmative, then, what kind of educational framework is necessary for promoting such restoration? Despite growing interest in the promotion of environmental restoration in a democratic way, there remains considerable difficulty in advancing active public participation. Hence, the above question potentially leads to significant insights into ways of improving the degree and quality of participation in environmental decision-making and facilitating democratic environmental management.

Two major points at issue in this dissertation are *environmental restoration* and *environmental education*. In order to clarify the scope of my research, it is important to describe how these points are connected and shape the main theme of the dissertation.

The restoration of the natural environment has become one of the central governmental concerns in Japan as a consequence of serious environmental degradation, and has been officially promoted with the enactment of the Law for the Promotion of Nature Restoration in 2002. This law provides the purposes and basic principles for conducting environmental restoration projects. One of the important aspects of this law is

its emphasis on the participation of various actors in the process of restoring and maintaining environmental conditions. Environmental restoration aims not only at creating ecologically rich environmental conditions but also at realizing a society that flourishes in harmony with nature. The consideration of both natural and social well-being calls for the cooperation of governmental agencies, concerned municipal governments, local residents, NPO groups, and specialists in natural science, among others.

With regard to the participatory manner of these actors, the law determines that they should engage in the activities of environmental restoration in an active and voluntary manner rather than compulsorily. They are, for example, encouraged to participate in decision-making from the initial stage of the project.[1] That is to say, it is deemed inadequate to request people to cooperate in the implementation of predetermined restoration plans. Instead, public participation is considered essential in the process of determining the courses of restoration. The term *democratic* has been used in order to describe this aspect of the restoration project.[2] Although the democratic aspect of environmental restoration has been actively discussed in the United States, it has not been sufficiently explored in Japan.[3] I, nevertheless, argue that this term elucidates important implications embedded in the act of environmental restoration: (1) the agency that cannot be explained in terms of public participation, and (2) the mode of participation that is

[1] According to the Basic Policy for Nature Restoration developed on the basis of the Law for the Promotion of Nature Restoration (Law No. 148, 2002), it is suggested that environmental restoration should be implemented with the participation of actors from the initial stage of formulating the concept of the project. See the Basic Policy, 1-(2)-B. http://www.env.go.jp/nature/saisei/law-saisei/basicpolicy_e.pdf

[2] Izumi Washitani uses the term *chokusetsu minshu-shugi* (直接民主主義, participatory democracy) for describing the framework of environmental restoration addressed in the law. See Izumi Washitani, "The Interdisciplinary Study on Collaboration and Scientific Techniques for Nature Restoration," Research Report for Nissan Science Foundation (2002), http://www.nissan-zaidan.or.jp/membership/2002/05_seika/0020.pdf, (in Japanese).

[3] For example, Andrew Light and Thomas C. Beierle discuss this issue in the North American context. Andrew Light, "Restoring Ecological Citizenship," in Democracy and the Claims of Nature, ed. B. Minteer and B. P. Taylor (Lanham, MD: Rowman and Littlefield, 2002), 153–172. Thomas C. Beierle and Jerry Cayford, *Democracy in Practice: Public Participation in Environmental Decisions* (Washington D.C.: Resources for the Future, 2002).

required for each citizen as a member of a democratic society.

In my view, the term *democratic* entails much more than securing the equal treatment of people and furnishing them with the equal right to participate in the political process. Democratic environmental restoration, which requires the active and voluntary participation of various actors, cannot be carried out merely by ensuring an open process of decision-making. It rests upon preconditions such as the following: first, there are voluntary participants interested in the environmental restoration project; second, these participants have adequate skills and attitudes for participating in the project in a collaborative way; and third, they have relevant opportunities to make collective decisions. Without satisfying these conditions, it would not be possible in theory to carry out environmental restoration projects in a democratic way. In reality, however, these three points are not always fulfilled. In order to improve the situation, it is of the utmost importance to raise people's interest in the project, to develop their collaborative skills and attitudes, and to create adequate opportunities for participation. These tasks entail educational implications since they are concerned with the growth of human competence and the opportunity to exercise such competence. Hence, I intend to approach these tasks from the aspect of environmental education. The purpose of this dissertation is to clarify the theoretical and practical frameworks of education aimed at facilitating people's participation in environmental restoration and contributing to the development of democratic restoration projects.

In the search for a relevant educational framework, the focus of research is placed on the quality of the agent. I will employ the term *environmental autonomy* as a key concept to describe the essential aspect of an environmentally responsible agent. The concept of autonomy has been used in ethics as the expression of a morally responsible

person. An autonomous actor knows what is an appropriate action in a given situation and is able to act responsibly based on his/her ethical judgment. Analogously, the participant in democratic environmental restoration should not only act voluntarily but also able to take part in the process of determining the adequate courses of action towards the improvement of environmental conditions. I will employ the term *environmental autonomy* to signify the competence to think and choose relevant action in situations involving complex issues and interests that impact the environment.

Yet, the application of the concept of autonomy within the context of environmental decision-making poses a serious challenge. As I will argue in Chapter 3, there is a critical difference between the conventional use of autonomy in ethics (such as the one developed by Immanuel Kant) and its use in the context of environmental decision-making. Whereas the former has developed in the tradition of ethical individualism, the latter incorporates the communal aspect of decision-making. In spite of the fundamental difference between these two perspectives, the application of autonomy to the context of environmental education seems meaningful because this concept carries two important implications: the value of empowered agent and the ethical aspect of decision-making. Moreover, it has been influential as a guiding quality in the field of education. For its relevant application, however, it is necessary to carefully examine the conventional idea of autonomy and to re-interpret this term within the framework of environmental decision-making.

The employment of the concept of environmental autonomy embraces two further challenges. First, this concept casts light upon the ethical dimension of the act of environmental restoration and the necessity to include such dimension in the scope of environmental education. In the present dissertation, I set out to clarify that environmental

restoration constitutes more than a technical issue in ecology and involves the consideration of human values emerging on multiple scales in the process of determining its courses. On the basis of this interpretation of environmental restoration, environmental education encompasses more than teaching certain skills and knowledge of environmental management. It highlights the complex dimension of human concerns and the need to cultivate the capacity for dealing with diverse surrounding issues comprehensively.

Second, education based on environmental autonomy poses an important issue concerning what environmental education should be. With regard to the aims of environmental education, Bob Jickling advances an argument according to which education should not be instrumentalized as a tool to realize specific goals. He repeatedly criticizes the forms of education defined as "education *for* something." Education for the environment, education for sustainability, education for sustainable development… All these forms of environmental education, according to Jickling, imply the dimension of instrumentalization.[4] He contends that education is different from training. The latter is doctrinaire and prescriptive, whereas the former is not.[5] Based on this distinction, he states that most of current environmental education amounts to little more than training, which aims at the acquisition of certain skills and information. Many forms of environmental education have clear predetermined goals, and children are merely directed toward such goals through educational programs. Thus, Jickling cautions, "To educate is not to promulgate, indoctrinate, propagandise or in any other way coerce students into adhering

[4] For example, Jickling and Helen Spork write, "Use of the proposition 'for' suggests that the aim of education is something external to education itself; education can, and must, be *for* something." Bob Jickling and Helen Spork, "Education for the Environment: a critique," *Environmental Education Research* 4, no. 3 (1998): 309 – 327. See also Bob Jickling, "Why I Don't Want My Children to Be Educated for Sustainable Development," *Journal of Environmental Education* 23, no. 4 (1992): 5–8.

[5] Bob Jickling, "Environmental Education and Environmental Advocacy: Revised," *Journal of Environmental Education* 34, no. 2 (2003): 20–27..

to predetermined attitudes, assumptions or values."[6] What then is education for Jickling? Education is "concerned with enabling people to think for themselves," he writes.[7] The author adds, furthermore, that the focus of environmental education should be on cultivating students' ability "to debate, evaluate, and judge for themselves the relative merits of contesting positions."[8] If the cultivation of thinking ability is neglected, education will be no more than training.

The title of this dissertation contains a controversial point in this respect. Jickling might argue that *education for democratic environmental restoration* is an instrumentalized form of education designed with a view to the successful restoration of a certain area. However, this dissertation, while acknowledging that aim, actually shares his concerns. Whereas many programs of environmental education are tailored to teach skills and knowledge for mitigating particular environmental issues, the focus of this research is placed on the cultivation of people's capacity to participate in democratic environmental restoration. I shall call the former type of environmental education "content-oriented" and the latter "agent-oriented." The emphasis on the ability of the agent in environmental education is not meant to ignore the importance of teaching environmental skills and knowledge. Rather, it is based on the idea that the scope of education needs to be expanded to include the consideration of what qualities are necessary to make responsible judgments in the restoration project. This power certainly includes deliberative competence, particularly in a communal context. It may also involve communicative competence and cooperative decision-making ability, as I will contend later on. In this respect, education aimed at facilitating democratic environmental restoration does not end when a certain

[6] Jickling and Spork, 315.
[7] Jickling, "Why I Don't Want My Children to Be Educated for Sustainable Development," 8.
[8] Ibid.

project of environmental restoration is over. It focuses upon the continuous growth of communal power to engage in a cooperative process of environmental decision-making.

Although this dissertation focuses on examining the ideas and methods of environmental education within the framework of environmental restoration, it attempts to deepen our understanding about the scope of environmental education in general by considering what aims and ideas need to be involved in this education. My view is that the importance of cultivating the power of environmentally responsible agents is not restricted to the education focused on environmental restoration but is a shared concern among various programs of environmental education. As it is, the task of investigating agent-oriented approaches to environmental education has a significant meaning towards the enrichment of our vision of environmental education and the development of new approaches to this education.

Integration of philosophical reflection and field research

The uniqueness of the approach developed in this dissertation is the deep integration of philosophical reflection and field research developed on the basis of such disciplines as philosophy, environmental ethics and environmental education. In other words, theoretical and practical investigations are closely interconnected throughout the process of developing my argument. The field research was conducted on Sado Island (*Sadogashima*, 佐渡島), where environmental restoration aimed at re-introducing the bird called *toki* (朱鷺) has been taking place. I will investigate several issues concerning the promotion of environmental restoration on this island and will identify what needs to be incorporated into education for democratic environmental restoration. There are two important issues to be considered with regard to this field-oriented approach:

- Why is field research so important?
- Why is the case on Sado Island the focus of this dissertation?

The reason for emphasizing field research in this dissertation is that the theoretical approach to environmental restoration and environmental education is obviously not sufficient to develop ideas that can be applicable to real cases of environmental restoration. By actually visiting Sado Island and working with local residents as well as governmental officials, I will attempt to identify problems involved in the process of environmental restoration and to search for possible solutions to the problems in light of environmental education. A critical stance embedded in this approach is that theories are developed in the course of engaging in and taking action on actual environmental issues. In order to clarify this stance, it is useful to compare two philosophical approaches: applied philosophy and practical philosophy. The distinction of these two approaches is discussed, for example, by Stephen Toulmin, according to whom the former is theory-centered and emphasizes written, universal, general and timeless aspects of the world, whereas the latter is practical-minded and takes into account the oral, particular, local and timely aspects.[9] Toulmin draws our attention to the problem that these latter aspects, which are essential to one's engagement in real issues, have not been paid sufficient attention as an integral part of philosophy in the modern period.

On the basis of a similar distinction, Bryan G. Norton argues that one of the important tasks of philosophers is the engagement in practical philosophy: "a problem orientation and a commitment to address social problems within real contexts, where people have and express real values and where disagreements make a difference in real

[9] Stephen Toulmin, "The Recovery of Practical Philosophy," *The American Scholar* 57 (1998):337–352.

choices about how to act."[10] Norton is an environmental ethicist who takes a pragmatic approach to environmental problems and conducts the philosophical analysis of community-based environmental management. According to his argument, the notion of applied philosophy involves the idea that there are *a priori* philosophical principles to be applied to real issues. Such a foundationalist vision has prevailed in modern philosophy, and has led to the neglect of the value of engaging in particular facts within particular contexts. Norton believes that philosophers with their knowledge and skills of linguistic and conceptual analysis can contribute to the progress in understanding and solving environmental problems if they commit themselves to working on real issues. He thus emphasizes the potential of practical philosophy as a way of contributing to the society.

The approach that I take in this dissertation has much in common with what these thinkers call "practical philosophy." This approach focuses upon the importance of building theories on the basis of ideas and experiences involved in real problems in real contexts. In addition to this aspect of practical philosophy, I shall also emphasize the meaning of engaging in the process of problem-solving with various stakeholders by thinking together with them about what can be done in order to improve current situations. Such a deep commitment might seem to pose difficulties in terms of securing the objectivity of research. I shall argue, nevertheless, that it is necessary for providing a proper understanding of what is really at issue in a given context and considering relevant educational approaches that might contribute to improving problems in real contexts. When I succeed in influencing people's participation in environmental restoration and making practical progress in improving environmental conditions, it is possible to identify what approach is adequate. Through this deep engagement, I will attempt to develop

[10] Bryan G. Norton, *Sustainability: A Philosophy of Adaptive Ecosystem Management* (Chicago: University of Chicago Press, 2005), 577.

practical educational guidelines and then to extract generalizable ideas for establishing a theory that goes beyond the individual case of field research.

The field research discussed in this dissertation specifically seeks to shed light on the issue concerning the re-introduction of the *toki* that has been implemented on Sado Island. There are three reasons for selecting this island as the field of my research. The first reason is that the re-introduction of the *toki* is at the forefront of the kind of environmental restoration that requires collaboration among a variety of stakeholders. As I will explain in Chapter 2, all residents of the island can be identified as potential stakeholders of this project. Involving residents from various districts and of different generations in the process of democratic decision-making is required in order to establish a sustainable restoration plan that incorporates local concerns.

Secondly, among various environmental restoration projects carried out in Japan, the case on Sado Island provides an important basis for conducting interdisciplinary research. This basis is critical, from both ecological and social perspectives, for the promotion of environmental restoration. As I shall explain shortly, the Toki Island Project (TIP, started in April 2007 with the aim of establishing a sustainable restoration plan) has been facilitating collaboration among different specialists and developing local networks for embodying democratic restoration activities. The Ministry of Environment, which provides the funding for this research project, recognizes the value of TIP's community-oriented approach and expects that this approach will contribute to enriching our vision of environmental restoration. By participating in this project conducted on Sado Island, it became possible for me to observe environmental restoration from an interdisciplinary perspective as well as to consider what is needed for realizing democratic environmental restoration by actually coordinating locally grounded restoration activities.

Thirdly, environmental restoration for the symbiosis with the toki has been gathering people's attention both within and outside the academic milieu and is expected to become a model project contributing to the promotion of collaborative restoration activities. Whereas this restoration project is concerned with a question that is specific to Sado Island, it implies a number of issues that are common to other environmental projects. In the process of developing an educational framework for democratic environmental restoration, I attempt to extract generalizable ideas from the field research in Sado in order to enable an application as wide as possible.

Before moving on to the main text, it is important to provide some background information concerning the following three subjects around which my field research revolves: (1) the decline and preservation of the *toki*, (2) the scope of environmental restoration for the re-introduction of the bird, and (3) the background of the research project.

1. The decline and preservation of the *toki*

Figure 0.1. *Toki* (Crested ibis, *Nipponia nippon*)
Photo provided by Ministry of Environment

The *toki*, which is internationally known as crested ibis, or under its Latin name *Nipponia nippon*, used to live in a large part of East Asia, including Korea, Taiwan, the north part of China and the east part of Siberia.[11] Its habitat in Japan was not limited to Niigata and Ishikawa prefectures,

[11] I use the name '*toki*' in the most part of this dissertation because this name is actually used in the field research and represents the unique value of the bird for local communities. However, when I discuss the issues of the bird in the international context, I use the name 'crested ibis.'

where the last wild populations were found. It has been reported that this bird could actually be seen in most parts of Japan. The *toki* was, therefore, not necessarily a rare species. Yet its number began to drop after the repeal of the restriction on hunting at the beginning of Meiji period. The decrease in the number of this bird occurred not only in Japan but also in other places known as its former habitat. China, which currently has a cooperative relationship with Japan in the preservation of the *toki*, was not an exception. The wild population in China had decreased to seven when this bird was re-discovered in 1981. In virtue of their efforts to preserve this bird, however, the wild population had recovered to 360 in 2004.[12]

Due to the severe decline of the population, the preservation of the *toki* was initiated in Japan from the beginning of the twentieth century. Sado Island was identified as the focal point for the preservation activities, since the last population of the Japanese strain was found on this island. In order to promote the preservation at the national level, the *toki* was designated as a natural monument in 1934, and as a special natural monument in 1952. The facility for the preservation of the bird (the Sado Japanese Crested Ibis Conservation Center) was established in 1967. In this center, captive breeding has been attempted with the cooperation of researchers in China. In spite of governmental strategies as well as local efforts to preserve this bird, its Japanese strain became extinct in 2003. After the extinction, the *toki* preservation continued using pairs of the bird brought from China. The population of the bird in Japan has gradually recovered to about 120 birds as of March 2009. As a result of the success in captive breeding, it was determined to release the bird to the natural environment. The project of re-introducing the *toki* has been promoted at

[12] Yunshan Su and Akinobu Kawai, "Participatory Measures of Protection for Crested Ibis *Nipponia nippon* and its Habitat: Comparative Case Study of Yang County, China and Niibo of Sado, Japan," *Journal of the University of the Air* 22 (2004): 57–70.

a new facility (the Toki Re-Introduction Center) established in 2007. They train the birds to forage for food, build nest, avoid enemies, and so on. Initially, fifteen birds were trained in this facility, and ten of them were released to the natural environment on September 25, 2008. The implementation of the re-introduction carries a significant meaning in the history of the *toki* preservation.

The attempt to re-introduce the *toki* has brought a different dimension to its preservation agenda. Before the release of the bird, it was protected only in restricted areas by a limited group of people including ornithologists, the staff of the conservation center and a few devoted local citizens. But after its release on September 25, 2008, the field of preservation activities has been enlarged and now includes the people's living space. It has been said, however, that current environmental conditions of Sado Island may not be the most adequate for the survival of the *toki*. The most serious issue is the lack of foraging sites due to the deterioration of biodiversity in rivers and rice paddies. This problem becomes particularly serious during winter. In order to create favorable conditions for the settlement of the bird, environmental restoration has been planned and implemented on the government's initiative.

2. The scope of environmental restoration for the re-introduction of the *toki*

The process of restoring environmental conditions has been described under different names such as *environmental restoration*, *nature restoration* and *ecological restoration*. These names are often used interchangeably because the process they refer to is implemented in order to enhance the ecological well-being of the natural environment. In this dissertation, however, I will use the term *environmental restoration*, as it allows the broadest scope among them, and is thus able to illustrate the various aspects involved in

the restoration activities for the *toki* preservation.

Deliberating about what to do in view of the restoration of environmental conditions requires more than an ecological viewpoint: it has a deep connection with our vision of what kind of society we wish to develop. Ecological functioning is associated with human activities as well as with the ideas, values and social systems underlying them. Change in social conditions sometimes has a negative impact upon surrounding ecological conditions. But, on the other hand, a sustainable society is only possible in virtue of healthy ecological conditions. The scope of environmental restoration thus includes both ecological and social dimensions. The inseparability of these two dimensions is implicit in the policy for the re-introduction of the *toki*. The Ministry of Environment, for example, approaches this issue by taking into account the development of an adequate social environment. Since the word *environment* can be used to signify any surrounding conditions, both ecological and social, I will use the term *environmental restoration* in the present dissertation and attempt to consider the improvements both in the natural environment and in the social environment comprehensively.

In order to further clarify what I mean by environmental restoration, it is also important to explain the difficulties posed by the use of the word *restoration*. 'To restore' generally means to bring back a situation or a thing that existed before. For this reason, the act of environmental restoration has been criticized on the grounds of its being an imitation of natural power and based on the static image of landscape.[13] On the other hand, the Japanese word *saisei* (再生), which is often used as a translation of restoration, does not necessarily mean to bring back a former condition. *Sai* means again, and *sei* means to live or to let something live. Accordingly, this Japanese term is in fact closer to the meaning of

[13] See Section 1-2 for this discussion.

revitalization. I think that environmental restoration does not simply mean to bring back the conditions which existed in the past. It might result in the creation of new landscapes or in the development of sustainable communities through the transformation of social systems and values. The term environmental restoration will be used hereafter to mean both the restoration and revitalization of our environs.

3. The background of the research project

Field research incorporated in this dissertation has been conducted as a part of the Toki Island Project started in April 2007 (Global Environment Research Fund, the Ministry of Environment: F-072). A major goal of this project is to create feasible scenarios for environmental restoration in light both of the scientific research on the bird's habitat and the ecological conditions of the island, and of the consensus-building research for modifying scenarios in accordance with a variety of local concerns. Correspondingly, there are two main frameworks of the project: natural science and community science. The

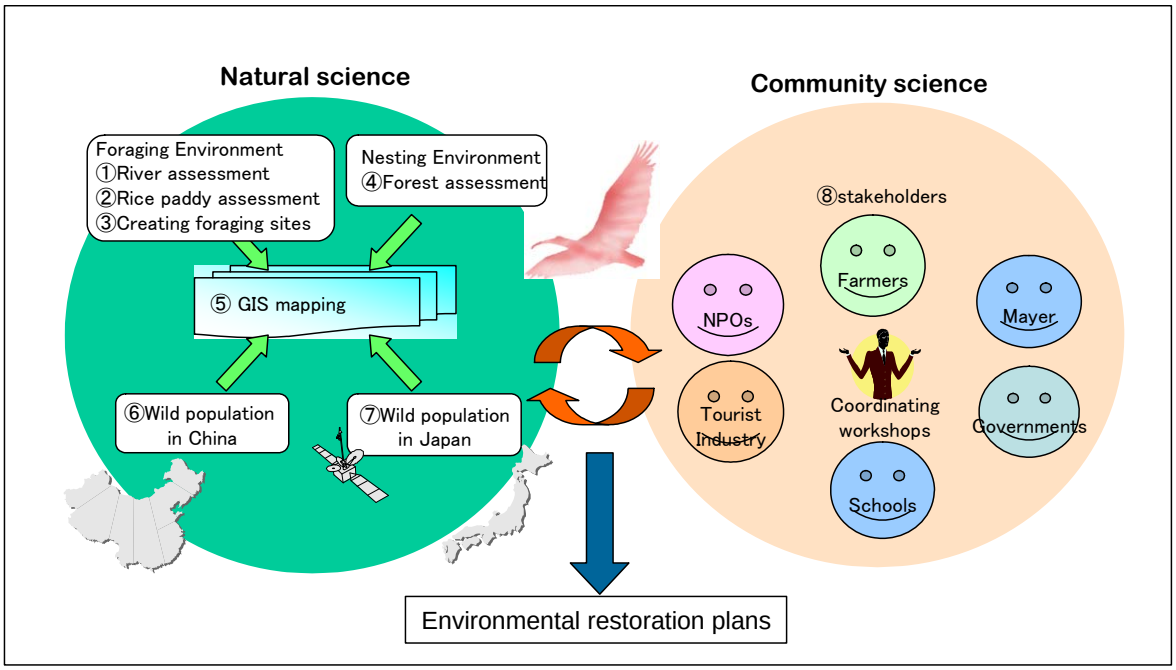

Figure 0.2 Structure of the research project

research within the former framework aims at the evaluation and improvement of the conditions of rivers, rice paddies, forests, etc. Appropriate environmental conditions for the settlement of the *toki* have been examined on the basis of the bird's foraging, roosting and nesting habits collected through the investigation of captive and released ibises in Japan as well as wild ibises in China. The pieces of information obtained herein are integrated using the GIS mapping system, and are deployed to evaluate the habitat condition on Sado Island. The research within the latter framework, community science, is concerned with establishing an adequate ground for the development of a sustainable community. In order to develop feasible restoration plans, it is extremely important to understand the values of the *toki* in local history as well as the manifold concerns pervading the everyday life of local people. It is also critical to build local networks and to consider together with local stakeholders the possible courses of environmental restoration. The field research included in this dissertation depends upon the activities conducted in this latter framework. A field-oriented approach is highly required in this governmentally funded restoration project as well. The task of the project includes encouraging people to participate in collaborative deliberation about local environmental issues and building a consensus among a variety of stakeholders with a view to the realization of the symbiosis with the *toki* rather than merely investigating local circumstances and concerns from the third person's perspective. The deep integration of field research into the development of theories is identified as a critical strategy of the project.

In terms of these two research frameworks, the Toki Island Project attempts to build scenarios for environmental restoration that take into consideration both ecological and social well-being. Figure 0.2 illustrates the structure of the research project.

The activities designed for this community-oriented research has been promoted by

the Toki and Community Research Team, consisting of university researchers, governmental officials, and a local resident. Most of its activities are carried out with the cooperation of municipal governmental bodies: Sado city and Niigata prefecture. The former is expected to play a central role in promoting the re-introduction project from the local perspective. Carrying out the initiative through island-wide activities poses, however, significant difficulties for the city. Sado Island has undergone a major municipal reformation in 2004 through the amalgamation of ten municipalities into one and the establishment of Sado city (*Sado-shi*). The promotion of activities beyond the former municipal distinction is still difficult because of the short history of this new municipality. To facilitate such activities in collaboration with the city is within the scope of our team's research.

As a member of this team, I have been examining the educational implications of its activities and attempting to establish a model of education for democratic environmental restoration.

The structure of this dissertation

In the course of establishing the framework of education, there are four critical aspects that need to be examined: what the goal of education is (goal), what the skills and attitudes to be cultivated to achieve this goal are (theme); who needs those skills and attitudes (target); and how they can be taught (method). These aspects are interconnected and form an educational framework under a certain educational goal.

This dissertation consists of three parts.

Part I focuses on the goal, themes, and target of education. I will promote theoretical investigation concerning environmental restoration on Sado Island and the ideas of

environmental education that are necessary for promoting democratic environmental restoration. It also provides the outline of the history of the preservation movement of the *toki*, focusing in particular on how different stakeholders such as local residents, governmental agencies and academic specialists have been involved in this movement. In order to understand what is necessary for the restoration of the social environment, I will set out to examine values, concepts, relationships, and policies associated with the *toki* preservation (e.g. ideas concerning species preservation and ecological restoration). One of the most serious concerns in restoring social environment in this context is how to cultivate autonomous actors who participate in the process of restoring local environments. I shall address the necessary educational approach in terms of the notion of autonomy. I will rethink the meaning of this notion by taking into account such concepts as community, democratic decision-making, and inquiry, and propose thereby a new interpretation of autonomy.

In Part II, I will shift the focus to the method of education. Since it is necessary to provide educational opportunities in which anyone can participate, I will focus on the communicative method of inquiry as an adequate approach to this education. I will examine an inquiry-based workshop from the aspect of environmental education aimed at the promotion of democratic environmental restoration. I will also show some practical results obtained through conducting a series of workshops called *dangisho*. Workshops held at schools will be examined separately in order to clarify its educational values in the schooling system. The analysis of practical results of the workshop will be based on new ideas and activities which have arisen through the workshop discussions. Part II also includes the examination of a multi-perspectival learning organization for the restoration of Lake Kamo, which has been developed as a result of the *dangisho* workshop with the

collaboration among local residents, governmental officials and university researchers. The system and activities of this organization illustrate what needs to be taken into consideration in order to secure the democratic value of learning, to empower diverse stakeholders, and to cultivate their autonomous competence to participate in collaborative environmental decision-making.

Based on the argument concerning educational practices in Part II, I shall develop in Part III a model of inquiry-based multi-perspectival learning for collaborative environmental restoration. I will clarify the meaning of establishing such a model and will develop a set of guidelines containing theoretical and methodological proposals. While I emphasize the necessity to develop the framework of environmental education in an adaptive manner on the basis of particular conditions, I will argue the importance of the *strategic* design of environmental education in order to secure its democratic value.

Chapter 1 The philosophy of environmental restoration in the re-introduction of the *toki*

Environmental restoration has been regarded as one of the critical concerns for the successful re-introduction of the *toki* on Sado Island. But why is the process of restoring environmental conditions so important in this project? This chapter explores the meaning of environmental restoration in the context of the re-introduction of the *toki*. In Section 1-1, the importance of the process of re-introducing the *toki* will be examined in light of the notion of the preservation of species. The idea that the uniqueness of species evolves through the dynamic interaction with its surroundings in the world leads to the recognition of the importance of *in situ* preservation of the *toki*. Since the current environmental conditions of Sado Island are considered inadequate for the survival of this bird, environmental restoration is identified as a necessary scheme towards the settlement of the bird.

The promotion of environmental restoration, however, has been considered controversial by some environmental thinkers who hold the strong nature/culture distinction. On the basis of the discussion concerning the legitimacy of environmental restoration developed in the field of environmental ethics (Section 1-2), I will argue that environmental restoration in the context of the preservation of the *toki*, in particular, cannot be understood in terms of such distinction. In Section 1-3, I will provide the basic information about the survival conditions of the *toki* and will consider what approach needs to be taken for the improvement of environmental conditions on Sado Island.

1-1 Taking a new turn by re-introducing the *toki*

The re-introduction of the *toki* is one of the major environmental projects promoted

in Japan with the governmental initiative. A large amount of financial, intellectual and human resources have been invested in order to carry out this project. Before examining the meaning of environmental restoration promoted within the framework of this project, it is important to ask why the re-introduction of the *toki* is such an important issue. Let me consider the value of this project from the aspect of species preservation.

"It is not preservation of *species* but of *species in the system* that we desire… The species *can* only be preserved in situ; the species *ought* to be preserved in situ."[1] In *Philosophy Gone Wild*, Holmes Rolston, one of the precursors of environmental ethics, poses an important issue concerning the attempt to preserve endangered species. As a result of a significant increase in the rate of extinction, the protection of species has become one of the top priorities of global environmental concerns. The World Conservation Union (IUCN), for example, develops the strategy for the preservation of species on a global scale. IUCN assesses the conservation status of species and publishes the Red List of Threatened Species in order to inform people about the severe degradation of biodiversity and to encourage them to take necessary actions to protect endangered species. Agenda 21 adopted at the United Nations Conference on Environment & Development held in 1992 also describes the necessity to promote the restoration of damaged ecosystems and the recovery of threatened and endangered species.[2] Since the destruction of habitats has been largely brought about by human activities, these policies suggest that we are responsible for taking some actions to prevent further loss of species.

The question "How can we preserve species?" might be answered in different ways depending on how one understands the notion of species. The conceptions of species have been transformed significantly over a long period of time, especially upon the emergence

[1] Holmes Rolston, III, *Philosophy Gone Wild* (Buffalo: Prometheus Books, 1989), 216, (italics in original).
[2] United Nations Environment Program, *Agenda 21* (1992), Chapter 15.

of the Darwinian evolutionary theory. In the pre-Darwinian age, the notion of species was employed to describe an eternal, immutable, and predetermined essence forming the individual living organisms. Plato's theory of 'Ideas' represents such an essentialist account of species. Species was placed in the unchanging realm of Ideas, which stands timelessly beyond our experiential world.

Aristotle, on the other hand, introduces the dimension of time into the concept of species by incorporating his view of causality into this concept. In the natural world, a certain life form reproduces an individual that possesses similar traits. The process of reproduction, according to Aristotle, is possible in virtue of a formal cause called *eidos* (species), which resides in each individual. Such a formal cause has the potential to transmit an essence of *a kind* and to let an individual actualize certain unique qualities.

Plato and Aristotle develop thus different accounts of species: the former presents a purely formal and metaphysical account, whereas the latter presents a causal and physical one. In spite of this difference, both interpretations are grounded on the immutability of species. Because of its immutability, the species was endowed with epistemic value, and could be studied in the context of scholastic discussion as a source of knowledge.[3] This aspect of species, however, came to be challenged as the theory of evolution began to develop in the nineteenth century. Charles R. Darwin shed light upon the mutability of species, and elucidated the relatedness among different species in his theory of natural selection.[4]

Darwin defines natural selection as a process that is fundamental to evolution. This

[3] Kuwako Toshio explains that the construction of knowledge is related to the acts of identifying, defining and categorizing the universal and common aspects of things in the world. In order to place epistemic value on species, it is necessary to connect this notion with universal commonality. See Toshio Kuwako, *Energeia: The Creation of Aristotle's Philosophy* (Hongo: University of Tokyo Press, 1993), 18–19 (in Japanese).
[4] Charles R. Darwin, *The Origin of Species* (London: J. M. Dent & Sons Ltd., 1971), 80.

theory holds that among a variety of individuals, those that possess the most advantageous qualities can survive severe environmental pressures. An important implication of Darwin's theory, which resonates with a foregoing remark by Rolston, is the inseparability of formal qualities of an organism from the conditions of its habitat. According to Darwin, the current biosphere is the product of the interaction among organisms, and between organisms and their environmental conditions. He writes, "Let it also be borne in mind how infinitely complex and close-fitting are the mutual relations of all organic beings to each other and to their physical conditions of life; and consequently what infinitely varied diversities of structure might be of use to each being under changing conditions of life."[5] Species go through a process of significant transformation over a long period of time by responding to their environs. The variety of species on this planet, according to Darwin's theory, is the product of the diversification of environmental conditions.

When Darwin published his evolutionary theory, he received various critical responses from other contemporary thinkers.[6] In particular, those who strongly insisted upon the theory of Divine Creation rejected Darwin's view as being incompatible with their religious beliefs. Nowadays, over a hundred years after the publication of Darwin's theory, the idea of interconnectedness among organisms, and between organisms and their environs, has become widely accepted in the field of biology. Yet, when we think about the meaning of re-introducing a species, it is important to remind ourselves the idea that a species is inseparable from its habitat. Even in the post-Darwinian age, this aspect of species does not seem to be sufficiently taken into consideration. Particularly, as a result of

[5] Ibid., 80.

[6] Darwin was not the first person who proposed the idea of the mutability of species. However, whereas other theories were not given enough attention, his theory brought about a specific controversy. L. Harrison Matthews, in his Introduction to *the Origin of Species*, explains that the reason why the Origin of Species raised a severe debate among Darwin's contemporary thinkers is because "Darwin collected a much larger mass of evidence in support of the theory than had others, and made his volume 'one long argument'." See Ibid., xiii.

recent advances in genetic science, one might be led to the misconception that the identity of a species is immanent in its genetic formation.

Richard Lewontin raises an issue concerning the shadow of essentialism still lurking in the field of genetic biology.[7] He draws our attention to the vague boundary between an individual life form and its environment. The title of his book, *the Triple Helix*, signifies such a boundless biological reality. Genetic information of an organism encoded in the double helix is expressed under the influence of the third strand, the environment. Although the notion of interconnectedness lies at the core of Darwin's evolutionary theory, Lewontin is still critical of this theory, which takes the environment into account only in the selective process. According to Lewontin, an organism and its environs interact much more deeply. Not only is the actualization of an organism affected by its surrounding things and conditions, but an organism also actively constructs its environment and transforms the surrounding things. Interactions between organisms and their environs, thus, advances in both directions. Lewontin calls this interactive aspect of the natural world "a coevolutionary process."[8]

On the basis of this account of a dynamic coevolving organismic world, it is possible to state that the goal of species protection cannot be achieved by merely protecting a group of individuals in an isolated, carefully controlled area. *In situ* preservation is not adequate if we consider the fact that a species is inseparable from its habitat. As Rolston writes, "Zoos and botanical gardens can lock up a collection of individuals, but they cannot begin to stimulate the ongoing dynamism of gene flow over time under the selection

[7] Richard Lewontin, *The Triple Helix: Gene, Organism, and Environment* (Cambridge: Harvard University Press, 2000).
[8] Lewontin, 126.

pressures in a wild biome."[9] Species is "a coherent, ongoing form of life expressed in organisms, encoded in gene flow, and shaped by the environment."[10] Lewontin will add to Rolston's argument that an organism also actively shapes its environment. The uniqueness of species evolves through this dynamic interaction in the natural world. Species preservation, then, needs to be considered in the light of this ecological interactiveness.

According to this conception of species, the preservation of the *toki*, which has achieved great progress through its success in captive breeding, has not as yet completed its important task. The *toki* in Japan has been protected in intensively controlled places since its last wild population was caught in 1981. In such a protected environment, the birds are safe and can flourish without any severe pressure from surrounding factors. They do not need to forage for food, to avoid enemies, and to find a place for building a nest. But as long as the birds are kept in this kind of environment, the essential goal of the preservation of *toki* will not be achieved. To protect the *toki*, thus, is to preserve their *living in a certain environment* that maintains their unique lifestyle. What is needed is to promote *in situ* preservation by releasing them outside the cage so that they will be able to become a part of a coevolutionary process on the earth. Accordingly, the attempt to re-introduce the *toki* has a significant meaning in the history of its preservation.

1-2 The debate on the legitimacy of environmental restoration

The process of re-introducing the *toki* is called *yasei-fukki* (野生復帰) in Japanese. The first part of this term *yasei* (野生) is usually translated as "wilderness," and the second part, *fukki* (復帰), as "to return." This term might thus lead to the idea that our task will be

[9] Holmes Rolston, III, *Environmental Ethics: Duties to and Values in the Natural World* (Philadelphia: Temple University Press, 1988), 153.
[10] Rolston. *Philosophy Gone Wild*, 210.

accomplished if we release the bird into a remote area away from human communities after developing its competence to fly, to feed itself, to avoid enemies, and so on. The aim of *yasei-fukki*, however, is not necessarily to re-introduce living organisms to a remote area. As I will explain hereinafter, the meaning of *yasei* in the case of the re-introduction of the *toki* is different from "wilderness," which in many cases signifies nature without human intervention.[11]

The *toki* is regarded as a bird of *sato* (里), a rural landscape that develops as a result of active human interactions with the surrounding natural things. This landscape consists of forests, rice paddy fields, streams, irrigation ponds, grasslands, human habitation, among others. Such a mosaic landscape signifies the human culture that grows in accordance with nature, and has been gathering people's attention as an ideal form of a nature-oriented human community.

The landscape of *sato* in Sado, like other farming villages in Japan, has been decaying due to depopulation and aging problems as well as the change in people's lifestyles. Forests are left without being maintained as a result of the decline of the domestic forest industry after the upswing in the cost-effective import of wood. More and more rice paddy fields are abandoned and turn into barren fields. The change in agricultural practices has also affected the conservation of the *sato*. The use of chemical fertilizers has made natural compost in the forest redundant. People no longer need to go

[11] With regard to the distinction between the cultural and the wild, Auguistin Berque argues that such distinction is a cultural phenomena generated through the development of human history. According to Berque, it is misguided to think that wilderness exists prior to human intervention. Rather, the notion of wild has developed as humans began to depend more upon artifacts for the sustainment of their lives and started to . If we take Berque's account, it is, first of all, fallacious to identify *wild* with the absence of human intervention. But I use the term wilderness here in a conventional sense to describe the separatedness from human culture. I will discuss the issue involved in the dichotomy between culture and nature later in this section in relation to the legitimacy of environmental restoration. Augustine Bergue, *Nihon no Fukei/Seiyou no Keikan: Soshite Zoukei no Jidai*, trans. Katsuhide Shinoda (Tokyo: Koudansha, 1990), 86–90, (in Japanese). Shuichi Kito also discusses the problem involved in the term wilderness. See Shuichi Kito, *Shizenhogo wo Toinaosu* 自然保護を問い直す (Tokyo: Chikuma Shobo, 1996), (in Japanese).

into the forest in order to sustain their farming. Furthermore, the use of agrichemicals has caused the decrease in the number of fish and insects in paddies. The degradation of the *sato* is posing a serious problem in terms of achieving the successful settlement of the *toki*. In order to achieve the *in situ* preservation of the *toki*, the restoration of *sato* is necessary. This process includes not only the restoration of such natural components as forests, rivers and marshes, but also the revitalization of the human activities that contribute to maintaining such a landscape.

However, whether or not we should promote the restoration of the natural environment has been a controversial issue in the field of environmental ethics. This issue is related to the adequacy of human intervention in the formation of natural landscapes. Two major thinkers who oppose the practice of environmental restoration are Eric Katz and Robert Elliot. It is instructive for the present discussion to pay some attention to their arguments.

The most famous but controversial essay written by Katz is "The Big Lie: Human Restoration of Nature." In this essay, he questions the human attempt to modify, manipulate, and control the processes of the natural environment. He is critical of the restoration policy and argues against its underlying optimistic assumption that "humanity has the obligation and ability to repair or reconstruct damaged natural systems."[12] Katz regards environmental restoration as a "form of domination" exercising the power of science and technology. In a different article, he writes, it is "an expression of a misguided faith in human omnipotence, the human power to control and shape the natural world."[13] Humans tend to think that it is possible to overcome the problems of environmental

[12] Eric Katz, *Nature as Subject: Human Obligation and Natural Community* (Lanham: Rowman and Littlefield Publishers, Inc., 1997), 95. "The Big Lie" appears in chapter 7 of this book with additional material on the work of the restorationist Steve Packard.
[13] Eric Katz, "The Problem of Ecological Restoration," *Environmental Ethics* 18 (1996): 222–224.

degradation by analyzing the causes of the problems and applying some technical solutions to them. Katz is, however, critical of such a stance, and questions why humans always try to control the natural world. What he thinks needs to be controlled is not nature but human activities. The belief in the restorability of nature, according to Katz, manifests a form of human arrogance that always seeks ways to dominate the natural world. Hence, he insists upon relinquishing such an attitude, and denies any justification to promote the practice of environmental restoration.

Elliot, on the other hand, develops his anti-restoration theory in the book titled *Faking Nature*. He takes a less radical position than Katz, and admits that there are some situations in which restoration needs to be conducted. But his default position is that it is not permissible to modify natural landscapes because not all values in nature can be restored through the process of restoration. He argues, for example, that naturalness, which signifies the value of not being modified by humans, will be lost by human intervention.[14]

Both arguments against restoration share in common a sharp conceptual distinction between the natural and the artificial. Although Katz regards humans as a part of nature, he contends that "there is a radical distinction between human artifacts and naturally occurring entities."[15] What makes artifacts different from natural entities is the presence of human intention. Katz writes, "Artifacts are the physical manifestation of human purpose imposed on the world of nature. An artifact would not be conceived, designed, or created unless it was thought to promote some human purpose."[16] All intentional human activities result in producing artifacts. Since environmental restoration is promoted with a certain

[14] Robert Elliott, *Faking Nature: The Ethics of Environmental Restoration* (London: Routledge, 1997).
[15] Eric Katz, "Another Look at Restoration: Technology and Artificial Nature," in *Restoring Nature: Perspectives from the Social Sciences and Humanities*, ed. Paul H. Gobster and R. Bruce Hull (Washington DC: Island Press, 2000), 39.
[16] Ibid.

intention, restored environments are always considered to be artificial.

The value of naturalness, which Elliot brings up in his argument, manifests the absence of human intention. If we intervene in natural things through restoring activities, they will be transformed into artifacts and lose their inherent natural value. Naturalness, once lost, cannot be retrieved through the effort of human beings. Accordingly, environmental restoration, which indicates a certain form of imposing human intentions, results in ruining this essential value of nature, and is therefore regarded as problematic.

Why do Katz and Elliot emphasize the dichotomy between the natural and the artificial? If we take into account that they are attempting to elucidate a metaphysical framework to distinguish between nature and culture, we will then encounter a conceptual problem that is difficult to be solved. William R. Jordan points out that if we presuppose a metaphysical distinction between nature and culture, and develop a dualistic conceptual category based on this distinction, restoration becomes "either invisible or repellent because it violates these basic categories, falling into the area of metaphysical ambiguity..."[17] One might argue that this metaphysical ambiguity does not exist for Katz and Elliot since they regard that all restored landscapes would become artificial. It seems, however, somewhat problematic to categorize all modified landscapes as artificial and to evaluate them as being less valuable than natural landscapes. As human beings, we need to interact with our *environs* like any other kind of life form. On the basis of Lewontin's notion of coevolutionary process, this interaction *per se* seems natural. Moreover, our intervention with surrounding things might result in creating better ecological conditions not just for human beings but also for other organisms.[18]

[17] William R. Jordan, "Restoration, Community and Wilderness," in Gobster and Hull, *Restoring Nature*, 24.
[18] Izumi Washitani points out that rice paddies and irrigation ponds have been providing environmental features that are important for the growth of biodiversity. The periodical and proper maintenance of forests

The dualistic argument that separates nature from culture has been criticized for alienating humans from the natural world. Some environmental ethicists regard this distinction as an unfavorable conceptualization that has been predominant in Western metaphysics, and attempt to eliminate it so as to find the locus of human beings in relation with nature. The views held by Katz and Elliot might carry theoretical difficulties since they are strongly rooted in such controversial metaphysics. Nevertheless, I argue that their arguments provide an important insight that makes us aware of a problem inherent in environmental restoration.

Both Katz and Elliot certainly develop their arguments based on an unfeasible metaphysical distinction, and acknowledge that there is a fundamental difference between natural entities and human artifacts. However, their central concern is to pose a practical rather than a metaphysical problem embedded in environmental restoration. Katz argues that the distinction between the natural and the artificial has "important consequences for understanding the meaning and value of policies of environmental restoration and management."[19] This distinction has been emphasized in order to signify potential threats that might brought about from the promotion of restoration projects.

The strong objections to ecological restoration raised by Katz and Elliot constitute a reaction against the pro-restoration position that it is possible to fully restore natural environments by means of technical solutions. In Elliot's argument, this position is illustrated in the *replacement thesis*, which holds that "destruction of natural area is permissible, because the value lost can be, and will be, restored," and that "the full value of some piece of the natural environment at any given time derives entirely from

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has also contributed to the diversification of environments. See Izumi Washitani, *Shizensaisei: Jizokukanouna Seitaikei no tameni* 自然再生－持続可能な生態系のために (Tokyo: Chuokoron-Shinsha, Inc., 2004), 103–106, (in Japanese).

[19] Katz, "Another Look at Restoration," 37.

characteristics or properties that can be replicated, reproduced or re-created."[20] His concern is that the belief in restorability might be used as a justification for further exploitation of natural landscapes. Thus, he states that "restoration certainly can restore some value and it is certainly morally required as restitution for earlier impermissble actions, but this is a far cry from the conclusion that the possibility of restoring value means that despoliation is not quite so wrong as it at first seems, let alone not particularly wrong after all."[21]

In the same vein, Katz worries that the promotion of environmental restoration poses the risk of being used as a justification for unnecessary development, which might, in turn, cause environmental degradation:

> What I am most concerned with – from an ethical perspective, from the perspective of an advocate of policy – is that once a general policy of restoration is justified, it will be used not only by right-thinking committed environmentalists but also by those who wish to continue to degrade and damage natural environments. The degraders and destroyers of natural ecosystems will have a perfect excuse for their activities: they can claim that they can restore the damaged ecosystem to its pre-existing state, or to a state that is functionally equivalent and as valuable as the original.[22]

Thus, he concludes, "it is necessary to emphasize the artifactuality of all human-induced restorations because of the danger of human hubris."[23] If nature restoration begins to be promoted officially through laws and policies, it might be abused as a justification for further irrelevant developments. To prevent this problem, both Katz and Elliot think it is necessary to reject any justification for the promotion of environmental restoration.

In fact, Katz and Elliot are not necessarily overemphasizing this inherent problem of environmental restoration. There is a possibility that unnecessary constructions are

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[20] Elliot, 75–76, and 79.
[21] Ibid., 113.
[22] Katz, "Another Look at Restoration," 45.
[23] Ibid., 46.

conducted under the name of environmental conservation projects. In Japan, restoration has been officially promoted under *the Law for the Promotion of Nature Restoration* enforced in 2003. Katz and Elliot would certainly argue that this law might be used as a legitimate justification to modify natural landscapes by those who are not seriously concerned with ecological well-being. However, in spite of the potentially negative consequences that restoration activities might bring about, I think that it is not possible to improve environmental conditions merely by upholding a conservative argument in the same manner as Katz and Elliot. In order to make practical improvements, the focus of our thinking should be shifted from "whether we should modify landscapes" to "how we should accomplish this task."

1-3 Environmental features of the habitat of the *toki*

Environmental restoration aimed at the re-introduction of the *toki* has been planned and implemented in order to create favorable environmental conditions for the successful settlement of this bird. The challenges at the pre-reintroduction stage include collecting the information about the bird's behavior and habitat and setting feasible goals towards which restoration is advanced. In particular, data on its feeding, roosting, nesting and breeding habits are critically important for the habitat restoration. The process of collecting these data, however, posed considerable difficulty because of the severe population decline of this bird. When the preservation of this bird started in Sado in the 1930s, there was only a small population of wild ibis in a mountainous area far from human communities. There was little information about the *toki* available at that time, even less about the conditions of its original habitat before its decline. Nevertheless, people who were engaged in the protection of the bird conducted steady research on the remaining birds and accumulated

valuable information about the behavior of the *toki*. Not only has the staff of the Conservation Center but also voluntary local residents put enormous effort into monitoring and investigating the features of the bird.[24]

The past data on the *toki* have been utilized in the design of the Re-Introduction Center established in 2007, in which selected captive ibises acquire important life skills such as flying, foraging and avoiding predators. The observation of the bird's behaviors at the station has been contributing to the further accumulation of data concerning the *toki*.

In addition to the information obtained through the research in Japan, more data on the wild ibis have become available as a result of the progress in ibis conservation in China. The conservation of the endangered crested ibis has been promoted in Yang County, Shaanxi Province. Since the rediscovery of this bird in 1981, its wild population has increased from seven to three hundred and sixty by 2004. The re-introduction of captive ibises into the natural environment has been attempted since 2004. The collaboration with China has resulted in great success in the captive breeding of this bird in Japan. The continuous exchange of information with China has also brought about significant effects on the development of the re-introduction project.

The environmental restoration plan in Sado has been developed on the basis of the data on the crested ibis accumulated both in Japan and in China. The basic information about the habits and habitat of this bird can be summarized under the four items below.[25]

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[24] Haruo Sato is one of the central figures who conducted the voluntary research on the wild population of the *toki*. While teaching accounting at high schools, he visited the habitat of this bird in the mountainous region and accumulated data about the features of this bird. His collection of dropping samples of the bird, for example, had contributed to disclosing its feeding habits. The overview of his research activity is summarized in Haruo Sato, *Habatake Toki: Toki Hogo no Kiroku* はばたけ朱鷺－トキ保護の記録, (Tokyo: Kenseisha, 1978), (in Japanese).

[25] The information about the habits and habitat of crested ibis was summarized on the basis of the following sources: Ding Chang-Qing, *Research on the Created Ibis* (Tokyo: Shinjusha, 2007); Yoichi Haruyama, *Toki Monogatari: Kaze no youni Hikari no You ni* トキ物語－風のように光のように, (Tokyo: Chuokoron-Shinsha, 1999), (in Japanese); Teruyuki Kobayashi, *Tokino Yuigon* 朱鷺の遺言, (Tokyo:

1. *Foraging site*: It is known that the *toki* forages for small aquatic organisms and insects in shallow water and in grasslands. The rice paddy has been regarded as an important foraging site for this bird. Loach is one of the most favored foods of this bird. In Japan, many loaches were released into paddy fields for the protection of the *toki* in 1970s by local residents. Beside loaches, the bird eats brown frogs (*Rana ornativentris*), freshwater crabs (*Geothelphusa dehaani*), grasshoppers, etc.

2. *Roosting site*. The crested ibis tends to have a fixed roosting site on the edge of the forest. The bird generally roosts in a group, and sometimes shares the site with other kinds of birds such as herons. The bird leaves the roosting site in the morning at sunrise and returns to it at around sunset. The roosting site changes in accordance with the seasonal cycle (see the item 4). The selection of the site depends upon the distance from a foraging site, safety, weather conditions, etc. Thick forest is not suitable as a roosting site for the ibis since this bird needs some space when perching on the branch.

3. *Nesting site*. It was believed that the *toki* is extremely sensitive to human disturbances and prefers to build a nest for breeding in forests isolated from villages. This understanding of nesting habits had been considered relevant since the last habitat of this bird on Sado Island was in a forested area up in the mountains of the Kosado region. The rediscovery of the ibis in China was also in the remote mountains in Yang County. However, this view is gradually changing in virtue of the observation of the behavior of the wild ibis in China. As the population grows, the habitat of this bird has been expanding into low-altitude regions with high human densities. In China, it has been reported that

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Chuokoron-Shinsha, 1998), (in Japanese);Xinhai Li, Dianmo Li, Yiming Li, Zhijun Ma and Tianqing Zhai, "Habitat Evaluation for Crested Ibis: A GIS-Based Approach," *Ecological Research* 17 (2002): 565–573;Sato, *Habatake Toki*; Yunshan Su and Akinobu Kawai, "Participatory Measures of Protection for Crested Ibis Nipponia Nippon and its Habitat: Comparative Case Study of Yang County, China and Niibo of Sado, Japan," *Journal of the University of the Air* 22 (2004): 57–70.

several pairs of crested ibis selected nest trees in farmers' yards.

4. *Annual life cycle*. On the basis of the research on the wild ibis in China, it has been elucidated that this bird moves its habitat in accordance with the seasonal cycle of the year. Its yearly activity can be divided into three periods: a breeding period (from February to June), an active period (from July to October) and a wintering period (from November to January). On the basis of this distinction, its habitat can be classified into three areas as follows. The bird breed in thinly populated forest patches, but, after reproduction, move to relatively more populated areas near paddy fields and farmland. Wintering habitats are located between these two areas. The annual life cycle of this bird indicates that its habitat might extend to a wide area.

These data on the habits and habitat of the crested ibis suggest what aspects we need to take into consideration in the process of promoting environmental restoration on Sado Island. The restoration of ecologically rich paddy fields and wetland is needed for securing foraging sites for the bird. One of the most serious issues concerning foraging is the shortage of food during winter when most paddy fields are covered with ice and snow. The amount of available food sources is relatively low in this season. In order to mitigate this problem, the conservation of biodiversity through the restoration of local rivers has been planned and implemented.

The maintenance of the forest is another necessary step. As mentioned earlier, forest environments are degrading due to depopulation, aging-society, the decline of the domestic forest industry, etc. In recent years, the invasion of bamboo has been causing the decline of biodiversity in the forest. Its constant maintenance is urgently needed in order to improve the conditions of the forest in Sado.

1-4 Environmental restoration as an act of cutting across the fact/value dichotomy

The basic information concerning the survival conditions of the *toki* briefly stated above is critically important for determining the courses of the environmental restoration project on Sado Island. On the basis of this information, people attempt to construct a setting of environmental features that are suitable for the settlement of this bird. Yet, it is problematic to consider that the task of restoration is accomplished by merely providing patches of land that seems to satisfy the survival conditions of this bird. *We restore and provide a niche for the toki, and the bird moves into a restored space.* The scenario for re-introducing the *toki* will not unfold in such simple terms.

In the light of the concept of *ecological niche*, Lewontin discusses a similar concern. He identifies a potential misunderstanding inherent in this concept, and writes, "the use of the metaphor of a niche implies a kind of ecological space with holes in it that are filled by organisms, organisms whose properties give them the right "shape" to fit into the holes."[26] Embedded in this view is a fallacious understanding about the relationship between organisms and their environments that there is a space called niche into which a certain organism moves and to which it becomes adapted. Lewontin argues that it is important to understand an ecological niche by taking into account the interrelatedness between organisms and their environs. As he puts it, "organisms determine which elements of the external world are put together to make their environments and what the relations are among the elements that are relevant to them."[27] Organisms actively participate in the process of constructing their environments. The *toki* itself plays a critical role in the

[26] Richard Lewontin, *The Triple Helix: Gene, Organism, and Environment* (Cambridge, Massachusetts: Harvard University Press, 2000), 44.
[27] Ibid., 51.

selection of its habitat and the creation of its niche. The interrelatedness between organisms and their environs implies that environmental restoration needs to be carried out in an adaptive manner by observing the consequences of their interactions. It is then necessary to study the habits and habitat of the *toki* after the release of the bird so that the preferences and responses of the *toki* can be incorporated into the restoration project.

Another critical dimension of the project of re-introducing *toki* lies in its social implication. The goal set by the Ministry of the Environment is to achieve the settlement of sixty ibises in the East part of the Kosado region; yet, a mere propagation of this bird is not the sole focus. One of the central concerns of this project is to accomplish the symbiosis between the *toki* and human beings. To do this, it is crucial to secure a sustainable life for local residents. Hence, besides the continuous search for the suitable environmental features for the *toki*, it is necessary to consider measures to enhance the quality of life in local communities.

As previously mentioned, paddy fields are the favored foraging site for this bird. The re-introduction of the *toki*, for example, is a serious worry to some local farmers because this bird has been known as a pest. It is often said that the bird caused serious damages on rice farming by foraging for food in paddy fields. If this problem happens again, local farmers will be forced to carry out the extra work of re-planting treaded rice. Moreover, some measures are expected to be adopted in order to conserve aquatic organisms in the fields, e.g. promoting organic farming, filling paddy fields with water all year round, creating a small waterway called *e* (江) inside paddy fields, etc. Conventional farming depending upon chemical fertilizers and insecticides needs to be reconsidered in order to restore ecologically healthy paddy fields. These measures are not thoroughly acceptable to some farmers because of their potential negative impacts on their business.

Without taking their worries into account, however, the restoration of farmland is not attainable.

There are further relevant concerns among local residents. For example, river restoration promoted under the aim of the protection of the *toki* might cause the degradation of downstream environments. Also, it might be criticized that the government is investing a huge amount of money in the re-introduction of the *toki* while neglecting urgent local issues such as depopulation and the aging society.

In order to attain the symbiosis with the *toki*, various sorts of social concerns need to be taken into consideration in the process of environmental restoration. Environmental restoration, therefore, is not an act that merely depends upon the data and methods of ecology and ornithology. Rather, it is an act that goes beyond such a narrow focus and integrates ecological and biological dimensions with diverse human experiences. What is required in promoting this task is a comprehensive perspective that connects different aspects concerning facts and values embedded in our environments. This engagement is intellectually challenging because our thinking is often based upon the nature/culture, fact/value, objective/subjective dichotomies. A comprehensive approach is possible when these dichotomic frameworks are cast away.

The problem with our dichotomical thinking is discussed by James J. Gibson, who coined the concept of *affordance* and explained the functional interrelationship between organisms and their surroundings. In *the Ecological Approach to Visual Perception*, Gibson describes affordance as that which the environment offers to the animal. It signifies the qualities to be measured in relation to organisms living in a certain environment. Such qualities cannot be measured by fixed scientific standards. Gibson explains that an affordance is neither an objective property nor a subjective property. It cuts across the

subjective/objective dichotomy and helps us to understand the inadequacy of such separation. This argument leads to the criticism against the separation between nature and culture:

> It is a mistake to separate the natural from the artificial as if there were two environments; artifacts have to be manufactured from natural substances. It is also a mistake to separate the cultural environment from the natural environment, as if there were a world of mental products distinct from the world of material products. There is only one world, however diverse, and all animals live in it, although we human animals have altered it to suit ourselves. We have done so wastefully, thoughtlessly, and, if we do not mend our ways, fatally.[28]

By adopting a comprehensive perspective, we identify the interconnectedness among various sorts of things, and see more clearly how we influence our environs, and *vice versa*. The recognition of this interconnectedness of the world, then, facilitates the acknowledgement of ethical moments embedded in one's experiences with one's surroundings.

It is only when we abandon the separation between ecological/biological and evaluative issues that we recognize that the environmental restoration for re-introducing the *toki* is much more than a mere technical concern. Indeed, it carries a profound ethical dimension concerning how we should relate to this bird as well as to other surrounding things and how we should live in a community on the earth. Environmental restoration needs to be promoted with this point in mind.

The main concern of this chapter was to consider what needs to be restored in the process of environmental restoration for the re-introduction of the *toki*. It has been pointed out that the restoration of the mosaic landscape of *sato* is a central consideration in the case of the restoration project on Sado Island. Moreover, the act of restoration needs to be understood outside the dichotomical framework that separates nature and culture. A

[28] James J. Gibson, *The Ecological Approach to Visual Perception* (Hillside: Lawrence Erlbaum Associates, Inc., Publishers, 1986), 130.

comprehensive perspective is necessary for recognizing the close interrelation among a variety of elements in our environments. In the following chapter, the focus will be shifted from “what to be restored” to “who need to participate in environmental restoration.” In the course of examining the agent of the restoration project, I will identify some problems involved in the promotion of environmental restoration on Sado Island, and will then consider a crucial task of environmental education for solving these problems.

Chapter 2 Actors of democratic environmental restoration

This chapter will focus on the examination of the actors of environmental restoration projects. A key idea embedded in the current policy of environmental restoration is the need for implementing projects in a democratic manner with the cooperation of various stakeholders (Section 2-1). The importance of implementing restoration in such a manner can be confirmed through the consideration of the problems posed by non-democratic environmental restoration as I will discuss in Section 2-2. Yet, the promotion of democratic environmental restoration is based on the presupposition that there are people who are willing to participate in the restoration project. This presupposition is not necessarily correct, as I shall attempt to demonstrate in Section 2-3. On the basis of the field research conducted on Sado Island, the problem of the lack of public interest in local environmental restoration will be examined. This examination will lead to the idea that agent-oriented environmental education is relevant in order to facilitate democratic environmental restoration (Section 2-4).

2-1 A variety of participants in environmental restoration

The project of environmental restoration always requires both a subject and an object. This is to say that it entails someone to restore and something to be restored. The object of restoration varies in each situation: it might be an area in tropical forest, desert, watershed or marsh; it might be a small site that consists of a few components or a large area that contains more complex orders. In Chapter 1, I mentioned that environmental restoration in Sado aims at restoring the landscape of *sato* containing various environmental components such as forests, rice paddy fields, streams, irrigation ponds,

grasslands and human houses as well as its human inhabitants. The object of restoration in this case is a complex, mosaic landscape developed as a result of human activities.

With regard to the subject of restoration, Andrew Light, who has developed a discourse on the social aspect of environmental restoration, argues that restoration "is necessarily tied to a participatory act by a human."[1] This statement is correct if we do not take into account, for example, the repair of the dam by beavers and the recovery of forests after wildfire as examples of restoration. As implied in Light's view, environmental restoration discussed in the field of environmental ethics mostly designates a form of human intervention—it is generally connected with the intention of human beings. In the context of my research on Sado Island, I use the term *environmental restoration* to signify a communal/governmental project carried out in order to create a sustainable environment for the achievement of a symbiosis with the *toki*. The process of restoration in this framework essentially depends upon human participation.

The question to be considered in this chapter concerns the kind of human participation that is needed when promoting environmental restoration. The Law for the Promotion of Nature Restoration enforced in 2003 by the Japanese government includes the following statement:

> Nature restoration shall be carried out with the cooperation of various actors in the community, including concerned governmental agencies, concerned municipal governments, local residents, specified nonprofit corporations, and individuals with specialized knowledge of the natural environment, in a voluntary and active manner.[2]

A key idea described in this statement is that there is a variety of participants involved in

[1] Andrew Light, "Restoration, the Value of Participation, and the Risks of Professionalization," in *Restoring Nature: Perspectives from the Social Sciences and Humanities*, ed. Paul H. Gobster and R. Bruce Hull (Washington DC: Island Press, 2000), 166.
[2] Law for the Promotion of Nature Restoration (LPNR), (Law No. 148, 2002), Article 3, http://www.env.go.jp/en/laws/nature/law_pnr.pdf.

the environmental restoration project. First, since environmental restoration is regarded as the process of bringing back the healthy functions of ecological systems, specialists in natural sciences play an important role in determining the directions of restoration projects. If a landscape to be restored contains various sorts of environmental components, we need to develop plans by incorporating opinions from different specialists. For instance, when we restore a watershed area, it is necessary to invite river engineers, ecologists, and specialists in fish, botany, entomology, etc. in order to build scientific strategies for how to restore a given watershed environment.[3]

Secondly, since environmental restoration is often conducted as a part of public works, for the public welfare, and/or at the site owned by the government, governmental officials also participate in designing and implementing restoration projects. Depending on the scale of the project, both local and central governments may take part in the project. In the case of environmental restoration in Sado, three ministries (the Ministry of Environment, the Ministry of Agriculture, Forestry and Fisheries, and the Ministry of Land, Infrastructure, Transportation and Tourism) and two municipalities (Niigata Prefecture and Sado City) are involved.

The participation of specialists and governmental officials is a fundamental requirement for environmental restoration that involves the transformation of landscapes consisting of various environmental components. This collaboration, however, is not sufficient for promoting practical and sustainable restoration. Local residents need to be recognized as the primary stakeholders in restoration projects. In other words, environmental restoration projects need to be carried out in such a way as to fulfill their

[3] A crossdisciplinary approach has been considered critical to restoration ecology. See, for example, Sarah Mika, Andrew Boulton, Darren Ryder, and Daniel Keating, "Ecological Function in Rivers: Insights from Crossdisciplinary Science," in *River Futures: An Integrative Scientific Approach to River Repair*, ed. Gary J. Brierley and Kristie A. Fryirs (Washington: Island Press, 2008), 85–99.

democratic value.

The word *democracy* is used to signify two kinds of decision-making system: a representative form of decision-making and a participatory one. The former designates the system in which public opinions are reflected throughout the discussion among elected representatives. The current political system of democratic nations is based on representative democracy. The latter, by contrast, emphasizes the inclusion of citizens in the actual process of decision-making. When dealing with complex social issues that involve a wide range of public interests, it is difficult to have a small group of people (representatives) adequately representing all the significant interests of the whole society. The participatory form of democracy is grounded in the view that the actual involvement of various stakeholders is necessary in order to realize the impartial consideration of public interests. The system of participatory democracy gradually began to be incorporated into political decision-making through the implementation of such processes as public involvement and public hearings.[4]

In order to promote environmental restoration in a democratic way, the Law for the Promotion of Nature Restoration calls for the establishment of a committee consisting of concerned governmental bodies, local residents, specialists, etc.[5] According to this law, the committee is supposed to be in charge of the following tasks: (1) drawing up the overall plan for nature restoration, (2) discussing the drafted implementation plan of the nature restoration project, and (3) conducting communication and coordination for implementing the environmental restoration. This organization supervises therefore all the stages of the environmental restoration project from planning to implementation, and has a significant

[4] For the different forms of public participation and their contributions to the democratic decision processes, see, for example, Thomas C. Beierle and Jerry Cayford, *Democracy in Practice: Public Participation in Environmental Decisions* (Washington, D.C.: Resources for the Future, 2002).
[5] LPNR, Article 8.

influence upon the promotion of the project. Although it is stated that the committee needs to include local residents, this organization is a closed system, and signifies a representative form of democracy. The establishment of the committee might be necessary and effective for choosing the supervisor of the project as well as for coordinating the project from various perspectives; however, it does not seem sufficient for promoting genuinely democratic environmental restoration. A variety of concerns held by potential stakeholders cannot be represented merely by a few local members of the committee. In order to facilitate an environmental restoration project in a democratic manner, it is enormously meaningful to employ a participatory process of decision-making.

There are, however, some inherent difficulties with regard to the encouragement of greater public participation. First, a fundamental difference lies in the participatory manner between specialists and governmental officials on one hand, and local residents on the other. The former participates in the project as a part of their work, whereas the latter is often required to work as a volunteer. Although environmental restoration concerns all the people living in the targeted area, local residents might feel that to participate in the project is to consume their time with extra work. Second, if we invite a variety of people with a wide range of interests, we might encounter more conflicting values as well as negative opinions against the restoration project throughout the process of decision-making.

In spite of these potential difficulties, democratic participation is critical to the promotion of environmental restoration. This means that not only environmental specialists and governmental officials but also local residents become the subject of environmental decision-making.[6] Hence, I will address the following key questions: Why should

[6] Natsuko Hagiwara also discusses the necessity of identifying all these three parties as important decision-makers. She holds the position that the subject of decision-making is not limited to one particular agent. It is crucial to include a variety of people in the process of environmental decision-making in order to

environmental restoration be democratic? Why is it necessary to include various participants in the restoration project?

2-2 The problem of professionalization

All restoration projects inherently contain democratic potential. Andrew Light holds this view and argues for the necessity to make efforts to enhance the democratic value of restoration projects. Whether or not this potential is brought out depends, according to him, upon how the activities of restoration are carried out. His central concern is to secure *equal participation*: environmental restoration should invite all people, not only specialists and governmental agencies, but also anyone who is concerned with the area to be restored.

In his essay titled "Restoration, the Value of Participation, and the Risks of Professionalization," Light draws our attention to the problem of *professionalization*, by which he means the limitation to the access of the public.[7] He argues that, in spite of their democratic potential, many restoration projects limit the public participation in order to avoid the possible conflict that arises as a result of diverse ideas and values presented from different perspectives. For instance, by employing a scholarly vocabulary, which is not comprehensible for the majority, experts restrict the information to be shared publicly, and thus compromise the democratic potential of environmental restoration.

This problem, I think, is also associated with the epistemic belief that specialists have a better understanding of environmental issues. Scientific analysis has been emphasized as a means to obtain correct interpretations of issues in the field of ecology. Specialists, who employ scientific methodology, tend, accordingly, to be regarded as the

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integrate a variety of aspects involved in environmental issues. See Natsuko Hagiwara, *Citizens' Research Activities on Environment and the Creation of <Shimin-chi>* 市民力による知の創造と発展, (Tokyo, Toshindo, 2009), 4, (in Japanese).

[7] Light, "Restoration, the Value of Participation, and the Risks of Professionalization."

upholders of convincing knowledge of *the* environment. Because of this belief, local residents, although they might have profound awareness and understanding of the changes in local environmental conditions, tend to be treated as laypeople, who need to be educated and to be guided by environmental specialists. This hierarchical relationship between specialists and local residents, however, is not necessarily adequate at least in the context of environmental restoration. Rather, I argue that to promote restoration merely from the specialists' viewpoint carries the risk of ignoring the diverse meanings of the environment and of inducing unfavorable or unsustainable consequences of restoration projects. There are at least three reasons behind my view.

The first reason is based on the discussion to which I referred in the previous chapter that environmental restoration needs to take into account both ecological and social well-beings. The restoration project accompanies the transformation of the land, which is the place for dwelling for local residents. This point is especially important for a proper understanding of the restoration policy in Japan: the target of restoration is the mosaic landscape consisting of such components as forests, rice paddy fields, streams, irrigation ponds, grasslands, and human domicile, rather than a remote area isolated from human communities. Environmental restoration results in alterations in local environmental conditions and influences thereby the lives of people who dwell there. Accordingly, local residents should be recognized as primary stakeholders of environmental restoration as I pointed out above.

The second reason is a technical issue concerning the maintenance of restored landscapes. The project of restoration might be conducted within a certain time span; however, the act of managing the restored environment will continue even after the end of the project. Environmental restoration is not completed merely by altering a number of

environmental conditions in the targeted area. It requires ongoing actions to keep and improve restored landscapes in response to the continuous change in environmental conditions. Restoration projects promoted by governmental bodies, however, do not necessarily include the maintenance process, and thus, might fail to produce sustainable consequences. The sustainability of restoration largely depends upon the cooperation of local residents. The promoter of the project needs to remember that the maintenance becomes difficult without local participation, and that it is important to consider with local people how to develop sustainable landscapes.

The third argument is concerned with the pluralistic valuation of the environment, and the necessity of a non-hierarchical consideration of the full range of values. Reiko Seki, who promotes research in environmental sociology by actually participating in environmental conservation activities, explains the problem of neglecting local voices by comparing the gap between two kinds of interpretation of the environment: "the objectified nature (対象化された自然)" seen from an external viewpoint and "the lived nature (生きられる自然)" seen from a local viewpoint.[8] The former signifies the environment perceived on the basis of scientific interests and globally acknowledged environmental concerns, whereas the latter includes aspects that are felt and recognized in everyday experiences. Seki points out that environmental protection and conservation merely promoted from specialists' perspectives pose a threat, in that they tend to look at the environment only as objectified nature and to overlook diverse human relationships with their surroundings and the unique values that arise from people's daily experiences.

Underlying this argument is the pragmatic view that we must be aware of the

[8] Reiko Seki, "Shizen wo Meguru Goui no Dezain (自然をめぐる合意の設計)," in Sumio Matsunaga ed., *Kankyo: Sekkei no Shisou* (環境－設計の思想), (Tokyo: Toshindo Publishing Co., Ltd, 2007), 129–156, (in Japanese).

profound and complex value structure of the environment constructed through actual human experiences. We also must be aware of the possibility of discovering and creating new meanings through our ongoing interpretation of the environment. In order to describe the depth of the value structure of the environment, Toshio Kuwako coined the term *kukan no rireki* (空間の履歴), which I shall translate as *spatial portrait*.[9] This term captures the environment not merely as the physical manifestation of things but also as the chronicle of events and experiences accumulating over a long period of time. The meanings and values of the environment evolve, indeed, as myriad events and experiences take place in this world. Our experiences might go beyond the common framework of scientific comprehension, which is mainly based on numerical and analytic evaluations of things. Historical and aesthetic significance, for example, also needs to be counted as an integral part of environmental values. Although science has been favored as an approach to a proper account of nature, it is a serious mistake to assume that our perception of the environment should be interpreted merely in terms of the natural science. The concept of spatial portrait suggests that it is of the utmost importance to interpret the meanings of our surroundings within a comprehensive framework.

Because of each individual's epistemic limitation, it is necessary to bring different perspectives together in order to achieve a more comprehensive understanding of environmental values. Each of us tends to remain trapped within our own theoretical structures and interpretations of the world. This limitedness is problematic especially when dealing with environmental issues, which are generally complex. Kuwako cautions that if restoration is carried out by a small group of people (e.g. experts and governmental officials) with their narrow understanding of the local environmental conditions, the

[9] Toshio Kuwako, *Kankyo no Tetsugaku* (環境の哲学), (Tokyo: Kodansha Ltd., 1999), (in Japanese).

restored environment will be impoverished since the profoundness of environmental values might remain unrecognized.[10] A better understanding of the environment is possible in the light of the diversification of perspectives when the interaction among manifold participants is encouraged. Sustainable environmental restoration will follow such an understanding that accommodates the diversity of attitudes and preferences emerging in a community.

2-3 The problem of the lack of interest among local residents in Sado

The participation of various actors, e.g. natural scientists, governmental officials and local residents, is necessary for the realization of democratic environmental restoration. To further this participation, I have argued that we must reflect upon what Light calls the problem of professionalization and try to find ways to involve the wide range of stakeholders in environmental restoration. Local participation is indispensable for the sustainable restoration project because: (1) environmental restoration calls for the change in the conditions of local life, (2) the maintenance of restored landscapes is possible only in virtue of the cooperation of local residents, and (3) the comprehensive understanding of diverse environmental values is possible only by bringing different perspectives together.

This theoretical examination of the values and strategies of public participation provides us with some helpful guidelines on what needs to be undertaken for democratic environmental restoration. Nevertheless, as a result of the field research in Sado, I have come to recognize that the foregoing discussion fails to take into account an essential condition necessary for implementing a restoration in a democratic way.

The promotion of democratic environmental restoration is based on the fundamental

[10] Ibid., 15–21.

assumption that there are people who are willing to participate in the restoration project. If people are not interested in the project, it is not possible to attain the cooperation of various actors in a voluntary and active manner. In other words, any activity of restoration cannot realize its democratic potential if people are forced to participate in that activity. The presence of the agent is, therefore, a fundamental premise that underlies the implementation of democratic environmental restoration. This assumption, however, is not necessarily satisfied in actual situations, for one thing, not all people are concerned with environmental issues and environmental restoration in their local communities. This problem is critical in the case of the environmental restoration promoted on Sado Island.

The main problem I have identified during the field research in Sado is the lack of interest in the *toki* issue among local residents. By talking to people in different districts in Sado, I have realized that this problem could be found all around the island. Outsiders think that the re-introduction of the *toki* is an important ecological issue of Sado. Many people on this island, on the other hand, tend to think that the *toki* issue has nothing to do with their life. There are certainly some local activities aimed at creating a favorable environment for the successful settlement of *toki*. For example, some groups of people and individuals promote eco-friendly farming, build biotopes, and engage in other nature conservation activities. However, the majority of local residents had little interest in the *toki* issue when I started my research in May, 2007. The reintroduction of this bird was still not a part of people's daily concerns. In spite of the lack of public interest, local participation is indispensable for promoting democratic environmental restoration. In order to make practical achievements towards such restoration, it is necessary to consider the roots of this problem. On the basis of the investigation of local political and social issues, I identify two main causes underlying people's lack of interest: 1) regional discrimination in

the *toki* preservation movement, and 2) a gap of values among the different stakeholders.

2-3-1 Regional discrimination by political zoning

The level of public concern for the *toki* issue varies in different districts on Sado Island. The *toki* preservation movement has been promoted mainly around the Niibo district, where the Sado Japanese Crested Ibis Conservation Center and the *Toki* Re-Introduction Center are located. This district is known as the last habitat of the wild ibis in Japan. In 1959, local volunteers established groups for the protection of this bird and took the initiative of this movement with the help of people from surrounding areas.

In order to promote the preservation of the *toki*, the Ministry of Environment has designated a bird sanctuary in 1982 around the Niibo district on the basis of the information about the last habitat of this bird. The sanctuary was extended to the southeast part of the island in 2007 and has been identified as the core zone of the *toki* re-introduction project.[11] Most restoration activities have been taking place inside this zone, partly because governmental financial support for these activities has been distributed mainly within the area. Thus, people who live in this zone show a *slightly* higher interest in the conservation of the *toki*.

Because of this regional discrimination by zoning, people who live outside the core zone tend to think that the *toki* preservation is an issue that concerns the Niibo district alone. Such an understanding is not adequate in terms of two feasible consequences. First, there is a possibility that the habitat of the bird expands outside this zone. Once the birds are released to the natural world, they are free to fly anywhere they like. If the bird starts to live outside the core zone, environmental conditions of that place become important for the

[11] Toki Hogo Zoushoku Jigyou Keikaku トキ保護増殖事業計画, http://www.env.go.jp/nature/yasei/hozonho/*toki*2.pdf, 2004.

survival of the *toki*. The bird might also have a considerable impact on the life of the people who dwell there. Second, the release of the *toki* might indirectly influence the life of all residents on Sado Island through the changes in agricultural regulations, environmental regulations, the tourist industry, and so on. Even if the released birds remain inside the core zone, these secondary influences might extend to the outside.

Zoning is to set a boundary in order to differentiate a certain area in light of the policy. The problem with this act, according to Hiroyuki Torigoe, is that zoning, even in the context of environmental restoration, reflects political interest rather than ecological necessity, and does not necessarily accord with local communal lives.[12] Kuwako points out a similar problem. In *Kankyo no Tetsugaku*, he argues that zoning results in transforming the land in the light of certain external (non-local) values. These values are generally brought in with little consideration of the uniqueness of local conditions.[13]

Zoning in the context of the *toki* preservation has resulted in the exclusion of potential stakeholders and the decline in people's interest in this issue. Although zoning might be inevitable when establishing restoration plans with a limited budget, it is important to remember that such a regional discrimination carries the potential threat of making us blind to possible influences that might take place outside the circumscribed zone.

2-3-2 The gap of values: bureaucratic versus local concerns

There are several key environmental concerns that have been emphasized in the preservation of the *toki*: the scarcity of the species, biodiversity, multi-functional

[12] Hiroyuki Torigoe, "Ningen ni totteno shizen 人間にとっての自然," in *Environmental Sociology in Japan: Natural Environment and Environmental Culture*, ed. Hiroyuki Torigoe, (Tokyo: Yuhikaku, 2001), 1–23.
[13] Kuwako, *Kankyo no Tetsugaku*, pp. 228—235. See also Toshio Kuwako, *Fukei no Naka no Kankyo Tetsugaku* 風景の中の環境哲学 (Tokyo, Tokyo University Press, 2005), 75–88.

agriculture, ecological infrastructure management, etc. All of these concerns are considered significantly important in order to build a sustainable environment not only for the *toki* but also for local communities; however, they are not necessarily appreciated by the majority of local residents. In order to involve more people in environmental restoration activities, it is important to attempt to build connections between general environmental concerns and people's daily concerns so that they can discover the meanings of such activities in their everyday lives.

A similar problem could be found in the case of the re-introduction of the stork (*Ciconia boyciana*) implemented in Toyooka, Hyogo, in 2005. Naoki Kikuchi, who conducted the sociological research in the stork project, explains the problem of a disconnect between local and official values in the stork protection movement.[14] The stork, like the *toki*, had lived close to human communities, and has been a part of local people's everyday life. The reintroduction of the stork was, thus, an issue strongly connected to the management of local communities, and required intensive public participation for the development of a sustainable environment. However, local people were not necessarily concerned with this issue. One of the reasons for this lack of concern, according to Kikuchi, was that the protection movement of the stork had been emphasizing mainly values disconnected to local people's everyday experiences. There was a gap between the bureaucratic and the local concerns.

Kikuchi explains that the discussion about the reintroduction of the stork had mainly evolved in light of the value of species protection. This value has been the center of academic and scientific interests in the project, and has also been widely appreciated in the global environmental protection movement. But this sort of general environmental value

[14] Naoki Kikuchi, *Yomigaeru Kounotori: Yaseifukki kara Shizensaisei he* 蘇るコウノトリ－野生復帰から地域再生へ(Tokyo: Tokyo University Press, 2006).

fails to account for local people's actual relations with the stork. He states that people in Toyooka have been developing unique relations with the stork and other surrounding life forms and natural things through their daily activities such as farming. Moreover, *kounotori*, the Japanese name for the stork, was not familiar to elder people. Since people in Toyooka used to call the stork *tsuru* instead of *kounotori*, the latter name sounded unfamiliar to them. The local relationships with the stork could not be represented by the name of *kounotori*.[15]

Kikuchi warns that if academic specialists and governmental officials try to involve local residents in the stork protection movement merely in the light of general environmental values, this might result in enforcing scholarly interests to the public. In order to avoid such imposition, he emphasizes the importance of uncovering local relationships with the stork by analyzing the social, cultural, and historical contexts of local communities. Accordingly, he conducted a regional survey about the stork and local communities through interviews with a large number of local residents.[16]

Along the same line, there is a gap between bureaucratic and local concerns in the conservation of the *toki* on Sado Island. General environmental values that I listed in the beginning of this section are all imported concepts, and are literally foreign to local residents. A mere presentation of these values does not necessarily motivate people who are more concerned with other local issues, e.g. local industry, social welfare, depopulation and aging society. These particular and diverse concerns that arise in their everyday life lie at the heart of their daily contemplation. If these concerns are neglected, it is not possible to consider both ecological and social well-beings. In order to encourage local residents to

[15] Ibid., 99–104.
[16] Kikuchi conducted 313 interview sessions with 414 local residents. All sessions were recorded using audio tapes and analyzed in order to uncover diverse ideas and values embedded in conversation. See Ibid., 122–127.

participate in restoration activities in a democratic way, it is necessary to find a way to fill in this gap of concerns.

2-4 The need for cultivating environmentally autonomous participants

To sum up the foregoing argument in this chapter: I started by explaining the need for promoting democratic environmental restoration through the identification of some problems involved in non-democratic (professionalized) environmental restoration, in which only experts take the initiative to determine restoration plans. But if environmental restoration is to be planned and implemented in a democratic way, there is another problem to be considered: the lack of public interest in the conservation of the *toki*. Due to this problem, the project of environmental restoration fails to secure voluntary participants and to fulfill its democratic value. The deficiency in participation is a serious issue that needs to be addressed in order to realize democratic environmental restoration.

The main challenge in the development of democratic environmental restoration on Sado Island is to find ways to raise public interests in the *toki* issue and to facilitate people's participation in the project. One of the approaches to this challenge is to carry out environmental education focused on the empowerment of stakeholders. The next step of my dissertation research is to clarify what is expected when promoting this agent-oriented environmental education.

As a starting point for establishing a basic framework for this education, let us recollect two problems associated with the lack of public interest in the *toki* issue. The first problem is the regional discrimination by zoning. Owing to the establishment of the core zone for the *toki* preservation, people who live outside this zone tend to be excluded from the preservation activities and to have less concerns with this issue. However, as I argued,

such discrimination is inadequate. Environmental education thus should be promoted with no regard to such regional discrimination.

The second problem is the gap between bureaucratic and local concerns. Although general environmental values expressed in environmental policies are important for creating sustainable environmental conditions, it is not appropriate to merely enforce these values to the public in the context of democratic environmental restoration. As discussed in Section 2-3-2, the values we encounter in our daily life are so diverse and complex. For example, Holmes Rolston, one of the foremost thinkers in environmental ethics, lists fourteen values carried by nature: life-support value, economic value, recreational value, scientific value, aesthetic value, genetic-diversity value, historical value, cultural-symbolization value, character building value, diversity-unity values, stability and spontaneity values, dialectical value, life value, and religious value.[17] In addition to these environmental values, people hold a variety of values concerning their sustainable communal life. Democratic environmental restoration requires building consensus among various participants and making practical progress towards the improvement of local environmental conditions. Such a process of decision-making incorporates diverse values expressed by a variety of stakeholders. According to Bryan G. Norton, who has developed a pragmatic account of environmental evaluation, we can generate win-win situations only in the light of such a pluralistic view.[18] It is thus important to integrate diverse value issues

[17] Holmes Rolston, III, *Enviornmental Ethics: Duties to and Values in the Natural World* (Philadelphia: Temple University Press, 1988), 3–27.

[18] Norton writes, "…we embrace pluralism as the best *starting point* in the search for improved theories and expressions. Pluralism encourages us to think of environmental conflicts as problems of choosing among multiple goods, not all of which can be fully supported with available resources, rather than as problems of maximizing a single kind of good such as intrinsic value or economic efficiency. This formulation encourages a search for creative, win-win situations; and sometimes it is possible to form coalitions of citizens and groups who support common objectives on the basis of very different values…"See Bryan G. Norton, *Sustainability: A Philosophy of Adaptive Ecosystem Management* (Chicago: The University of Chicago Press, 2005), 200.

in environmental education and to consider the toki issue in relation with other various social concerns. Environmental education should take into consideration the importance of comprehensiveness in the course of comprehending environmental values.[19]

In addition to these two points, it is significantly important to recollect that people's voluntary attitude and capacity is the focus of education. In the introductory chapter, I employed the term "agent-oriented education" in comparison with "content-oriented" in order to describe such an educational focus. The difficulty in agent-oriented education is that a mere explanation of the *toki* and associated ecological issues is not sufficient for accomplishing its important task. Since the aim of such education is to cultivate people's interests and capacities to participate in the environmental restoration project, their empowerment lies at the center of educational concerns. It is therefore critical to enable people to actively participate in decision-making processes concerning the courses of restoration in order to create sustainable environmental conditions for the symbiosis with the *toki*.

What lies at the heart of such empowered agents is *autonomy*, which designates one's purposive attitude and capacity to make responsible practical judgments. Specifically, I employ the term *environmental autonomy* to address vital attitude and capacity in the context of environmental decision-making. As I argued in introduction, however, it would be problematic to simply employ this concept in the consideration of the framework for environmental education. The meaning and value of autonomy has been discussed in ethics mainly on the basis of the interpretation of this concept by Immanuel Kant. Whereas

[19] Robin Attfield, for example, appreciates Rolston's list of natural values, since "it attempts to encompass goods which anyone making decisions for a human community must take into account, as well as the values which specially arise in environmental contexts." He then states, "The only way to avoid myopia in value-theory is to aim at comprehensiveness." See Robin Attfield, *Environmental Philosophy: Principles and Prospects* (Vermont: Ashgate Publishing Company, 1994), 215.

Kantian notion of autonomy has made a significant contribution to the realization of a free moral agent and has been influential as a polestar of understanding responsible personhood in the field of education, it also carries a number of theoretical and practical difficulties. While I focus on people's voluntary attitude and capacity for practical decision-making, my interpretation of autonomy is not the same as Kant's. In the next chapter, I will first proceed to a theoretical examination of the notion of autonomy developed by Kant. Through this examination, I will then consider the qualities that are necessary to become autonomous in the context of environmental decision-making and clarify essential education themes for the cultivation of people's environmental autonomy.

Chapter 3 Towards Cultivating Environmentally Autonomous Actors

In order to consider the framework of environmental education for facilitating people's voluntary and active participation in restoration projects, I will examine what skills and attitudes are necessary for this participation. The concept of *autonomy*, which has been used in ethics to designate the quality of a morally responsible person, illuminates the essential quality of empowered agents. Since the purpose of this dissertation is to establish an educational framework that contributes to facilitating democratic environmental restoration, the focus on empowerment carries a significant implication.

This chapter starts from the examination of the concept of autonomy developed by Immanuel Kant in his moral theory. His definition has been the primary source of the conventional understanding of this concept. I give an outline of his argument in Section 3-1, and identify key aspects that characterize his conception of autonomy. Although Kant's interpretation of autonomy is still influential in modern ethics, it does not seem to provide the most adequate account for understanding the aspects of an environmentally responsible agent. Section 3-2 highlights some difficulties emerging from the metaphysical account of autonomy in Kantian ethics. As an alternative approach to understanding this notion, Section 3-3 focuses on the pragmatic interpretation of autonomy—particularly on the concept of communicative autonomy developed by Tim Sprod, which provides the interpretation of autonomy in the communal context. On the basis of Sprod's communicative autonomy, I will consider what skills and attitudes are needed for participating in environmental restoration and identify the critical aspects of the notion of environmental autonomy in Sections 3-4 and 3-5.

3-1 The concept of autonomy in Kantian ethics

The philosophical discourse regarding "autonomy" was inaugurated by Immanuel Kant, who highlighted this concept in the search of the ultimate ground for morality. According to Kant, autonomy is the ability to act in accordance with moral laws because the individual wills to do so. In virtue of this ability, we will to follow our innate practical reason, which is capable of legislating universal moral principles. Kant distinguishes autonomy from heteronomy of the will. The latter is bound to social circumstances, natural dispositions, and personal desires and preferences, whereas the former is free from these conditions. Autonomous beings are not forced to act morally by any external source. Rather, they choose right courses of action because they *will* to do so. Accordingly, Kant thinks that the moral worth of conduct lies in this volition or motive of an actor.[1] If one helps others in order to obtain fame or reward or to feel delighted by making them happy, he/she is not acting morally in a genuine way.[2] A moral agent is the empowered being who choose right conduct for his/her reverence for moral law, and this motivated attitude gives moral worth to an action.

There are two key aspects that characterize Kantian interpretation of practical judgment: *individuality* and *universality*. Kant's autonomy designates a self-directing, solitary person who is not dictated by any external source, *viz*. the individual detached from surrounding factors such as social and cultural conditions as well as from other individuals. Practical reason is the faculty that Kant identifies in each rational being. In order to be moral, Kant thinks that we should rely upon our internal faculty of practical

[1] Kant writes, "An action done from duty has its moral worth, not in the purpose to be attained by it, but in the maxim in accordance with which it is decided upon; it depends therefore, not on the realization of the object of the action, but solely no the *principle of volitio*n in accordance with which, irrespective of all objects of the faculty of desire, the action has been performed." See, Immanuel Kant, *Groundwork of the Metaphysic of Morals*, trans. H. J. Paton (New York: Harper and Row, Publishers, Inc., 1964), 13. The numbering refers to the pages of the *second* edition of the original text.
[2] Ibid., 10.

reason, which resides in each of us in a perfect form. This reason reveals what we ought to do, and the autonomous will accedes to this. Every rational being is capable of acting morally by following what reason legislates.

Since everyone is actually conditioned by his/her social, cultural and personal dispositions, a mere emphasis on the individualistic moral bases (will and reason) might result in the view that there is no objective foundation to judge the rightness of one's action. But Kant does not agree with a relativistic view of morality according to which norms are determined under the influence of particular circumstances. Indeed, the universality of moral law constitutes the essential characteristic of his moral theory. According to Kant, moral principles should be applied universally in any context: "We must be able to will that a maxim of our action should become a universal law—this is the general canon for all moral judgment of action."[3] Moral conduct thus should be directed by objective principles not by personal maxims.

The concepts of individuality and universality might, at first, seem contradictory because the former is often associated with subjectivity while the latter with objectivity. In my view, the unique aspect of Kant's moral theory lies in his attempt to connect these two aspects. He employs the concept of autonomy to bridge the apparent tension between the values found in these two concepts. An autonomous moral judgment, although it derives from the will of an individual agent, is not a personal, subjective judgment. Kant contends that pure practical reason, although it is internal, is able to transcend the subjectivity of an actor: it prescribes objective laws valid for every rational being. The notion of autonomy signifies the power of the will to conform to the instruction of reason. Only with such power, one can be self-directive and can choose to act morally.

[3] Ibid., 57.

One of Kant's great contributions to ethics is his emphasis on the aspect of freedom embedded in morality. According to his idea of a free moral agent, anyone could be considered to possess the potentiality to make appropriate moral judgments by him/herself independent of others. He argues that practical reason, or the will of a rational being, is the author of its own principles.[4] His effort to keep the power of morality separate from religious and/or political authorities has significant implications for the development of agent-oriented moral theories. Autonomy of the will is the locus of the freedom of moral beings, and Kant highly values this will as "the ground of the dignity of human nature and of every rational nature."[5] In his eyes, to live an autonomous life is to live in accordance with the dictates of reason, which by its nature is righteous. According to Kant, autonomy carries a significant value as the essential quality of an empowered individual.

The idea of empowerment signifies the power of self-government and thus seems fundamental to the growth of a democratic society. Nonetheless, I argue that the Kantian interpretation of autonomy based on individuality and universality raises a number of theoretical and practical difficulties, particularly in the context of understanding the idea of an environmentally responsible agent. I will clarify what these difficulties are and examine whether his interpretation is applicable to the ethical framework that I develop in this study.

3-2 Difficulties emerging from Kantian interpretation of autonomy

There are three main difficulties with the application of Kant's account of autonomy to the understanding of a responsible agent in a practical realm: (1) the idea of a solitary moral agent, (2) the emphasis on universality, and (3) the detachment of morality from

[4] Ibid., 101.
[5] Ibid., 79.

particular contexts. I will briefly discuss each problem hereinafter.

3-2-1 The difficulty with the idea of a solitary moral agent

As mentioned in Section 3-1, Kant's view of an autonomous agent is based on the idea of an individual who is self-directive and independent of any external elements. Such a moral agent signified in Kantian autonomy might be identified with a solitary individual who lacks any unique identity that arises through the connection with others. This interpretation of the self shares similar attributes with the idea of self represented by the Cartesian *cogito*: the self stripped of any unique orientation and disposition that would develop through actual experiences.[6]

There are two important points in the objection raised against the idea of solitary moral agent. First, there is a certain difficulty in comprehending how such a solitary agent can exist. The self represented in the notion of *cogito* lacks a unique personal identity and seems to be purely theoretical. Nor does it seem to have any practical significance for it transcends spatial and temporal contexts and hence lacks any empirical viewpoint.[7] Second, the notion of a solitary self neglects the social dimension of our activities of knowing and learning about appropriate conduct. Individualism was predominant in the Western philosophical tradition from the early modern age. It was believed that the certainty of one's knowledge could be assured only by thinking for oneself. Such a mode of knowing, however, began to be questioned as an unrealistic account that fails to explain the social

[6] In the *Discourse on Method*, René Descartes searches for an epistemic framework that enables us to reach the truth with absolute certainty. Descartes identifies the notion of cogito, which is known in light of his famous remark "I think, therefore I am," as the principle of his epistemology. See René Descartes, *Discourse on Method*, 32.

[7] Toshio Kuwako, for example, argues that a self is always identified in the light of its unique disposition. According to him, no self can exist without grounding it in certain spatial and temporal frameworks. Thus, neither can the Cartesian self exist, nor is it possible for us to think by situating ourselves in the standpoint of such an unrealistic self. See Toshio Kuwako, *Kankyo no Tetsugaku* 環境の哲学(Tokyo: Kodansha, 1999), 21–25, (in Japanese).

dimension in the acts of knowing and learning.

Responses to the idea of a solitary moral agent have resulted in the theories of intersubjectivity. Jürgen Habermas, for example, criticizes the monological account of morality addressed by Kant, and emphasizes instead the idea of a "cooperative process of argumentation" in reaching objective judgment about what is morally right. He develops the theory of discourse ethics, whose principle he defines as that "Every valid norm would meet with the approval of all concerned if they could take part in a practical discourse."[8] For Habermas, the idea of autonomy is intersubjective.[9] According to this conception of autonomy, he argues that responsibility implies accountability: the only way to claim the validity of norms is through argumentation among all concerned.[10]

In a similar vein, Seyla Benhabib emphasizes the social aspect of the self and criticizes the Kantian idea of moral agent as being based on the monological model of moral reasoning:

> Kant's error was to assume that I, as a pure rational agent reasoning for myself, could reach a conclusion that would be acceptable for all at all times and places. In Kantian moral theory, moral agents are like geometricians in different rooms who, reasoning alone for themselves, all arrive at the same solution to a problem.[11]

She employs the term *interactive universalism*, and, as Habermas does, casts light upon the role of communication in determining appropriate courses of action. According to Benhabib, interactive universalism regards differences as a starting point for reflection and action, and, thus, does not deny each person's unique identity. Such a pluralistic account of human perspective highlights the value of reaching a consensus through "the concrete

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[8] Jürgen Habermas, *Moral Consciousness and Communicative Action*, trans. Christian Lenhardt and Shierry Weber Nicholsen (Cambridge, Massachusetts: The MIT Press, 1990), 121.
[9] Ibid., 207.
[10] Ibid., 162.
[11] Seyla Benhabib, *Situating the Self: Gender, Community and Postmodernism in Contemporary Ethics* (Cambridge: Polity Press, 1992), 163.

process in politics and morals of the struggle of concrete, embodied selves, striving for autonomy."[12] Also, interactive universalism must include the value of allowing freedom for expressing one's ideas and feelings and securing mutual respect for people who hold different opinions. Benhabib argues, "…only a moral dialogue that is truly open and reflexive and that does not function with unnecessary epistemic limitations can lead to a mutual understanding of otherness."[13] As it is, the moral self thus grows out of the intersubjective communicative engagement. It entails respect towards different perspectives and the competence to engage in dialogue with others in search of certain forms of consensus among them.

3-2-2 The problem of the neglect of diverse concerns

The emphasis on the universality of principles in Kant's moral theory has been strongly criticized by Arthur Schopenhauer in *The Basis of Morality*. Schopenhauer points out that Kant is making an error when he identifies a moral law as "absolute necessity" since, in reality, we experience difficult moral dilemmas as a result of the existence of contesting values. He argues that there are many situations in which two or more moral values seem to conflict:

> …"absolute necessity" is everywhere characterized by an inevitable chain of consequence; how, then, can such a conception be attached to these alleged moral laws (as an instance of which [Kant] adduces "thou shalt not lie")? Every one knows, and he himself admits, that no such consecution for the most part takes place; the reverse, indeed, is the rule.[14]

In actual moral judgments, we must decide what value takes a priority among contesting values. Or, as an alternative, we must find ways to consider different values

[12] Ibid., 153.
[13] Ibid., 168.
[14] Arthur Schopenhauer, *The Basis of Morality*, trans. Arthur Brodrick Bullock (Mineola: Dover Publications, Inc., 2005), 14.

comprehensively. In other words, our moral judgment is not clear-cut decision-making ruled by universal laws. Instead, it requires careful consideration of a variety of concerns emerging in a particular situation and carries ambiguity and difficulty stemming from negotiable values emerging in it.[15]

The difficulty in dealing with diverse concerns is especially critical in the case of environmental decision-making. As noted in Section 2.4, what is needed in our environmental valuation is a pluralistic viewpoint, which encourages us to be open-minded to the values identified from different perspectives. In the case of environmental decision-making, the sphere of ethical concern is not limited to human relationships but needs to be expanded to include ecological well-being—the healthy conditions of both organismic and ecosystemic functions. As a consequence, a wider range of values will be brought into consideration.[16] In many cases, environmental issues entail complex value problems as a result of interconnections among, for example, environmental, social, economic, ethical, and aesthetic aspects of the world. What is needed for choosing environmentally appropriate action is the awareness of this complex value structures involved as well as the ability to deal with a variety of concerns.

It has been argued that we can still develop a universalistic account while acknowledging the diverse concerns in reality. Habermas, for example, contends that

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[15] The search for universal moral laws does not necessarily entail the denial of difficult moral dilemmas. For example, Lawrence Kohlberg, who has promoted the study of stages of moral development from the viewpoint of psychology, associates one's comprehension of universal moral laws with his/her ability to interpret a moral context from various perspectives and to choose the most appropriate action in a given situation. People from various standpoints might experience different moral dilemmas based on their interest and concern. In the light of diverse perspectives, however, there are certain moral values that are shared among all human beings. The dignity of human life is one example of such values addressed by Kohlberg. The search for moral laws to be shared universally has been the focus of his ethics. Although Kohlberg does not deny the diversity of our interest and concern, his position differs from pluralism since the goal of his moral theory is to present the feasibility of solving moral dilemmas by elucidating some key moral values that precede the rest.

[16] See Section 2.4 for Rolston's list of the values carried by nature.

universal moral laws can be attained by building a consensus among people who bring in different interests and that the process of consensus building provides the ground of universal principles. The claim of the possibility of unanimous consensus lies at the heart of his discourse ethics:

> In everyday life, however, no one would enter into moral argumentation if he did not start from the strong presupposition that a grounded consensus could in principle be achieved among those involved. In my view, this follows with conceptual necessity from the *meaning* of normative validity claims. Norms of action appear in their domains of validity with the claim to express, in relation to some matter requiring regulation, an interest *common to all* those affected and thus to *deserve* general recognition. For this reason valid norms must be capable in principle of meeting with the rationally motivated approval of everyone affected under conditions that neutralize all motives except that of cooperatively seeing the truth.[17]

I think that relativism, which stands in contrast to universalism, involves the risk of rendering any collaborative decision-making meaningless. If each person's judgment is simply measured by his/her own perspective, there would be no progress in discussing what courses of action are adequate. Some consensus needs to be built among different stakeholders in order to make practical progress towards improving degraded environmental conditions. The emphasis on universalizability, however, is also problematic since it carries a presupposition that people's diverse views can be reduced to a single judgment. A consensus might not be unanimous. People might not have such a presupposition that "a grounded consensus could in principle be achieved among those involved." Or, a consensus at a certain point might change later as we gain more ideas and experiences about a certain issue. Differing from Habermas, I do not contend that the approval of all who are concerned is necessary or attainable. Yet, it is important to make an effort to search for a comprehensive vision that encompasses a variety of values. We need to be equipped with creativity to construct such a vision.

[17] Jürgen Habermas, The *Theory of Communicative Action*, vol. 1, trans. Thomas McCarthy (Boston: Beacon Press, 1984), 19.

3-2-3 The problem of the detachment from practical contexts

There is another difficulty emerging from the emphasis on the universality of moral laws. Since this universality designates the applicability of a certain principle to all circumstances, it implies the transcendentality beyond particular contexts. Kant indeed retains the universality of autonomous moral judgment by separating the moral realm from the empirical realm, and by arguing for the capacity of our internal reason to reach the former realm. According to Kant, ethical judgment is pure only when it is not colored by one's particular experiences:

> …everything empirical is not only quite unsuitable as a contribution to the principle of morality, but is even highly detrimental to the purity of morals. For the proper and inestimable worth of an absolutely good will consists precisely in the fact that the principle of action is free of all influences from contingent grounds, which only experience can furnish.[18]

Kantian autonomy, writes Richard Rorty, is based on "having one's moral decisions made by reason rather than by anything capable of being influenced by experience."[19] Even though actual moral judgment occurs in a particular context, moral law should be able to lead us to an appropriate direction by shedding light upon the universal understanding of right conduct. Such law, by nature, must be *a priori*, existing independently of actual situations.

On the contrary to Kant's view, environmentally appropriate action might differ depending on particular circumstances. The same action can be valued either positively or negatively depending on particular environmental conditions—the value of our action lies not in actions *per se* but is determined in association with the health of surrounding

[18] Kant, 61.
[19] Richard Rorty, *Philosophy as Cultural Politics: Philosophical Papers* (New York: Cambridge University Press, 2007), 187.

ecosystems. Wildfire extinction, for example, is necessary and appropriate in some cases. But it is inappropriate when the germination of plants depends on the force of fire. In such a case, the attempt to put down the fire causes undesired deforestation. It is therefore important to be sensitive to local environmental conditions and to the consequences of our actions upon them; thus, it is vital to understand actual contexts when choosing environmentally responsible courses of action.

Moreover, as our attention is directed to manifold values concerning humanity and the environment in environmental ethics, it becomes critical for us to observe unique value issues in particular situations. As Clive Seligman suggests, "for different moral issues, different values may become emphasized. Thus, especially for the nondogmatic personality, each moral situation seems to take on its own unique character."[20] Seligman holds that values play a crucial role in ethical thinking and decision-making, and that ethical disputes can be characterized as disagreements about which values are important and/or applicable in a specific situation. Hence he insists that the examination of individual values and socially shared values is meaningful in the discussion of environmental ethics.

Although Kant attempts to separate the moral realm from the empirical one in the light of the transcendentality of moral law, such a separation is not adequate if we take into account importance of interpreting particular contexts so as to understand the unique value structure in them. In other words, how we interpret value-laden contexts is a key process in determining environmentally responsible courses of action. What we need for responsible decision making in the context of democratic environmental restoration is not *the* law applicable to all situations but the sensitivity to surrounding situations and the creativity that enables us to make a decision encompassing various values identified

[20] Clive Seligman, "Environmental Ethics," *Journal of Social Issues* 45, no. 1, 1989: 169–184.

The three difficulties discussed above are significantly important for the adequate comprehension of the nature of a responsible agent and of an ethical framework particularly in the context of environmental decision-making. To criticize Kant's conception of autonomy in the framework of environmental ethics, however, might not be fair because his moral theory does not presuppose this framework. Moreover, it is important to bear in mind that Kant is neither illustrating how our actual practical decision-making takes place nor constructing his moral theory inductively based on the actual cases of moral judgment. In Hilary Putnam's word, Kant attempts to provide his *moral image of the world*, which inspires and gives meaning to moral principles.[21] This point is important when we attempt to understand the aim of Kant's moral philosophy.

Kant identifies a problem with extracting moral principles from actual situations because, in the process of choosing and evaluating moral examples, we already require a model of morality.[22] Therefore, he contends that moral principles cannot be derived from anything particular. The source of morality should be *a priori* and free from empirical elements. This apriority of moral principles leads him to the effort of grounding moral philosophy on *metaphysics*, which transcends our ordinary experiences. Therefore, to criticize his moral theory on the basis of the neglect of the uniqueness of actual contexts might be considered as an irrelevant approach.

However, a "moral image" is a powerful tool because it describes and even prescribes what we should aim at as a moral being. Indeed, his interpretation of autonomy has been regarded as a guiding image of a responsible agent and has been influential in the development of moral theories especially in the Western philosophical tradition. Yet,

[21] Hilary Putnam, *The Many Faces of Realism* (La Salle, IL: Open Court, 1987), 51.
[22] Kant, 29.

Kantian autonomy, began to be questioned as an unrealistic account of morality, for example, by pragmatic thinkers, who emphasize the meaning of present experiences, and by feminist thinkers, who attempt to bring an emotional dimension of the human mind into moral judgment. In addition to pragmatists and feminists, other intellectuals who deny the transcendentality of morality have raised objections to the interpretation of autonomy developed by Kant.

If the concept of autonomy developed by Kant raises a number of theoretical difficulties, it is possible to deal with this issue in one of two ways: (1) by avoiding the use of this concept in establishing an educational framework, or (2) by re-interpreting the meaning of this concept from a different perspective. I will take the second approach in this dissertation because this concept has still been so influential in the field of education and, as I mentioned in the beginning of this chapter, elucidates a very important aspect of democratic decision-making: the empowerment of people through education. The concept of autonomy seems to provide a relevant ground for deepening our understanding of an environmentally responsible agent and clarifying the goals of environmental education examined in this study. In the next section, I will examine how autonomy can be understood in light of the communal and contextual frameworks and establishes a different view of an autonomous agent.

3-3 An alternative: *communicative autonomy*

As an alternative interpretation of autonomy, I shall focus on the concept of *communicative autonomy* developed by Tim Sprod in *Philosophical Discussion in Moral*

Education.[23] In this book, Sprod examines the aims of moral education at school in the light of the concepts of "reasonableness" and "autonomy." Although he identifies a number of problems involved in the concept of autonomy on the grounds of its having been strongly colored by Kantian moral theory, he insists that this concept still plays a crucial role in understanding the cultivation of an ethical individual. In the course of developing the concept of communicative autonomy, Sprod rejects the idea of a solitary moral agent and examines what skills and attitudes are necessary in order to behave reasonably in a community.

Sprod's communicative autonomy is summarized as "the ability of the self to engage fully in the ongoing conversational narrative of humanity."[24] In order to defend his view, he distinguishes between "being governed by others" and "dependent on others." Although Kant includes both in his conception of heteronomy, Sprod argues that the latter needs to be separated from the former since dependence is necessary for our moral development. He states, "It is only through dependence on others that we can learn to think *well* for ourselves, and only by becoming able to think well for ourselves that we can approach autonomy."[25] I would argue that "interdependence" rather than "dependence" more adequately captures the connectedness of agents because the dependency at issue is not unidirectional but reciprocal. A moral agent is neither independent of others in the sense that he/she is not detached from others, nor dependent of others in the sense that he/she is not governed by others. Rather, a mutual support is necessary for the agents' responsible moral thinking. Sprod recognizes this interrelated condition as an essential aspect of a moral agent.

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[23] Tim Sprod, *Philosophical Discussion in Moral Education: The Community of Ethical Inquiry* (London: Routledge, 2001).
[24] Ibid., 85.
[25] Ibid., 56.

It is important to recognize at this point that there is a major difference between Kant and Sprod in their approaches to a moral theory. While Kant attempts to establish the metaphysical theory of morality without depending on empirical elements, Sprod observes how we actually engage in practical judgment, and articulates several critical aspects involved in it. As mentioned earlier, Kant takes a metaphysical approach because he searched for *a priori* moral basis independent of actual moral judgment. We have observed, however, that his account entails a number of difficulties when applied to the empirical realm. On the basis of the recognition of the impracticability of the metaphysical account of morality, Sprod takes a pragmatic approach and casts the light upon the different aspects of our capacity for choosing appropriate conduct. His focus is to grasp the idea of autonomy through the reflection upon the process of moral decision-making that occurs in our real life.

In the pragmatic interpretation of autonomy, one might ask: What is the characteristic a *real* moral agent? In our everyday lives, each of us chooses action while holding a variety of feelings, concerns and interests. The process of choosing appropriate conduct is not a simple obedience to a metaphysical moral law but the effort of interpreting, understanding and improving the situation that an agent actually encounters. Sprod thus criticizes Kant for excluding "any hint of dependence, not only on others, but also on one's own desires, preferences and emotion."[26] Kant defines practical reason as the sole faculty that is capable of legislating moral principles. By distinguishing two kinds of principles, empirical and rational, he includes one's feelings under the former category, and then concludes that they are "always unfitted to serve as a ground for moral laws."[27] Sprod, on the other hand, casts light upon the significance of the various dimensions of human

[26] Ibid.
[27] Kant, 90.

faculties such as emotions, desires, and preferences. He draws our attention to the recognition that "reasoners are not disconnected, dispassionate and disembodied individuals but must reason from a position in which real flesh-and-blood persons with desires and emotions are inherently situated within a community."[28]

This view of the moral agent is entailed in his emphasis on the manifoldness of moral thinking. He argues that autonomy rests largely upon reasonableness, which he identifies with the five aspects of thinking: critical, creative, committed, contextual and embodied thinking. On the basis of this characterization, he states that "To be reasonable is to be able to incorporate all five aspects into one's thinking in a way which balances the imperatives of each, and does not give too great an emphasis to any one aspect."[29] Critical thinking has been receiving a significant attention in formal education as a sign of *good thinking*. This ability is often connected with the processes of problem-solving and decision-making, and is regarded as the essential quality of the analytic mind. The importance of critical thinking has also been discussed in the field of environmental education.[30] Yet, according to Sprod, the critical aspect is only one of the various functions of thinking, and by no means represents the whole scope of moral thinking. A reasonable agent implied in his theory is a person who is able to interpret and understand complex contexts of a given issue (contextual thinking), with the sense of care (committed thinking), as well as through one's physical experiences (embodied thinking), and is able to come up with creative ideas to deal with the issue (creative thinking). Moral thinking is more than just calculating thinking to deduce the right conduct from moral principles, or that moral reasoning is not an intuitive grasp of universal principles. Rather, one is required to

[28] Sprod., 57.
[29] Ibid., 156.
[30] See, for example, John Fien, *Education for the Environment: Critical Curriculum Theorising and Enviornmental Education* (Sydney: University of New South Wales Press, 1993).

exercise one's whole being in order to understand what is at issue and to act responsively in each particular case.

Another important implication of Sprod's communicative autonomy is the role of communication in moral growth.[31] In light of the idea of a social moral agent, communication, which facilitates the exchange of information and ideas with others, is regarded as a central element in determining the appropriate courses of action. His interpretation of the role of communication in morality is different from Habermas' account mentioned in the previous section. For Habermas, communication is important because it yields a universally acceptable moral account. For Sprod, on the other hand, communication is important because it enables us to see things from different perspectives and to deepen our understanding about the subject matter. He is rather critical of the emphasis on consensus in moral deliberation in Habermasean discourse ethics because it entails a number of theoretical problems.[32] A more important implication of discourse ethics, according to Sprod, is the recognition of the role of communication in moral growth.

Sprod recognizes that one's autonomous potential grows within a social framework. The depth of deliberation will not be fully attained if one's thinking is limited within his/her own horizon. Sprod writes, "Our rationality is always limited, our imaginations are bounded, our emotional judgments can interfere with as well as support our thinking, we

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[31] L. S. Vygotsky is known for his emphasis on the role of communication in the development of one's thought. In *Thought and Language*, Vygotsky argues, "Thought development is determined by language, i.e., by the linguistic tools of thought and by the sociocultural experience of the child… The child's intellectual growth is contingent on his mastering the social means of thought, that is, language." L. S. Vygotsky, *Thought and Language*, trans. Eugenia Hanfmann and Gertrude Vakar (Cambridge, MA: The M.I.T. Press, 1962), 51. Sprod, on the basis of his examination of the argument of Vygotsky, contends that "Multi-aspectual reasonableness is idiosyncratically constructed in social interaction with others. Hence, Kant's account of unitary rationality, shared by all humans, cannot be the basis for an account of autonomy." Sprod, 54.

[32] Sprod, 110–113.

are contextually situated in ways that restrict our thinking and we are restricted by our embodiment as individual persons."[33] One is never able to abandon one's own perspective. One's thinking is thus always biased by a certain doxastic system. In order to overcome this conditionedness, it is necessary to bring various perspectives together and to let one's understanding of the world grow through the encounter with others. As Sprod puts it, "…as our abilities to expand our horizons grow, through engagement with the differing horizons of others, so we become more autonomous."[34] The growth of autonomy then essentially depends upon our engagement in thinking in the communal context. He thus focuses on the role of dialogue in moral growth.

What I attempt to understand in terms of environmental autonomy is the ability of people to deal with environmental issues in the practical context. In this respect, Sprod's pragmatic account of autonomy, which emphasizes the features of the actual moral agent and judgment, provides helpful insights. The process of environmental decision-making requires the participation of diverse stakeholders, who hold different concerns and interests concerning their communities, and the comprehensive consideration of a variety of their concerns. In order to choose environmentally responsible courses of action, it is crucial for us to think together what action should be taken by interpreting the situation from different perspectives, discovering various concerns and interests, deepening our understanding of the issue, and deliberating possible solutions creatively through the integration of diverse ideas. Communication, which facilitates the sharing of different viewpoints, will no doubt be important for the growth of our environmental autonomy.

Whereas Sprod's communicative autonomy is insightful for understanding the notion of environmental autonomy, there is a further critical concern in environmental

[33] Ibid., 85.
[34] Ibid.

decision-making: our sensitivity to ecological well-being is essential when choosing environmentally responsible courses of action. In order to apply the notion of autonomy, which has mainly been discussed in morality, to the framework of environmental ethics, this sensitivity also becomes the central point of the discussion. Without environmental sensitivity, the act of environmental restoration aimed at the improvement of ecological health is not attainable. But how to understand this sensitivity entails an important philosophical question. The consideration of environmental sensitivity is thus the next theme towards clarifying the notion of environmental autonomy.

3-4 Environmental sensitivity for appropriate decision-making

In order to become sensitive to the surrounding ecological well-being, we need to know the condition and functioning of our environments. But how is it possible to deepen our understanding of these qualities? In environmental policies, natural science has been regarded as the primary source for our knowledge of ecological issues. For instance, the importance of natural science is clearly articulated in the following statement in the Law for the Promotion of Nature Restoration:

> Nature restoration shall be carried out based on scientific knowledge, taking into account characteristics of the natural environment in the area and the delicate balance of the ecosystem, as well as nature's ability to recover.[35]

Whereas the scientific approach is no doubt essential to the enhancement of our knowledge of the ecological dimension of the world, and consequently to the growth of our environmental sensitivity, it cannot be considered as the only way to expand our environmental awareness. As discussed in Chapter 2, it is rather problematic to regard the scientific understanding of our environments as the one and only way to determine the

[35] The Law for the Promotion of Nature Restoration, (Law No. 148, 2002), Article 3-3, http://www.env.go.jp/en/laws/nature/law_pnr.pdf.

courses of environmental restoration. More comprehensive understanding of our concerns and relationships with the surroundings is necessary in order to realize both ecological and social well-being.

The emphasis on the comprehensive approach to ecology has been discussed from the beginning of the development of environmental ethics. Aldo Leopold, one of the founders of environmental ethics, was aware of this point and insisted upon the importance of taking a holistic approach to ecology.[36] Curt Meine, who investigated the footsteps of Leopold, quotes Leopold's unpublished manuscript:

> One of the anomalies of modern ecology is that it is the creation of two groups each of which seems barely aware of the existence of the other. The one studies the human community almost as if it were a separate entity, and calls its findings sociology, economics, and history. The other studies the plant and animal community, and comfortably relegates the hodge-podge of politics to "the liberal arts." The inevitable fusion of these two lines of thought will, perhaps, constitute the outstanding advance of the present century.[37]

For Leopold, ecology should observe various disciplines holistically encompassing, for example, physical, geographical, biological, cultural and social issues. He holds a view that the boundary between nature and culture is not definite. As a forest ranger, he must have observed the interrelation between the recreational trend and the ecological integrity. In spite of his acute awareness of the need for considering ecological issues interdisciplinarily, the academic categorization at that time did not, and perhaps still does not provide an adequate framework for such a holistic investigation. Meine explains that Leopold

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[36] While working as a forest ranger in the United States at the beginning of 20th century, Aldo Leopold witnessed the environmental destruction caused by anthropocentric control over wildlife, and realized the necessity to radically change our relationship with the land. Hence, he proposes the land ethic, in which human ethical obligation is extended not only to all life forms but also to biological systems, or to the land, in which living and non-living things dynamically interact. The central thesis in Leopold's land ethic can be summed up in the following well-known remark: "A thing is right when it tends to preserve the integrity, stability, and beauty of the biotic community. It is wrong when it tends otherwise." See Aldo Leopold, *A Sand County Almanac, and Sketches Here and There* (New York: Oxford University Press, 1949), 224.

[37] Curt Meine, *Aldo Leopold: His Life and Work* (Madison: The University of Wisconsin Press, 1988), 359–360.

experienced frustration with disciplinary boundaries that prevent us to see the world in a comprehensive manner. Leopold's idea of ecological science could not be classified based on the traditional academic category. He thus provided a course in conservation in collaboration with faculty members specialized in other fields.[38]

In order to respond to what is happening in our environments, we should be keenly aware of a variety of issues we are encountering. Environmental sensitivity then requires a comprehensive perspective to observe, perceive, and understand the change and the interaction of environs at multiple layered scales. Toshio Kuwako explains such a sensitivity in terms of the Japanese word *kansei* (感性). He defines this word as the ability to perceive the interrelation between one's physical self and his/her environs.[39] In virtue of this ability, we are able to recognize manifold meanings and values embedded in our concrete experiences. Although *kansei* is deeply associated with aesthetics, it is not necessarily limited to the appreciation of the works of art but also includes one's sensitivity to the gradual climatic change and the unique quality of a certain space. Our responses to a variety of things happening in our surroundings can be explained in terms of *kansei*.

An interesting aspect of *kansei* discussed by Kuwako lies in its moral connotation. The realization of the interrelation between the self and its environs is possible by becoming sensitive to how they influence each other and being aware of the continuity between them. This realization, according to Kuwako, is not merely passive but also active and creative because it accompanies the change in our attitudes and conducts in accordance with our environments. Because of this moral connotation, *kansei* has been highlighted as a crucial element of environmental education, which needs to bring about the change in our

[38] Ibid., 348.
[39] Toshio Kuwako, *Kansei no Tetsugaku* 感性の哲学 (Tokyo: NHK Books, 2001), 17, (in Japanese).

attitude and action.[40]

The pluralistic and creative aspects of *kansei* as well as its moral connotation enrich our understanding of environmental sensitivity. A person who is environmentally sensitive is not only aware of the conditions of ecological functioning but also of a variety of things occurring in the world: such as cultural, communal, climatic, and economic issues of our surroundings. Such a person is able to act in a creative way responding to the change in his/her surroundings. Moreover, *kansei* is associated with both perceptual and expressive competences: a person with deep *kansei* not only perceives the various dimensions of the world but also articulates what is perceived so as to share it with others. By incorporating these aspects of *kansei* in our understanding of environmental sensitivity, we can highlight the importance of shared perceptual experiences for the growth of our environmental autonomy.

3-5 Towards cultivating environmental autonomy

The main purpose of this chapter has been to clarify what skills and attitudes need to be cultivated in environmental education that facilitates democratic environmental restoration. I approached this issue by examining the essential aspects of an environmentally responsible agent in light of the notion of autonomy. While the interpretation of autonomy developed by Kant still provides a major framework for understanding this notion, it turned out to be quite inadequate for the application of this concept to actual decision-making. Both the ideas of a solitary moral agent and of

[40] See, for example, Kazuya Sasaki et al., "A Study on Environmental Education Considering to *Kansei* on Production in *Satoyama*," *Journal of Japan Society of Kansei Engineering* 5, no. 4 (2005): 103–107, (in Japanese), and Toshiya Kodama et al., "Exploring a concept of 'Participatory Learning' in Environmental Education for 'Education for Sustainable Development," *Environmental Education* 15, no.2 (2006):45–55, (in Japanese).

universal moral laws are unable to present the interdependency of human beings in moral growth and the complex value structure embedded in the actual situations. One of the reasons behind the impracticability of Kantian autonomy is his purely metaphysical approach to moral theory. Since his concern was not to establish the ethical framework that can be applied to the solution of our everyday moral consideration,

Sprod's communicative autonomy has been developed on the basis of his critique of a metaphysical account of autonomy. By reflecting upon what aspects are embraced in the actual moral agent and thinking, he has elucidated the communicative and deliberative aspects of morality. His pragmatic account of autonomy has provided insightful ideas for the consideration of the theme of agent-oriented environmental education.

On the basis of the examination of the notion of autonomy developed in this chapter, I define environmental autonomy as the ability of empowered agents to participate in collaborative environmental decision-making. This ability encompasses the following aspects:

(1) interpreting the various concerns and issues embedded in particular contexts through the exchange of ideas as well as through shared perceptual experiences;

(2) deepening the common understanding of surrounding issues while embracing multiple interpretations; and

(3) constructing shared ideas about what can be done to improve the environment by integrating multiple concerns and issues.

Education for democratic environmental restoration includes the cultivation of the skills and attitudes necessary for these commitments. A critical subject of this study is to clarify how we can cultivate them. As Sprod argues, communication will play an important role in this educational process. In Part II, I will consider the adequate communicative method of environmental education on the basis of the preceding argument concerning the

themes of education, and then experiment actual educational activities in order to examine and refine the educational framework that I develop.

Chapter 4 The design of inquiry-based environmental education

In Part I, I have mainly focused on the *target* and the *themes* of education for democratic environmental restoration. It has been argued that the idea of autonomy captures the essential quality of empowered agents who participate in collaborative environmental decision-making.

By shifting the focus slightly, this chapter examines the *method* of education: what is a relevant way to cultivate people's environmental autonomy. In Section 4-1, I will first examine the policies that explain the importance for teaching collaborative skills and attitudes within the scope of environmental education, and then discuss in Section 4-2 the view that Habermasean discourse provides an adequate framework of this education. I, however, identify a critical problem entailed in this approach: the limitation of participants due to his criteria of ideal discourse. As an alternative approach, I will examine in Sections 4-3 and 4-4 communicative methods that invite everyone with the focus on the method of *multi-perspectival inquiry*. I will argue in Section 4-5 that this process of searching for a deeper understanding of things through the exchange of thoughts from various perspectives provides a relevant communicative framework for the growth of people's environmental autonomy as well as for the development of democratic environmental decision-making.

4-1 The need for educating skills for collaboration

As public participation becomes important in environmental decision-making, it has become a critical educational theme to teach skills and attitudes required for this participation. This necessity is, for example, articulated in the third Basic Environmental Plan issued in 2006. One of the strong emphases of this plan is the promotion of the

collaboration among local residents, public corporations, and governmental bodies, among others. To achieve this goal, the Plan states that active communication among various stakeholders needs to be facilitated:

> In order to protect the environment, it is necessary for each citizen, business, organization, local authority and the country to fulfill their respective roles while working together. For that reason, it is necessary for us all to think about how we are going to protect the environment together, while actively exchanging information with each other.[1]

This emphasis on collaboration is also manifested in the vision of environmental education it points to. The Plan suggests that it is important to cultivate people's abilities to communicate with each other as well as their skills to coordinate and to manage environmental projects so that people in various positions can work together for the improvement of environmental conditions. It also states that we need to attempt to include more and more people into an environmental project. For this reason, what is highly needed is to strengthen the participants' abilities to connect different groups of people and to construct action plans by taking into consideration a variety of needs and concerns that can be identified from different perspectives.

Two years before the launch of this Plan, the government established the Basic Policy for Enhancing Motivation on Environmental Conservation and Promoting of Environmental Education.[2] Differing from the Basic Environmental Plan, this Policy does not clearly indicate the necessity to cultivate people's communicative competences through environmental education. Yet, this Policy also states that one of the focuses of environmental education is to contribute to the strengthening of the collaboration among

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[1] *Outline of the Basic Environment Plan: The Way to New Richness Developed out of the Environment*, Ministry of Environment, (2006), http://www.env.go.jp/en/policy/plan/3rd_basic/outline.pdf.

[2] This policy was established on the basis of the *Law for Enhancing Motivation on Environmental Conservation and Promoting of Environmental Education*, (Law No. 130, 2003), http://www.env.go.jp/en/laws/policy/edu_tt.pdf.

the various stakeholders. As such, it implies that the cultivation of the skills for collaboration is incorporated into the scope of environmental education. The skills and attitudes that I considered in terms of environmental autonomy are thereby adequate themes of environmental education.

In spite of this awareness of the need for teaching collaborative skills and attitudes, there are not sufficient cases of environmental education that focus on this theme. Susumu Omori, who has been promoting research on environmental education while working as an elementary school teacher, discusses this issue by examining the ideas and methods of agent-oriented environmental education in formal education. Omori shows some examples of programs conducted in Japan that aim at cultivating children's communicative competence. The method they applied is to integrate the process of working together with people in various social positions. With the cooperation of organizations outside the school, e.g. governmental bodies, local communities and NPOs, some schools have conducted practical environmental programs concerning consensus-building and political decision-making that potentially contribute to an improvement in local environmental issues. Hence, I would say there are actually some programs of environmental education that take into consideration the importance of collaborative competence. Such programs, however, are far from being predominant yet. Most programs of environmental education thematize field experiences in nature or environmental conservation activities such as building a biotope and promoting recycling. Omori argues therefore that it is critically important to promote environmental education that encourages children's participation in the actual process of consensus-building concerning local environmental issues.[3] While his argument is developed in the framework of school education, cultivating collaborative

[3] Susumu Omori, "Kodomo to Kankyo Kyoiku: Gakko Kankyo Kyoikuron, in *Atarashii Kankyo Kyoiku no Jissen*, ed. Yukihiko Asaoka (Tokyo: Covendo, 2006), 32–51.

skills and attitudes is important outside the school context. It is therefore vital to demonstrate a method that can be used for both formal and informal education.

4-2 Habermasean communication applied to environmental education

With regard to the search for a relevant method of environmental education based on the above concern, Zhichang Zhu develops a suggestion in "What Should We Bring into Environmental Education?"[4] Zhu is critical of the predominant style of environmental education, which mainly emphasizes technological strategies to investigate and to mitigate environmental problems. While acknowledging the importance of such technical considerations, Zhu states that they are not sufficient as an approach to environmental education aimed at cultivating people who are capable of contributing to the mitigation or solution of actual environmental issues by making responsible judgments. Besides technical considerations, what he thinks needs to be introduced into environmental education is the dimensions of human relations and mutual understanding.

Zhu develops his argument based on the case study of the Three Gorges Project in China initially proposed by an early Chinese revolutionist, Sun Yatsen, in 1919. The goal of this project is to construct a large-scale multi-purpose dam on the Yangtze River. This project is still ongoing, and has entailed the abandoning of a large number of small villages along the river. Zhu points out that there are various national and international stakeholders involved in the project: governments, financial agencies, construction companies, scientists, academics, environmental protection organizations, local residents, and so on. The debate on the dam construction gained momentum in the late 1970s and lasted until the project

[4] Zhichang Zhu, "What Should We Bring into Environmental Education?," in *Environmental Education and Training*, ed. Patricia Park, Deborah A Blackman, Gin Chong (Brookfield: Ashgate Publishing Company, 1998).

finally kicked off in 1994. Through an analysis of the process of decision-making in this project, Zhu identifies the following three types of interests that need to be considered when promoting environmental projects:

(1) Interests in technical improvement and objective truth—Stakeholders want to know scientific and technical information about specifications, merits, and possible risks involved in the project.

(2) Interests in improving mutual understanding—Different interpretations and concerns need to be shared among various stakeholders in order to deepen each person's understanding of the project.

(3) Interests in improving intersubjective relations—In order to build the appropriate human relationships that are necessary for making responsible environmental decisions together, every voice needs to be regarded as equally valuable and to be carefully considered.[5]

Zhu insists that environmental projects need to take into account all these interests so that the various thoughts and values identified by the different stakeholders can be adequately embraced. To attain this, Zhu argues that it is necessary to promote environmental education directed towards cultivating people's competences to participate in the process of decision-making—a participation that is achieved through expressing one's ideas, understanding different viewpoints and making appropriate judgments with others who might hold different opinions. Thus, he writes, "environmental education and training should educate government officials, technical experts, business executives, and general citizens to think and act on all these aspects and the interdependency among them."[6] His view about the target and the themes of environmental education mostly corresponds to my argument developed in Part I.

In order to incorporate the growth of intersubjective relationships and mutual understanding in the scope of environmental education, Zhu focuses on the theory of

[5] Ibid., 69.
[6] Ibid., 66.

communicative action developed by Jürgen Habermas. The notion of intersubjective validity is a key concern in Habermasean discourse ethics. As discussed earlier, Habermas, like Kant, regards valid moral norms as universal (Section 3-2). However, he distinguishes his position from Kantian transcendental universalism by proposing the view that normative validity is the product of the actual process of practical discourse.

According to Habermas, communicative action aims at mutual understanding that can be realized by means of what he calls the speech act. His interpretation of the speech act is based on a triadic structure of validity claims: a person who makes a statement about something in the world expresses his/her idea (subjective) about a fact (objective) to other people (inter-subjective).[7] In other words, any argument in communicative action involves three types of validity claims: the claims of one's sincerity, factual truth, and social appropriateness. Based on this triadic structure of validity claims proposed by Habermas, Zhu suggests that environmental education should train people in the following three categories of knowledge: (1) analytic-empirical sciences for predicting and controlling objective complexity, (2) interpretive-hermeneutic sciences for assisting mutual understanding, and (3) critical sciences for creating better-ordered decision-making procedures and atmosphere.[8] The second and third types of knowledge correspond to the social competences that are necessary for people to think together and to act together in order to achieve practical progress in the creation of a better environment. The focus of Zhu's argument is to cast light upon the cultivation of social competences as one of the fundamental themes in environmental education.

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[7] On the basis of Karl Popper's three-world theory, Habermas develops the idea of the multi-layered relations of communicative agents to the world. For the discussion on this threefold relation, see Jürgen Habermas, *The Theory of Communicative Action: Reason and the Rationalization of Society, vol. 1*, trans. Thomas McCathy (Cambridge: Polity Press, 1984), 94–101.

[8] Zhu, 73.

I fundamentally agree with Zhu's suggestion that the ability of intersubjective communication is indeed necessary for developing a mutual understanding of environmental issues, and thus, for making socially responsible decisions about them. I also agree that the cultivation of this ability needs to be recognized as one of the primary focuses of environmental education. However, it is not clear to me whether Habermas provides a relevant educational method because the notion of communication in his theory is too narrowly defined as "discourse"—the process of argumentation in which participants attempt to justify their claims through the speech act.[9] I find a critical difficulty in establishing an educational framework on the basis of the idea of Habermasean discourse. It is at this point informative to examine what he requires to the participants in discourse.

According to Habermas, there are three levels of presuppositions underlying argumentation: (1) the logical (semantic) level, (2) the dialectical level, and (3) the rhetorical level. On the basis of this distinction, Habermas describes the rules necessary for participating in discourse.[10]

(1) the logical (semantic) level
    (1-1) No speaker may contradict himself. (the consistency in one's thought)
    (1-2) Every Speaker who applies predicate *F* to object *A* must be prepared to apply *F* to all other objects resembling *A* in all relevant aspects. (the generalizability of one's argument)
    (1-3) Different speakers may not use the same expression with different meanings. (the semantic consistency)

(2) the dialectical level
    (2-1) Every speaker may assert only what he really believes. (sincerity)
    (2-2) A person who disputes a proposition or norm not under discussion must

[9] Habermas argues that the concept of communicative action can be explained only in terms of a theory of argumentation. By argumentation he means the type of speech "in which participants thematize contested validity claims and attempt to vindicate or criticize them through arguments." See Habermas, *The Theory of Communicative Action*, 18.

[10] Habermas lists the rules of argumentation on the basis of the catalog of presuppositions of argumentation drawn up by Robert Alexy, in Eine Theorie des praktischen Diskurses," in W. Oelmüller, ed., *Normenbegründung, Normendurchsetzung* (Paderborn, 1978). See Habermas, *Moral Consciousness and Communicative Action*, trans. Christian Lenhardt and Shierry Weber Nicholsen (Cambridge, MA, MIT Press, 1990), 87–89.

provide a reason for wanting to do so.

(3) the rhetorical level
(3-1) Every subject with the competence to speak and act is allowed to take part in a discourse. (required participant's capacity)
(3-2) a. Everyone is allowed to question any assertion whatever.
b. Everyone is allowed to introduce any assertion whatever into the discourse.
c. Everyone is allowed to express his attitudes, desires, and needs.
(3-3) No speaker may be prevented, by internal or external coercion, from exercising his rights as laid down in (3.1) and (3.2).

This set of rules, according to Habermas, embodies the fundamental conditions of discourse. The participants in discourse must satisfy these criteria required in order to become an adequate speaker or hearer. Yet, while such presuppositions of discourse include important ideas for securing fair communication among participants and facilitating an active exchange of ideas, they pose several difficulties when applied to the actual communal scene involving a variety of participants. Indeed, if we take them literally, not everyone can participate in Habermasean discourse. This problem is critical in the task of establishing an educational method for democratic environmental restoration.

When talking with various stakeholders involved in the *toki* issue in the field research conducted on Sado Island, I came to recognize that there is a particular difficulty in grounding Habermas's theory of communication in actual communicative situations. As discussed in Chapter 2, there are various stakeholders of the *toki* issue: specialists, national and local governmental officials, farmers, fishers, elderly people, children, educators, city councils, etc. All of them should be regarded as participants in environmental restoration, and thus are included in the target of environmental education. However, many of them may not satisfy the Habermasean presuppositions of discourse. I shall now list some of the reasons why I think they do not satisfy Habermas's criteria:

- People may not have clear, consistent thoughts when participating in

communicative activities.

- They may not feel comfortable with expressing their ideas in public.
- They may lack necessary skills for presenting their thoughts in clear statements.
- They may have ideas that cannot be expressed in the form of speech.
- Even if they are allowed to express their attitudes, desires, and needs, they may hesitate to do so.

Harbermas's theory of discourse is complexly structured and no doubt incorporates various important insights about communication. Nevertheless, his criteria of ideal discourse seems to give less consideration to some fundamental aspects involved in actual human communication—e.g. the subtlety of human relationships, the dimension of feelings and emotions, and the difficulty of verbalizing ideas. His ideas of communicative action are comprehensible and attainable only for those who are specifically trained in the act of argumentation. Hence, there is a gap between his ideal form of communication and our ordinary, everyday communication. One might argue that we can bridge this gap by cultivating people's adequate skills and attitudes in order to enable them to participate in Habermasean discourse. Nonetheless, I found it problematic to shift the focus too narrowly on argumentation when trying to understand the notion of communication in environmental education. Moreover, if this communication does not invite everyone, how can "unqualified" people learn necessary skills for this communication?

In my view, the model of communication to be incorporated as a method of environmental education needs to facilitate the participation of all stakeholders. Such communication must be open to everyone, from children to senior citizens, from farmers and fishers to governmental officials as well as university researchers.

4-3 Dialogue designed for all walks of life

The problem that I identified in Habermasean communication is the limitation of

participants due to a set of rigorous presuppositions that he requires to initiate discourse. Since the target of environmental education includes people in various walks of life, Habermasean discourse does not seem to provide the most adequate method of education. It is necessary to search for a model of communication that invites all who are concerned. I therefore shift my focus to dialogue, which has been investigated even as a model of school education.

William Isaacs, a founder of the Dialogue Project at MIT, defines a dialogical model of communication in *Dialogue and the Art of Thinking Together*:

> The dialogue is a form of conversation that can be meaningful to people from a large number of backgrounds: from every walk of life, from every nationality, from many different professions and levels of responsibility within organizations and communities.[11]

According to Isaacs, dialogue starts from sharing ideas together and developing common understanding with others. Through such processes, shared action arises. Dialogue is a gentle form of communication that invites everyone and grows gradually as participants engage in it. In this book, Isaacs attempts to illustrate "how dialogue is generated out of all the interactions of the people, not a set of rules that they can apply from the outside."[12] Although there are certain values and attitudes that need to be shared among participants from the beginning, dialogue is dynamically formed through the interaction among them.

Isaacs' interpretation of dialogue has developed for the most part based on his collaboration with David Bohm, who is known as a physicist but has contributed enormously to the development of the theory of dialogue. Bohm's ideas about dialogue have been materialized as the practice of Bohmian dialogue, which has been actively promoted in the United States.

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[11] William Isaacs, *Dialogue and the Art of Thinking Together: A Pioneering Approach to Communicating in Business and in Life* (New York: Currency, 1999), 10.
[12] Ibid.

In order to deepen our understanding of the notion of dialogue, I will proceed to explore some of the essential ideas embedded in Bohm's interpretation. There are four important points that characterize his account. First, for Bohm, dialogue is different from discussion, which originally means "to break things up."[13] This word emphasizes "the idea of analysis, where there may be many points of view, and where everybody is presenting a different one – analyzing and breaking up." Although Bohm admits that the process of analysis has its value, he states that it does not get us very far beyond our respective points of view. Dialogical communication, on the other hand, is oriented towards the creation of a new understanding of things through the process of sharing a variety of ideas.

Likewise, it is also important to clearly distinguish dialogue from debate; in the latter one account predominates over others and is accepted as a valid claim. As he puts it, "Conviction and persuasion are not called for in a dialogue."[14] Dialogue is a cooperative process to create new ideas together. Thus, in a dialogue, nobody is trying to win. Bohm states that if anyone wins, then everyone wins. This spirit of cooperative winning underlies all dialogue.

Second, he argues that, in a dialogue, we have to give full attention to things that are actually blocking communication.[15] What blocks our communication includes prejudices, preconceptions, and emotions of fear or pleasure that arise in the course of communication. When we face these blockages, we cannot really listen to each other. According to Bohm, when we recognize what disturbs our free communication and attempt to relinquish such obstacles, will we be able to engage in the cooperative process of fabricating new ideas.

Third, dialogue requires participants to have a genuine commitment to the search for

[13] David Bohm, *On Dialogue* (New York: Routledge, 1996), 7.
[14] Ibid., 31.
[15] Ibid., 5.

a deeper understanding of the world. He states that the so-called "cozy adjustment" aimed at avoiding problematic issues is not what dialogue envisages.[16] We have to be critical of our thoughts by looking at things from different perspectives. Dialogue might cause a certain degree of confusion, agitation or uneasiness within us since it poses epistemic challenges to our understanding of the world. But such moments are necessary for us to outgrow our perspectives and to attain a more comprehensive vision. This is to say that we really need to be willing and able to question our fundamental assumptions.

Fourth, Bohm insists that in the course of dialogue we *are not* going to decide what to do. He writes, "As soon as we try to accomplish a useful purpose or goal, we will have an assumption behind it as to what is useful, and that assumption is going to limit us."[17] He thus stresses that a dialogue should be free of fixed purposes and goals. The sole purpose of dialogue is to deepen our understanding of the world.

Among these ideas embedded in Bohm's interpretation of dialogue, the last point seems especially problematic when applied to the framework of education for democratic environmental restoration, since in environmental projects we *are* actually going to decide what to do through reciprocal communication. Moreover, there is a clear purpose in facilitating such a communication. The purpose is to construct an environmental restoration plan in a democratic way so that it leads to both ecological and social well-being. Is it then inadequate to employ dialogue as a method of education for democratic environmental restoration? And what is the concern behind Bohm's statement that a dialogue should be non-purposive?

[16] Ibid., 15.
[17] Ibid., 20.

4-4 Inquiry as a purposive dialogue

Matthew Lipman, who has been promoting dialogue-based education at schools, shares many common aspects with Bohm, yet recognizes the purposive dimension entailed in this communication. He defines the term dialogue in a way that contrasts with Bohm's: "Dialogue, unlike conversation, is a form of inquiry, and since we follow inquiry wherever it leads, our dialogical behavior cannot be said to be nonpurposive."[18] According to Lipman, dialogue is carried out with a certain purpose, and the term *inquiry* has been employed in order to describe this aspect of dialogue.

The notion of inquiry lies at the center of Lipman's pedagogical strategy. In his view, the *community of inquiry* is what provides children with relevant learning experiences that foster their responsible personhood. Although there is more than a single definition of the term, he defines *inquiry* as "a self-corrective practice in which a subject matter is investigated with the aim of discovering or inventing ways of dealing with what is problematic…"[19] In the community of inquiry, children are encouraged to interpret, understand and create meanings in virtue of asking and pursuing their own questions further and further. Lipman thinks that the progress of children's responsible thinking is possible in virtue of a type of education that focuses upon the growth of this community of inquiry. He thus incorporates dialogical inquiry into formal education and attempts to cultivate children's communicative and deliberative competences through the practice of inquiry.

At first sight, the ideas of dialogue presented by Bohm and Lipman might be considered incompatible. Whereas Bohm states that dialogue should be carried out with no fixed purpose, Lipman argues that it cannot be nonpurposive. Hence, there seems indeed to

[18] Matthew Lipman, *Thinking in Education*, 2nd ed. (New York: Cambridge University Press, 2003), 91.
[19] Ibid., 184.

be an opposing tension between the arguments of these thinkers. All in all, however, I believe that they share a similar concern that is necessary for an understanding of creative and fruitful communication.

Embedded in Bohm's argument is his concern about the limitation of one's thinking due to holding on to specific purposes and assumptions. For Bohm, dialogue is "a collective way of opening up judgments and assumptions," and requires us to abandon fixed ideas that hinder our open interpretation of others.[20] Bounded by their respective interests, people might fail to explore alternative interpretations and possibilities. He therefore insists that it is necessary for us to be aware of what is *blocking* communication.[21] According to Bohm, our fixed interest represented by purposes, goals, assumptions, etc., is what blocks our communication.

Lipman also claims that the limitation of one's thinking derived from fixed ideas creates serious difficulties in terms of carrying out genuine inquiry. He thus places *reflective thinking* as one of the primary focuses of his inquiry-based education, and defines it as "thinking that is aware of its own assumptions and implications as well as being conscious of the reasons and evidence that support this or that conclusion."[22] There are two dimensions involved in reflective thinking: (1) thinking about the process of thinking *per se*, and (2) thinking about the subject matter. In other words, reflective thinkers not only inquire into what is at issue but also into their reasoning processes by asking whether they are scratching the surface of a given issue without depending upon unexamined thoughts and assumptions.[23]

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[20] Bohm, 53.
[21] Ibid., 5.
[22] Lipman, *Thinking in Education*, 26.
[23] Dewey discusses the importance of reflective thinking in *How We Think*. He distinguishes various modes of thinking and states that reflective thinking is necessary for responsible thinking based on careful

Reflective thinking is a mode of thinking that is necessary for us to examine things deeply in the process of inquiry. John Dewey, who has exerted a significant influence on Lipman's educational philosophy, also highlights the importance of this ability in the careful consideration of one's beliefs and information. He maintained that inquiry conducted with the power of reflective thinking is fundamental to the development of a democratic society, and thus the focus of school education should be placed on the cultivation of children's capacity to inquire.[24] However, a mere gathering of people who have this thinking skill may not always result in fruitful inquiry. As Lipman writes, "[a community of inquiry] would necessarily involve a common commitment to a method of inquiry."[25] What is also needed in inquiry is a shared intention of searching for a deeper understanding of issues in collaboration with others. This intention is based on the belief that one can examine things more carefully by communicating with others who see things from different perspectives. When Lipman states that dialogue cannot be non-purposive, he is actually describing this shared intention that functions as the driving force for promoting genuine inquiry. Dialogue is purposive because we are trying to reach solutions, suggestions, and understandings for a better future. But, as Bohm warns, it should not be directed towards a particular prefixed outcome.

What both Bohm and Lipman emphasize in their interpretations of dialogue is the importance of suspending judgment and exploring alternative possibilities of looking at things. Suspending is indeed one of the behaviors that Isaacs identifies as necessary for participating in dialogue. He explains that this attitude stands in a sharp contrast with the

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examination. Dewey's argument is based on his interest in Peirce's scientific inquiry. For this reason, some of those who are inspired by Dewey tend to lay stress upon critical thinking. Lipman, on the other hand, incorporates such thinking modes as caring thinking and creative thinking into his vision of philosophical inquiry. See John Dewey, *How We Think* (Buffalo: Prometheus Books, 1991).

[24] James Scott Johnston, *Inquiry and Education: John Dewey and the Quest for Democracy* (Albany: State University of New York Press, 2006), 178–192.

[25] Lipman, *Thinking in Education*, 163.

act of deciding. The literal roots of the word *decide*, according to Isaacs, imply the act of solving difficulties by cutting through them, *viz*. by murdering alternatives. We decide when we stop suspending a judgment. He contends that dialogue, however, "is about exploring the nature of choice."[26] We always have to accept the possibility of emerging alternatives and the new development of interpretations. The generation of alternatives is one of the essential aims of dialogue.

The value of the attitude of suspending should be highlighted in education for democratic environmental restoration as well, for it is extremely important for realizing diverse people's participation in environmental projects. If the planners of a project have a predetermined plan and only wish to implement their own plan, there is no meaning to attempt to promote the project in a democratic way. With such a plan in mind, no real effort is made to search for better alternatives that can incorporate diverse public concerns. I am not suggesting here that all environmental restoration projects have to start without a pre-existent plan. There might be a tentative plan that describes a vision for the project; but, if we wish to promote democratic environmental restoration, the planning process should be conducted with the participation of the various stakeholders. To do this, genuine inquiry that allows for an open-interpretation of the plan assumes great importance.

In *Democracy and Education*, Dewey identifies open-mindedness as one of the most important attitudes for effective intellectual ways of dealing with subject matter:

> Openness of mind means accessibility of mind to any and every consideration that will throw light upon the situation that needs to be cleared up, and that will help determine the consequences of acting this way or that… But intellectual growth means constant expansion of horizons and consequent formation of new purposes and new responses. These are impossible without an active disposition to welcome points of view hitherto alien; an active desire to entertain considerations which

[26] Isaacs, 45.

modify existing purposes.[27]

The attitude of open-mindedness may be mistakenly identified with accepting unexamined ideas uncritically. But this interpretation is not accurate, for, as Dewey insists, "Open-mindedness is not the same as empty-mindedness."[28] It is a kind of passivity or willingness to invite all kinds of possibilities towards a further development in our thinking and experiencing.

The importance of suspending evokes the idea that open-mindedness permeates one's participatory attitude in reciprocal communication. To be open-minded, for example, influences how one presents his/her own thought, how one listens to other participants' ideas, how one asks questions to others, and how one interprets and understands a subject matter. Therefore, the emphasis on the attitude of open-mindedness directs us to pay attention not only to the quality of speaking but also to the qualities of listening and thinking during inquiry. As pointed out above, in Habermas's vision of argumentation the focus is placed mainly upon the act of speaking and the concept of argumentation is used to describe a certain form of speech act. But this emphasis on the dimension of speaking is not peculiar to Habermas. According to Gemma Corradi Fiumara, the tendency to privilege the role of speaking while neglecting the dimension of listening in communication has been ingrained in the Western philosophical tradition: "When western knowledge tried to frame the entire world, and its history by making use of the power that basically emanates from the voice of our rationality then, perhaps, an excessively logocentric culture emerges in which there is no longer any room for listening."[29] She argues that the lack of sufficient

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[27] John Dewey, *Democracy and Education: An Introduction to the Philosophy of Education* (Nu Vision Publications, LLC, 2007), 145.
[28] Ibid., 146.
[29] Gemma Corradi Fiumara, *The Other Side of Language: A Philosophy of Listening* (London: Routledge, 1990), 19.

attention to listening has resulted in the mastery mode of communication and, thus, the hominization of the world. Speaking, however, is essentially connected with listening and thinking. When we recognize this fact, our understanding of communication will become more comprehensive, and our action will become more harmonious.

Bohm's dialogue and Lipman's inquiry have many aspects in common, including the one which seemed incompatible on the surface. In fact, the terms *dialogue* and *inquiry* are sometimes used interchangeably. But if the term *inquiry* particularly illustrates the orientation towards searching for answers in reciprocal communication, it becomes even more relevant to the description of a method of education for democratic environmental restoration. While Lipman's notion of community of inquiry values the multiplicity of perspectives, the term *inquiry* may be used to signify the monological process of reflecting upon things. The Cartesian search for truths, for example, implies the inquiry carried out by a singular self detached from others. Lipman, however, stresses that the notion of inquiry is inherently social or communal because "it rests on a foundation of language, of scientific operations, of symbolic systems, of measurements and so on, all of which are uncompromisingly social."[30] Even though inquiry might be social by nature, the community of inquiry in particular casts light upon the power of face-to-face communication. When various people get together, it is possible to go beyond monological thinking, to examine things from various perspectives, to find alternative interpretations and to reach a deeper understanding of the world. The integration of different perspectives contains a powerful educational implication. Hence, the term *multi-perspectival inquiry* will be used to describe a particular mode of inquiry that attempts to incorporate a variety of voices through direct reciprocal communication. This concept seems to provide a

[30] Lipman, *Thinking in Education*, 83.

relevant educational method. Indeed, the practice of such inquiry is critically needed in environmental restoration projects which contain complex value issues as it helps people to carefully investigate issues at hand and to create ideas that accommodate various viewpoints. Multi-perspectival inquiry is, therefore, employed as a method of environmental education that I develop in this research.

4-5 Multi-perspectival inquiry as a method of environmental education

Inquiry-based education has been explored and developed mainly in formal education. One of the advocators of this education is John Dewey, who has been critical of the trend of American school education at the beginning of twentieth century when many schools emphasized vocational training merely aimed at the development of industry.[31] What seemed more important in education for Dewey was the cultivation of children's intelligence, which would assist their voluntary disposition and interest in the future. He regarded the development of children's capacity to inquire as one of the ways to realize the growth in their intelligence.

Following in the footsteps of the Deweyan tradition, Lipman has been actively practicing inquiry-based education at schools by developing an educational program named *philosophy for children*. On the basis of its unique educational philosophy and methodology, this program has been modified in accordance with various cultural and social needs, and has been practiced mainly in the context of formal education around the world.

Although the educational value of inquiry has been mainly examined in such a context, its application does not need to be limited to children's education. This method has

[31] Johnston, 185.

been applied, for instance, to teacher's meetings at some schools that employ Lipman's inquiry-based educational program. Isaacs has been conducting dialogue with people in various walks of life as well as with groups from large private corporations. Hence, inquiry can no doubt be used outside the school context. Indeed, Dewey emphasizes the important role that social inquiry plays in the development of a democratic society. In "Search for the Great Community," he writes, "Communication of the results of social inquiry is the same thing as the formation of public opinion."[32] He further adds that, "Democracy will come into its own, for democracy is a name for a life of free and enriching communication…. It will have its consummation when free social inquiry is indissolubly webbed to the art of full and moving communication."[33] Dewey suggests that there is a close connection between the maturity of democratic society and the progress of social inquiry. Inquiry presupposes the freedom of thought and goes against indoctrination of ideas by authoritative power. As it is, this form of communication is relevant to the growth of a democratic community. When inquiry is used as a path to collective decision-making, and when a circle of inquiry grows to include more voices to create shared vision for the future, a democratic system of decision-making will develop. In order to promote the practice of multi-perspectival inquiry, it is important to create relevant opportunities for various people to engage in this practice. There are four ideas that are helpful in materializing this practice.

First, in order to share ideas from different perspectives in inquiry, it is necessary to create a safe environment in which people can present any thoughts and concerns in their mind without hesitation. As mentioned earlier, open-mindedness is the fundamental attitude that everyone needs to cultivate in order to become a responsible participant in

[32] John Dewey, "Search for the Great Community," in *Essential Dewey*, 304.
[33] Ibid., 307.

inquiry. This attitude influences the ways of presenting one's ideas, of listening to others, of understanding a subject matter, etc. It is thus important to share the importance of this attitude with participants and attempt to reflect on our participatory attitude with a basis on this concept.

Second, space is a crucial element that affects the safety of inquiry and influences the degree of people's participation and the quality of their communication. In *The Silent Language*, Edward Hall focuses on the notions of time and space, and explains how these elements come into play in human communication. In the chapter titled "Space Speaks," he writes, "Spatial changes give tone to a communication, accent it, and at times even override the spoken word. The flow and shift of distance between people as they interact with each other is part and parcel of the communication process."[34] Space possesses a potential to determine the effectiveness of communication and to convey a certain meaning (information) to the other. Consequently, in order to encourage people to participate in active reciprocal communication, it is necessary to create an adequate space for this purpose.

With regard to the ideal space formation, both Bohm and Lipman argue that inquiry starts with the participants sitting in a circle, as the circle allows the face-to-face interaction among them. Randolph T. Hester calls the space that arouses active communication a *sociopetal space*, and explains: "A circle of chairs is designed to be inclusive and to encourage eye contact, listening to others, and cooperative behavior… The circle is powerful metaphor and forceful design element."[35] He moves on to say that, "We need places that encourage people to listen to one another and to work together. This

[34] Edward T. Hall, *The Silent Language* (Garden City, NY: Doubleday and Company, Inc., 1959), 204.
[35] Randolph T. Hester, *Design for Ecological Democracy* (Cambridge, Massachusetts: MIT Press, 2006), 32–33.

requires arrangements that facilitate eye contact, physical closeness, equal access to work materials and information sources, and space to work as a whole, as small teams, and alone."[36] Sitting in a circle has the potential to activate communication among participants in terms of strengthening their mutual awareness. Furthermore, it contributes to the creation of a non-hierarchical communication space because there is no front in a circle. In Bohm's words, a circle "does not favor anybody."[37] Each participant can be treated equally with the same weight. The formation of a circle is one of the ways to mitigate the problem of epistemic hierarchy, which I discussed in Chapter 2.

Third, it is important to recognize that there are some thoughts that cannot be simply verbalized. There are two points involved in this idea: (1) people may not have the adequate skills to express their thoughts in words; and (2) they may have thoughts that cannot be presented in the form of clear statements. With regard to the first point, it is important to stress the view that inquiry is a cooperative process of weaving ideas together. Even one simple word can be a valuable source of information that is needed to advance this process. Participants can help each other to uncover and to articulate deeper concerns embedded in one word so that everyone can share each other's view. Concerning the second point, it should be remembered that propositional statements are not the only way to express our ideas. There are diverse ways to use language for deepening our understanding of the world. Elliot Deutsch emphasizes a special function of the creative mode of language use: "'Our human linguistic practices' need not to be, and most certainly are not already, confined to just the kind of communicative discourse outlined by, and insisted upon, by Searle. Poetic speech, much of the wisdom discourse to be found in many cultures and traditions—indeed all that comes under what I have been elsewhere called the

[36] Ibid., 33.
[37] Bohm, 17.

'ontological power of speech'—goes beyond referential, communicative discourse."[38] According to Deutsch, playful knowing, like poetry, enhances our power of imagination and makes it possible for us to grow our interpretations of reality. It is worth indicating that he refers to the poetic expressions not only as artistic activities but also as a tool for making important speeches.

Similarly, Barbara Weber, who promotes inquiry-based education in Germany, draws our attention to the role of artistic and metaphorical communication methods in inquiry: "Poetic 'descriptions' are never complete or cloistered, but are always open to other opinions in an ongoing dialogue with the recipient."[39] While the interpretation of a propositional statement depends upon the shared, referential use of words and concepts, the interpretation of a poetic statement proceeds in light of people's active engagement in the process of creating meanings. Weber's suggestion to incorporate artistic communicative activities in inquiry illuminates the creativity and enjoyment embedded in the art of collaborative interpretation.

The fourth aspect is associated with the first one. The importance of spatial formation in inquiry indicates that there is an association between one's communicative and reflective performance and one's spatial disposition. In such cases, when participating in an inquiry concerning environmental issues, visiting actual sites for restoration, for example, may help us to exercise our imagination and to think about issues from different perspectives.

Field-workshop is the method that Kuwako et al. have developed as a way to

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[38] Elliot Deutsch, *Persons and Valuable Worlds: A Global Philosophy* (Oxford: Rowman and Littlefield Publishers, Inc., 2001), 175–176. Deutsch is mentioning Searle here because Searle's study of speech act narrowly focuses on the rule-governed referential use of language.

[39] Barbara Weber, "Hope instead of Cognition?: The Community of Philosophical Inquiry as a Culture for Human Rights based on Richard Rorty's Understanding of Philosophy," *Thinking* 18 (2008): 23–31.

discover layers of meanings embedded in landscapes.[40] They claim on the basis of their field experiments that the peripatetic style of inquiry has a tremendous power to enhance the perceptions of our surroundings. This method consists of three stages: (1) manifold participants visit the field together; (2) they express the ideas and impressions obtained from their experiences during the fieldwork through such communicative methods as speech and artwork; and (3) they deepen their understanding of the field by sharing diverse ideas with each other. Fieldwork allows us to perceive its unique geographical, cultural, and historical features through various senses. It is thereby also important in terms of the cultivation of environmental sensitivity.

Compared to the set of presuppositions of discourse described by Habermas, these four ideas are feasible in the ordinary communicative scene and do not limit the participants to those who are proficient in discourse. Furthermore, these ideas embody a much richer account of communication and broaden our view of environmental education that aims at cultivating people's autonomous participation and empowering the community. Although I have provided a mere sketch of the fundamental aspects of multi-perspectival inquiry, I shall explain them and incorporate more detailed ideas into the guidelines that will be presented in the following chapters.

[40] Toshio Kuwako, ed., *Nihonbunka no Kūkangaku* 日本文化の空間学 (Tokyo: Toshindo, 2008), (in Japanese).

Chapter 5 Empowering communities through the practice of the *dangisho* workshop

In order to lay a practical foundation for an inquiry-based environmental education, it is necessary to demonstrate how such education can be implemented. This chapter highlights the practice of multi-perspectival inquiry that the Toki and Community Research Team has been carrying out on Sado Island since May 2007. We have given the name *dangisho* to a series of workshops embodying the concept of multi-perspectival inquiry. I shall start by explaining the meaning and the ideas embedded in this name (Section 5-1). I will then move on to delineate the guidelines for the *dangisho* workshop (Section 5-2) and new ideas and activities generated through inquiry (Section 5-3). Finally, the educational values of the *dangisho* workshop will be reviewed through the analysis of the outcomes of this inquiry-based education (Section 5-4).

5-1 A strategy for multi-perspectival inquiry: the *dangisho* workshop

In an attempt to develop an approach to environmental education based upon the practice of multi-perspectival inquiry, the Toki and Community Research Team started a series of workshops named *dangisho* (談義所) in various districts of this island. This name was selected in response to a concern raised by a local resident that the term *workshop* imported from English would sound unfamiliar to senior citizens on the island. Although the term *dangisho* or *dangi* has not been widely used in Japan in modern times, at least it does not sound foreign to most Japanese people. Kazuho Seko, who promotes workshops for community development in Japan since 1990's, has admitted to sometimes intentionally avoiding to use the term *workshop* because she wants to invite even those who have never

heard of or who have never participated in it.[1] The naming of the *dangisho* was based on the belief that the avoidance of the term workshop might facilitate public participation by lowering the threshold of workshops.

The use of the term *dangisho* has been deemed adequate since it captures indeed the essential quality of the multi-perspectival inquiry. This term signifies the place (*sho*, 所) for *dangi*. The latter term, *dangi*, consists of two elements, *dan* and *gi*, with *dan* meaning "to discuss or to talk with," and *gi* "appropriate ways, meanings, important things, etc." As such, *dangi* illustrates the dialogical act aimed at a deeper understanding of things. It can thus be translated as "to inquire with others into things so as to discover new or hidden insights about them," whereas *dangisho* is the place where this task is accomplished.

Dangisho originally connotes the name of a local gathering place which was widespread in Japan in medieval times. At that time, people gathered at *dangisho* located in Buddhist temples and learned mainly Buddhist doctrines.[2] The *dangisho* workshop promoted in Sado is surely not about the study of Buddhist teachings, but corresponds to an expansion of the concept in order to describe the focal point of community-oriented learning.

There are several cases of environmental restoration in which open meetings are coordinated in order to discuss plans under the leadership of specialists in ecology, environmental engineering, environmental sociology, environmental ethics, consensus building, etc. Many of these meetings are designed to explain the importance of conserving and preserving a certain natural environment and to inform people by means of

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[1] Kazuho Seko, *Shimin Sanka no Dezain: Shimin, Gyousei, Kigyou, NPO no Kyoudou no Jidai* 市民参加のデザイン－市民・行政・企業・NPO 協働の時代 (Tokyo: Gyousei, 1999), 59, (in Japanese).
[2] Jacqueline Stone, "Medieval Tendai *Hongaku* Thought and the New Kamakura Buddhism: A Reconsideration," *Japanese Journal of Religious Studies* 22 (1995): 17–48. *Dangisho* developed as Tendai seminaries.

scientifically supported data that can be used for the improvement of its ecological conditions. What differentiates the *dangisho* workshop from this predominant style of meeting is its emphasis on comprehensive restoration with a view to the realization of both natural and social well-being. Rather than merely explaining the importance of re-introducing the *toki*, the workshop aims at (1) elucidating the diverse concerns of various stakeholders and (2) generating new ideas and activities so as to connect the concerns of stakeholders with the re-introduction of the *toki*. By doing so, the *dangisho* has been attempting to cultivate people's abilities to participate in collaborative inquiry and to consider appropriate actions by examining their surroundings from various perspectives.

Public participation, which lies at the core of democratic restoration, cannot be achieved merely by requesting people to follow predetermined restoration plans or by informing them of the importance of general environmental values. Instead, autonomous participation is essential for promoting democratic activities. The empowerment of people, therefore, has been emphasized for the realization of a sustainable community in which both the *toki* and the human can live. The *dangisho* workshop has been designed and promoted with these concerns in mind.

Thirty-seven workshops were held between May 2007 and January 2009. A variety of people have participated in the *dangisho* workshops, e.g. local farmers, fishers, housewives, preschool teachers, senior citizens, schoolchildren, city councils, governmental officials, etc. All workshops are listed in Table 1 with brief introductions. In this table, I also summarize their educational outcomes by considering whether the workshop has managed to produce any difference in the way in which people communicate with other stakeholders and look at the issues concerning the *toki* and local communities.

Although the structure and procedure of the workshop vary in each case, all

workshops share a number of basic features. I proceed to formulate a set of guidelines containing the essential ideas deemed important for designing and conducting the *dangisho*. These guidelines have been developed on the basis of the preceding theoretical examination concerning democratic environmental restoration and inquiry-based environmental education, and the consideration of local issues and conditions on Sado Island. In fact, the guidelines have emerged from the actual practices of the workshop—they constitute, in this sense, and at least in part, one of the outcomes of the *dangisho* activities.

5-2 Guidelines for the *dangisho* workshop

Basic ideas for designing and conducting the *dangisho* workshop are summarized in ten items and organized into three stages: planning, implementing, and post-workshop stages. The overview of the guidelines for the *dangisho* workshop is as follows:

The planning stage
1. The workshop should be held in various districts through the entire region.
2. It is necessary to assemble people in various positions.
3. Local residents should be involved in the planning of the workshop.

The implementing stage
4. The meeting place should be designed to make people feel safe and relaxed.
5. A facilitator is selected among the Team members.
6. The topics for inquiry are selected in response to the needs of the participants.
7. A facilitator provides the participants with equal opportunities to present their opinions and to share their ideas with others.
8. A facilitator encourages the participants to consider practical solutions to identified problems.

The post-workshop stage
9. The contents of workshops should be released to the public.
10. The workshop should be reviewed each time in order to design the next workshop.

I shall now set out to explain the ideas underlying each item.

1. *Holding workshops all around the island*. As mentioned before, the degree of public interest in the *toki* issue varies depending on the location. The east part of the Kosado region has been designated as the core zone for the *toki* preservation. People who live outside this zone tend to be left behind and cannot connect the issue with their everyday lives. Such zoning is not adequate because the re-introduction of the *toki* may influence the lives of local people both directly—through the expansion of the habitat of the *toki*—and indirectly—through the changes in agricultural policies, tourist industry, etc. As it is, the reintroduction of the *toki* needs to be recognized as an issue concerning the entire island. It is necessary to recognize people in the entire region of the island as potential stakeholders, and to invite them to join the inquiry concerning the *toki* and other local issues. The *dangisho* workshop is deliberately held in different regions of the island with no regard to this political zoning.

2. *Assembling various participants*. *Dangisho* is characterized as a multi-perspectival learning place, in which people in various positions get together, share ideas, and think together in order to achieve progress towards ecological and social well-being. Each participant may have different ideas about the issue of the re-introduction of the *toki* as well as of environmental restoration associated with this project. Yet, by looking at local environmental issues from different perspectives, participants can deepen their understanding of the issues and engage in a cooperative process of problem-solving.

Dangisho invites not only local residents but also governmental officials and academic researchers. For several reasons, there are heightened expectations of ensuring the participation of the latter parties. To begin with, governmental officials and specialists can provide the latest information about the *toki* and ecological restoration in Sado. Also, they obtain an excellent opportunity to construct policies and plans on the basis of shared

local concerns and needs during the inquiry. And, last but not least, they can elaborate on genuinely democratic environmental restoration by actually participating in such a process.

In order to facilitate the active participation of public officials, most *dangisho* workshops have been conducted under the auspices of Sado City as well as the Sado Ranger Office for Nature Conservation (Ministry of Environment). Not only city officials but also Niigata prefecture officials and other national governmental officials are invited to the workshops.

3. *Collaborative planning with local residents*. Local residents play an important role in the process of planning the workshop, e.g. in selecting meeting places and informing people about the workshop. It is extremely difficult to put the organization of workshops aimed at facilitating local participation exclusively in the hands of outsiders. By planning the workshop in collaboration with local residents, it becomes possible to coordinate workshops on the basis of local needs. For instance, a person who has a solid local network will be a considerable help. This person may assist the Team members in expanding their activities by introducing them to key persons in local communities. The Toki and Community Research Team includes a local resident as a full member. This member has been playing a critical role in coordinating workshops in various districts with a variety of participants.

4. *Selecting a facilitator*. A facilitator plays several important roles in the course of the inquiry. Such roles include eliciting ideas from participants, helping them to develop shared ideas, and assisting them in their collaborative decision-making. Another key task of the facilitator consists in the creation of a safe environment for fruitful inquiry.

Seko agues that a facilitator must maintain a neutral stance. According to her, being neutral is different from discarding one's opinion. A person in a neutral position may keep his/her own ideas and values; yet, he/she must remain receptive to different opinions.[3]

Indeed, the flexible facilitation of inquiry significantly depends upon the skills and attitudes of the facilitator. If a facilitator holds a fixed view and direct the inquiry in light of his/her interests, it is not possible to incorporate different ideas and develop a shared vision in the course of inquiry. What is required for the facilitator is suspending his/her own ideas (an open-minded attitude), and adequate skills to elicit participants' ideas so as to deepen the inquiry in response to shared ideas. Such an attitude and skills cannot be immediately attained; therefore, it is also important to develop a facilitator throughout a series of inquiries.

5. *The design of space*. The design of a meeting place is important in that it can help generate fruitful inquiry among the diverse participants. For active and productive communication, it is indeed necessary to create a safe environment in which people can reflect on what is in their minds and feel comfortable to share their ideas with other participants.

In most cases, seats are arranged in a circle so that participants can see each other's faces. As explained in the previous chapter, this formation reduces the distance between the facilitator and the participants, eliminates the hierarchical structure derived from social dispositions, and encourages interactive discussions among the diverse participants. The circle formation as a communicative space has a long tradition in Japan and is widely known as *enza* (円座) and *kurumaza* (車座). This formation has been grounded in the communal scenes in Japan.

[3] Seko, 63–66.

Playful decoration can alter the atmosphere of a meeting place. For instance, at the first workshop in Iwakubi district, the schoolhouse where the initiative took place was decorated with Japanese lanterns and a drum was played to inform neighbors of the beginning of the workshop. These devices turned out to be highly effective in creating a playful atmosphere. In the case of a workshop with local senior women, a room was decorated with wildflowers in order to create a relaxed atmosphere in the meeting space. When the participants entered the room, they started talking about the flower arrangement at once. It did no doubt contribute to creating a good start for the subsequent dialogue. A safe environment for non-hierarchical communication develops with these subtle considerations.

6. *The selection of inquiry topics*. Considering that the *toki* issue is not usually deemed a central local concern, it might seem inadequate to initiate inquiry with this topic. As mentioned earlier, it is important to connect the *toki* issue with the daily concerns of local people. To this effect, topics are selected according to the interests of the participants. Depending on the region, gender, generation, social status, etc., participants may hold different concerns and interests. Appropriate topics need to be searched by listening to and understanding people's concerns. Sometimes inquiry topics may be selected in advance based on available information about the community; however, they are always subject to flexible adjustments as we get to know more about the stakes of the participants in the course of the discussion.

At the workshop named *Onna Dangi*, to which we invited only female residents, it turned out that most participants were interested in social welfare issues. They have witnessed, in their neighborhood, senior residents living by themselves without any connection to their neighbors. Throughout the process of inquiry, the focus of discussion

shifted thus to consideration of the ways in which it is possible to make the best of the re-introduction of the *toki* in order to improve the problem of the aging society. At the end, we arrived at the idea that the release of the *toki* would be a valuable opportunity to mitigate the isolation of the senior residents living by themselves.

7. *The process of sharing diverse ideas*. An important precept of the multi-perspectival workshop is to elicit diverse ideas from participants. By doing so, it is possible to fully appreciate the value of inviting a variety of participants to inquiry. At the beginning of the workshop, it is important to reassure the participants that any ideas are welcome, and to create a safe atmosphere in which people do not hesitate to share their ideas. Naoki Kikuchi, however, raises an important issue concerning the task of eliciting local voices. He contends that people's ideas and values develop in a pluralistic and complex manner, and are difficult to be verbalized in a systematic form.[4] Because of this unsystematic configuration, people may experience difficulty in expressing what is in their mind. It is thus important to consider how to elicit, share and explicate local voices in the most effective manner.

At the *dangisho* workshop, the method for gathering ideas is designed on the basis of the *KJ method* proposed by Jiro Kawakita. In this method, each idea is written down on a different piece of paper. Written ideas are then connected and organized to shape increasingly larger systems of ideas.[5] The application of this method requires all participants in the *dangisho* to write down their thoughts on pieces of paper (post-it notes). All notes are subsequently collected and posted on a board in front so that they can be shared with the other participants, while the facilitator attempts to connect the written ideas

[4] Naoki Kikuchi, *Yomigaeru Kounotori: Yaseifukki kara Shizensaisei he* 蘇るコウノトリ－野生復帰から地域再生へ(Tokyo: Tokyo University Press, 2006), 101–102.
[5] Jiro Kawakita, *Zoku Hassouhou* 続・発想法(Tokyo: Chuokoron-sha, 1970), 62.

by grouping them in order to discover associations and differences among them. In this process, the facilitator also elicits from the participants the reasons behind their ideas so as to elucidate their deeper and underlying concerns.[6]

This method offers several advantages. First, it becomes possible to collect ideas from all participants in a limited time. Second, people usually feel more comfortable when expressing their ideas in writing than in speaking. Third, through the process of writing, people become aware of their own thinking and are able to organize their ideas more clearly. Fourth, once ideas are presented in written form, they can be recorded effectively using the people's own words. The above points prove that, all in all, this approach provides a valuable method to collect and share a variety of ideas from participants.

8. *The process of decision-making*. It is important to include the process of considering possible courses of action with participants in order to produce practical achievements through inquiry. The participants share their ideas and find both commonality and diversity in their concerns. They are also encouraged to consider possible solutions to identified local issues. By encouraging them to participate in the process of problem-solving, the workshop becomes an opportunity for promoting a creative inquiry that generates new ideas and actions for the future.

There are various levels of decision-making. Some forms of decision might be concerned with what people think and do in their daily lives; these forms do not require any formal decision-making process to induce further actions. Others, however, might require a process at the political level. Whatever the level a decision might require, it is crucial to attempt to reach a practical outcome (consensus) at every workshop. Such an effort will result not only in raising the sense of fulfillment among participants but also in

[6] Kawakita also mentions the importance of asking meaning of ideas. See ibid., 40–41.

encouraging their further participation.

9. *Releasing information through publication*. The contents of the workshop are documented not only for academic purposes but also for public release. The activities of the *dangisho* workshop are reported to local residents and governmental officials *via* an original newsletter (*dangisho tsushin*) and a promotional leaflet explaining the policies and activities of the team. In virtue of these forms of information release, people who have participated in the workshop can reflect on what has been discussed, whereas those who could not participate can gain access to the outline of the discussion. Since the internet is not as yet a widespread medium on Sado Island, paper-based information release has been employed as the main approach for sharing the *dangisho* activities with local residents. One of the current challenges is to establish an effective way to distribute this paper-based information.


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保育士さんが直面する少子化の問題
解決するには若者の交流推進が必要！？
第22回佐渡めぐり移動談義所「世代継承花咲く談義」
開催日：2008年4月30日（木）
会場：佐渡市立トキっ子保育園
参加者：保育士7人、佐渡市職員1人、環境省1人
世代継承花咲く談義ポスター
笑顔の多い楽しい職場
「子供が大好き」、「未来のある人に関わりたい」、「自分の先生にあこがれて」など、みなさん教育に対する熱い思いをもって、日々仕事に取り組んでいます。保育の仕事は、エネルギーが必要です。みなさんは子どもたちの笑顔から力をもらうことも多いと話していました。
保育士の方が抱える問題の一つは、事務処理にかかる時間です。これは多くの教育施設に共通する問題かもしれません。できるだけ子どもとの時間を多く持ちたい保育士さんにとって、事務処理の煩雑さは深刻な問題です。
佐渡で急速に進む少子化の問題
解決するには若者の交流推進必要か？
佐渡市では少子化が深刻な問題となっています。保育園、学校などの施設は、統廃合により徐々に規模が縮小しています。トキっ子保育園も、新穂地区の4つの保育園を統合して平成15年に開設されました。
少子化問題は、子どもの数が増えなければ解決できません。また、若者の結婚率が減少しているという問題とも関係があります。佐渡に幸せな家庭が増えるためには、若者の出会う場が増える必要があるという声が出ました。
☆花咲く場外談義☆　投身の保母さんと佐渡市地域振興課の職員の方とともに、若者の交流推進の企画を検討しました。佐渡には映画館がないほか、若い人たちが集まるイベントも少ないそうです。地域のよさの理解を深めるような交流会は何かと考えました。佐渡の魅力の一つは、美しい風景です。湖岸や山一子で佐渡の自然を愛でながらBBQをする計画を進める予定です。

Figure 5.1. *Dangisho tsuhshin*

10. *Review and reflection*. After each workshop, the team members review its procedure and program on the basis of their observation and experiences during the workshop. A number of criteria to evaluate the quality of the workshop have been identified. They include questions such as: (1) Did participants enjoy the workshop?, (2) Were we successful in creating a comfortable communication space?, (3) Did participants find new perspectives to look at local issues, including the *toki* issue?, (4) Was there any new voluntary activity proposed by local residents?, and (5) Has the *dangisho* somehow influenced the way in which people communicate with each other?

While it is true that in self-evaluation people tend to focus on negative or

problematic aspects of activities in a given session, it is also important to bring out the positive aspects of those activities as well as to find out what tactics might have contributed to successful inquiry. Hence, self-evaluation is conducted to recognize both the negative and the positive aspects of a workshop.

In addition to self-evaluation, a survey may be conducted after the workshop in order to obtain feedback from the participants. Opinions collected through the survey are then used for the improvement of the quality and style of the *dangisho* activity.

The procedures of the *dangisho* workshop cannot be too thoroughly prescribed since they are subject to constant modifications through all the stages. They need to be flexibly considered each time in accordance with the particular conditions of a given situation. A continuous process of review and reflection is thereby necessary so as to refine the ideas presented in the guidelines.

5-3 New activities and expanded local network

The practice of the *dangisho* workshop has indeed succeeded in producing new ideas and activities. I will elaborate on some of the most significant outcomes of the workshop below. Since the workshops at schools will be more closely examined in the next chapter, I shall focus mainly on the outcomes produced outside the context of formal education.

First, a community-oriented learning center was opened in Iwakubi district and has been run by local residents. In the first *dangisho* workshop, local residents expressed their

wish to use the closed elementary school in their district as a community center.[7] The city responded to this request immediately and approved the continuous use of the schoolhouse—a most unusual promptness in decision-making, since political decision-making often involves several formal and lengthy procedures.

This schoolhouse was named *Iwakubi Dangisho* and has been utilized as a learning


Figure 5.2. Iwakubi Dangisho


Figure 5.3. A variety of facility at Iwakubi Dangisho

center, art gallery, hostel, and a gathering place for local residents as well as for visitors. It is also currently considered a focal point for releasing information concerning the *toki* preservation activities. For example, it is, used as a satellite office for the Toki and Community Research Team and stores information about a series of *dangisho* workshops. The Sado Ranger Office for Nature Conservation also provides the latest information of its activities. Moreover, in order to make local residents more familiar with the *toki*, wood prints (*hanga*) of the *toki* are displayed in the facility with the cooperation of the Aikawa Hangamura Museum. Since the problem of the aging society is particularly severe in Iwakubi, people have started to discuss how they can utilize this facility to empower senior residents and to contribute to their welfare. Iwakubi Dangisho also activated the exchange

[7] Iwakubi Elementary School closed in March 2007 due to depopulation of the Iwakubi district. This school was combined with Maehama Elementary School, which locates about 30 minutes away from Iwakubi. Its beautiful wooden schoolhouse appeared in the national magazine and has been admired as a model of old Japanese schoolhouse, which can be rarely seen these days.

between local residents and visitors. The creation of this kind of gathering place is an important accomplishment in terms of the future growth of community-oriented activities towards both environmental and social well-being. (Dangisho #: 1, 5, 12)

Second, a volunteer group was established by city councilors to study and discuss the *toki* issue. Although the reintroduction of the *toki* constitutes an urgent issue for Sado City, people have rarely discussed this issue at the city council. The councilors in this group have proposed to give greater priority to the *toki* issue and to consider how they can achieve fruitful results for their communities by means of the *toki* preservation. Since the councilors are representatives of local communities, their autonomous participation may indeed have an important consequence in terms of getting more people involved in ecological community development. (Dangisho #: 8)

Third, the participants in the *Onna Dangi* generated a new idea connecting the problem of the aging society with the *toki* issue, as pointed out above. It is worth recapitulating the insights gained herein. The most serious concern for the female participants was the issue of social welfare resulting from depopulation and an aging society. One of the participants mentioned that there are many senior citizens living by themselves without any connection with their neighbors and unable to go out at all. The solution to this problem was considered in relation to the *toki* issue. At the end of the inquiry, it was suggested that the release of the *toki* would become a great opportunity to mitigate the isolation of seniors who tend to stay indoors. (Dangisho #: 9)

Fourth, a group of seniors initiated a voluntary activity in cooperation with university researchers. The members of the Katagami Seniors Club (潟上老人クラブ), on learning about the *dangisho* activities, asked the Team members for assistance in initiating a new activity that would contribute to their local community. Since research on the habitat

of the *toki* in the past had not been sufficiently developed till then, university researchers proposed to promote this research together with them. The interview-based research was conducted in August 2008. This activity had a significant impact in the social welfare of senior citizens. It is expected that the collaborative planning and practice that this important project entails will translate into the empowerment of senior citizens. (Dangisho #: 20, 23, 26)

Fifth, a co-learning organization named *KAMOKEN* was established on July 11, 2008, in order to study the restoration of Lake Kamo as a part of the preservation of the *toki*. This organization was developed on the basis of an idea addressed by local fishermen who run an oyster-farming business in this lake: they very much wished to improve the conditions of Lake Kamo upon the release of the *toki* so that they could revitalize the declining oyster industry. Their request carried significant meaning in terms of achieving a successful symbiosis with the *toki* on Sado Island.

KAMOKEN aims at facilitating collaborative learning among people in various positions, e.g. fishermen, farmers, local company employees, governmental officials and university researchers, and attempts to produce practical achievements towards improving the environmental conditions of the lake. I will discuss the policies and activities of this organization in detail in Chapter 7. For the time being, suffice it to say that currently one of the most critical outcomes of this organization is the change in people's communication styles. Through the activities of KAMOKEN, people have learned the importance of listening to each other, sharing ideas with a variety of participants, and thinking together about the solutions to local issues. They are building cooperative relations and have started to enjoy the process of multi-perspectival inquiry. This change has significant implications for the further development of collaborative activities. (Dangisho #: 25, 28, 29, 30, 32, 34)

Table 1: The list of *dangisho* workshops

In this table, "LR," "GO," and "UR" refer to local resident, governmental official, and university researcher respectively.

#	Workshop Title and Date	Participants	Outline	Educational Implication
1	1st Iwakubi Yoriai 05/12/2008	55 (LRs and GOs)	- Identified local issues - Discussed the continuous use of schoolhouse	Participants made a proposal for using schoolhouse as a community-oriented learning center and submitted it to the city.
2	Ogi Dangi 05/13/2007	10 members of Town Management Org.	- Discussed the link between community development and the *toki* issue	The participants obtained more interest in the *toki* by sharing the effect of the *toki* on tourist industry.
3	Matsugasaki Chugakusei Dangi 06/29/2007	13 students + teachers, parents, LRs, GOs, etc.	- Reviewed students' research plans. - Introduced the activities aimed at the re-introduction of the *toki*.	Deepened participants' understanding of the comprehensive approach to environmental restoration.
4	Nougaku Dangi 06/29/2007	11 farmers, 6GOs	- Discussed both the positive and negative aspects of the re-introduction of the *toki*.	Recognized positive effect of the *toki* on farming,, and identified ethical dimension of this issue
5	2nd Iwakubi Yoriai 06/30/2007	22 LRs and GOs	- Discussed the management and the use of schoolhouse (Iwakubi *Dangisho*) -	The community-oriented management of the facility was discussed. People recognized the need for voluntary facilitation.
6	Iwakubi Kokusai dangi 09/12/2007	12 URs	- By holding a workshop, introduced Iwakubi Dansigho to Japanese and foreign UR as a model of a community-oriented learning center.	
7	Akadomari Chugakusei Dangi 09/13/2007	71 students, 6teachers, and GOs	- Introduced the activities aimed at the re-introduction of the *toki* - Conducted group discussions with students.	Students enjoyed sharing ideas with others through group work. They deepened their understanding of the *toki* and considered what contribution they could make.
8	Giin Dangi 09/13/2007	17 city councils	- Discussed the potential of the *toki* in revitalizing various forms of local industry. - Considered the roles of city council in this issue.	Cultivated participants' interest in the *toki* issue. A voluntary group was established to consider this issue at the council.
9	Onna Dangi 09/15/2007	15 female residents, GOs, etc.	- Identified local issues. - Considered how it is possible to connect the *toki* issue with other identified issues.	Created a new idea to think about the *toki* by connecting this issue with the problem of aging community.
10	Maehama Shou-Chugakusei Dangi 09/18/2007	42 students, 9 teachers, and GOs	- Introduced the activities aimed at the re-introduction of the *toki*. - Conducted a group discussion.	Introduced a discussion-oriented lesson to the schoolteachers. Discovered new ways to think about the *toki* from students' ideas.
11	Tukimikai Kikaku Dangi 10/27/2007	8 LRs	- Discussed the activity plans in Niibo, Katagami district with LRs.	Considered feasible activities to revitalize a local community. Created a group to promote educational activities with LRs.
12	Mameraka-ya Katsuyou Dangi 10/29/2007	16 LRs (13 female residents), GOs	- Discussed community-oriented activities with senior residents to facilitate the use of Iwakubi *Dangisho*.	Shared participants' ideas about how to utilize the facility. Launched a craft-fair project to revitalize a community.
13	Aikawa Chugakusei Dangi 10/30/2007	140 students, 6 teachers, GOs	- Introduced the activities aimed at the re-introduction of the *toki*. - Created haiku-poems about the *toki* in a group.	Raised children's interest and understanding of the *toki* issue.
14	2nd Tsukimikai Kikaku Dangi 12/15/2007	8 LRs	- Discussed how to incorporate the issue of the *toki* into the Mochi Pounding party planned in collaboration with LRs.	
15	3rd Tsukimikai Kikaku Dangi 01/04/2008	11 LRs	- Developed the detailed plan of the mochi pounding party in Feb. 2008.	
16	Hatano-Ogura Shougakusei Dangi 02/07/2008	57 students, 5 teachers and GOs	- Introduced the activities aimed at the re-introduction of the *toki*. - Conducted the question-making activity.	Students engaged in question-making and considered the *toki* issue from various perspectives.
17	*Dangisho* Step-Up Dangi 02/07/2008	21 GOs (City)	- Reported the *dangisho* activities to city officials. - Comprehended their needs. - Considered plans for the next fiscal year.	Recognized the need for promoting the *dangisho* activities at schools.
18	Sumiyoshi Mura Dangi 02/09/2008	20 LRs (4 children)	- Introduced the activities aimed at the re-introduction of the *toki*. - Shared favorite aspects of the community.	Facilitated the discussion about the positive aspects of the community and shared them with children.
19	Mochitsuki Dangi	60 LRs	- Held a traditional mochi pounding party in	Learnt old lifestyles and strong

	02/10/2008		collaboration with LRs.	neighborhood connection through mochi pounding.
20	Katagami Nankasenkasa Dangi 02/29/2008	15 (LRs and GOs)	- Consider possible future activities with the members of the local senior's association.	Local senior residents addressed to start a collaborative activity with URs. It was the start of their new voluntary activity.
21	Minna *Toki*iro Dangi 03/01/2008	60 (LRs, GOs, and URs)	- Discussed locally grounded approaches to environmental restoration. - Shared various activities promoted in Sado.	Participants enjoyed the improvisational exchange of activities and deepened their understanding of other activities.
22	Sedai Keishou Hanasaku Dangi 04/30/2008	7 preschool teachers and 2 GOs	- Discussed the problem of depopulation.	Shared the problem that depopulation seriously affects the sustainability of community-oriented activities.
23	2nd Katagami Nankasenkasa Dangi 05/01/2008	4 senior residents, GOs, etc.	- Discussed the plan of a collaborative project with seniors.	Built a plan of the interview-based research about the habitat of the *toki* in the past.
24	*Toki*iro Kikaku Dangi 05/01/2008	21 GOs (city, prefecture and national), LRs, etc.	- Shared the plans of city and the university in the new fiscal year. - Considered the possibilities of new collaboration.	Made a connection with the board of education for the promotion of dangisho at schools.
25	Ryotsu Dangi 05/03/2008	18 LRs (9 fishers), GOs	- Discussed the relation of Lake Kamo with the environmental restoration project aimed at the re-introduction of the *toki*.	Local participants made a proposal to restore the lake in order to make a habitat for the *toki*.
26	3rd Katagami Nankasenkasa Dangi 05/23/2008	3 senior citizens, GOs, etc.	- Determined the plan and the strategy for the collaborative investigation of the habitat of the *toki* in the past.	Launched a project of the collaborative investigation with senior residents.
27	*Toki*no Furusato Niibo Dangi 06/14/2008	18 LRs, 4 GOs, 6 URs	- Discussed the issues of Niibo district, the core region of the *toki* preservation.	Shared the idea that voluntary activities of local residents are required in order to deal with various issues after the release.
28	Kamoko Suikei Saisei Kenkyusho Kikaku Dangi 06/15/2008	13 LRs, 5 GOs, 7 URs, etc.	- Considered the tasks for the restoration of Lake Kamo by cruising around the lake. - Discussed the establishment of a co-learning org.	
29	Kamoko Suikei Keikan Dangi 07/12/2008	22 LRs, 4 GOs, 5URs	- Discussed the plan of the proposal-making for the Landscape Regulations of the city in progress.	Discussed possibilities to participate in the process of political decision-making and determined what approach to take.
30	Kamoko ni Koiccha Dangi 08/21/2008	17 children, 14 LRs, 7 GOs, etc.	- Studied and observed Lake Kamo and oyster farming. - Considered attractive points of the lake.	People learned various aspects of the lake through field study, e.g. environmental issues, oyster farming industry,
31	*Toki* Kodomo Taishi Dangi 08/24/2008	12 children, 5 adult attendants, 2 URs	- Coordinated the exchange discussion program between children from Kuju, Oita and Sado and shared ideas about the *toki* and their communities.	Facilitated the dialogue among children incorporating the method of Philosophy for Children.
32	Kamoko Gyokyou Fuukei Dangi 08/26/2008	14 LRs, 2URs	- Shared ideas about attractive landscapes around Lake Kamo for making a proposal about the landscape regulation of the city.	Examined the process of bottom-up decision-making.
33	*Toki*maushimano Fuukei Dangi 08/29/2008	23 LRs, 4 GOs, 4 URs, etc.	- Watched an old film about the *toki* preservation. - Studied the landscape of Lake Kamo using old paintings.	Expanded our perspectives to look at local landscapes by studying old landscapes through paintings and records.
34	2nd Kamoko Suikei Keikan Dangi 09/14/2008	13 LRs, 9 GOs, 7 URs	- Studied the landscape regulation of the city in progress. - Discussed ideas about the regulation.	Deepened understanding of the process to make landscape regulation, and considered possible participatory approaches.
35	Kanai Shougakusei Dangi 09/18/2008	54 children, 2 teachers, 2 GOs, 5 URs	- Introduced the activities aimed at the re-introduction of the *toki* - Conducted the question-making activity	Encouraged children to look at the *toki* issue from different perspectives through the activity of question-making.
36	Sawane Shougakusei Dangi 09/19/2008	8 children, 2 teachers, 1 GO, 5 URs	- Introduced the activities aimed at the re-introduction of the *toki*. - Conducted dialogue-based discussion.	Teachers could see a children-driven form of discussion. Raised children's interest in the *toki* issue.
37	Tokinosato Kuninaka Nochi Hozenkai Dangi 01/17/2009	9 LRs, 3 URs, 2 external guests	- Considered new approaches to farmland management from the aspect of landscape management	

5-4 The evaluation of *dangisho* workshops

The *dangisho* workshops have been designed and carried out in the light of several educational concerns, e.g. raising people's interest in the *toki* issue, deepening their understanding of this issue by combining different perspectives, and thinking together with them about possible ways to create favorable environmental conditions for both the *toki* and humans. What is more, they aim at cultivating adequate skills and attitudes for collaborative environmental decision-making. On the basis of the outcomes of the *dangisho* workshop, I argue that this inquiry-based workshop unlocks a significant potential as an approach to environmental education with these concerns in mind.

The degree of achievement may vary in each session. In some cases it ended up with a mere sharing of ideas among participants, whereas in other cases it yielded important developments in view of people's autonomous activities. While I contend that the process of sharing ideas *per se* carries a significant educational value, a uniform achievement cannot be expected since each session embodies unique conditions. If we enforce certain ideas or actions upon the participants, it will not be possible to let their autonomous engagement grow. As Seko points out, the task of the coordinator is similar to midwifery.[1] What is important for the practice of *dangisho* is to assist the growth of the participants' creative ideas.

In the light of the further development of multi-perspectival inquiry, there is an additional important issue to be considered: the difficulty in conducting a continuous form of inquiry within the framework of the *dangisho*. Inquiry develops gradually and slowly through the examination of the various aspects involved in a subject matter. If a *dangisho* session does not manage to ensure persistent inquiry, then it might be considered to contain

[1] Seko, 62.

serious weakness. With regard to this problem, a communal research center named KAMOKEN, which started as a result of *dangisho* activities, provides a framework that assists continuous inquiry among diverse stakeholders. My study of inquiry-based environmental education will henceforth proceed within the setting of KAMOKEN in Chapter 7.

Chapter 6 The *dangisho* workshop in formal education

This chapter will focus on the *dangisho* workshops carried out on Sado Island within the context of formal education. I will discuss the ideas and methods necessary for conducting the workshop as a part of the system of school education. Section 6-1 explains the purposes of conducting the *dangisho* workshop at schools in relation to what is expected in the education of children on the island. In order to explain the design of the programs for this workshop, I shall examine the educational ideas and methods of Philosophy for Children (P4C), which has been conducted worldwide with the purpose of cultivating children's thinking abilities through dialogical inquiry. Section 6-2 concentrates on three central educational ideas of P4C that have been embedded in the design of the *dangisho* workshop at schools. On the basis of these ideas, the programs have been developed and conducted at nine public schools in Sado. Two main programs will be illustrated in Section 6-3. By reflecting upon students' responses to the workshop, Section 6-4 discusses the meaning of conducting the *dangisho* workshop in the context of formal education.

6-1 Conducting the *dangisho* workshop in formal education

As I have explained in the previous chapters, people on Sado Island are required to think together in a comprehensive manner about both environmental and social well-being so as to realize the symbiosis with the *toki*. This theme has been regarded as one of the central educational topics in formal education on this island. Sado City, for example, has been encouraging local public schools to incorporate environmental education focused on

the *toki* by distributing a new textbook that can be utilized as a secondary source.[1]

With regard to the implementation of education concerning the *toki* at schools, there is a fundamental question to be considered: What needs to be taught at schools as a part of this education? The textbook issued by the City includes information about the biological and ecological features of the *toki*, the history of its decline and preservation, and the activities carried out for the re-introduction of the bird. Some schools organize trips to the facilities used for the *toki* preservation, so as to let students see the bird and interact with people involved in this task. Others participate in environmental restoration activities such as building a water biotope to create a habitat for plants, insects, fish and birds. All these educational contents are necessary for expanding children's understanding of the *toki* and associated ecological issues. Beside these educational approaches, however, I shall argue that it is also important to cultivate children's abilities to inquire together about the *toki*, their environments as well as their communities.

One of the primary concerns informing the politics of environmental restoration is that the restoration should be carried out in such a way as to adequately fulfill their democratic value. As discussed in Chapter 2, in order to promote a democratic restoration project, there must be local participants willing to commit to the project and able to think and act together about given issues alongside people in various positions, e.g. governmental officials and specialists in natural science. The lack of such participation is a serious obstacle to a democratic environmental restoration. In my view, the improvement of this condition should be included within the scope of environmental education at schools. Children on Sado Island are expected to take over the task of creating a sustainable environment for both the *toki* and human beings. They need to be equipped

[1] *Sadogashima Kankyo Taizen* 佐渡島環境大全 (Sado: Sado City, 2007), (in Japanese).

with the ability to think critically for themselves about the *toki* and surrounding environmental and social issues. We would like them to become engaged inquirers who can transform their community for a better future. River restoration, forest management, agricultural reformation, landscape management—all these activities promoted on Sado Island might affect children's lives over a long period of time. Therefore, in environmental education, it is crucial to provide children with an opportunity to share their views and to think together about various issues in their community. The cultivation of children's capacity to participate in environmental inquiry need to be regarded as one of the central themes of environmental education. The *dangisho* workshop at schools aims precisely at responding to this concern.

With this contextual information in mind, I have set up four educational objectives for the *dangisho* workshop at schools: (1) to deepen students' understanding of the *toki* and environmental restoration activities promoted in Sado, (2) to let students look at the *toki* issue from different perspectives and discover various other issues associated with it, (3) to raise their interest in the *toki* as well as their community, and (4) to encourage students to consider what they can do in order to develop a sustainable environment for both the *toki* and human beings. Based on these objectives, the workshop is divided into two parts: a lecture and a participatory activity. In the lecture, governmental officials and researchers who actually carry out restoration projects in Sado explain their latest activities to students. Participatory activities are designed on the basis of the student population, the location of the school, the number of available team members, etc.

In order to enrich the strategy for the activities, I have attempted to incorporate educational ideas and methods developed in the study of Philosophy for Children (P4C). As briefly mentioned in Chapter 4, this program was originally developed by Matthew

Lipman, who wished to improve students' ability to think deeply and responsively. The main activity of this program is dialogical inquiry, in which both the teacher and the students think together about a subject matter. P4C is currently conducted worldwide by accommodating itself to the social and cultural conditions and needs of each country. On some occasions, this program is implemented in a session specifically to cultivate children's thinking abilities. In other cases, it is applied to standard classes such as mathematics, literature, ethnic studies or environmental education. Because of its flexible structure, P4C provides a relevant support for the consideration of the *dangisho* workshop at schools.

A major difficulty in integrating P4C into the *dangisho* workshop is the limitation of time. The research on P4C has mainly been focusing on the application of this education to classes that meet on a regular basis. Through these continuous meetings, P4C educators work to develop a safe class community with children and to cultivate their abilities to reflect on things carefully in collaboration with others. The development of class community and thinking abilities cannot be attained all at once. It requires time, effort, patience and persistence. The workshop, on the other hand, needs to be conducted in two hours (or less), and can be basically given only once at each school. Therefore, we cannot simply apply the conventional educational method of P4C to the *dangisho* workshop. There are, however, some helpful implications embedded in the P4C education. I will explore such implications and explicate the theoretical ideas as well as the procedures for conducting the *dangisho* workshop at schools.

6-2 Three focuses in the design of the dangisho workshop at schools

One of the primary emphases of the P4C education is the development of a

community of inquiry, in which children interpret, understand and create meanings in virtue of asking and pursuing their own questions further and further. The power of this self-reflective community gradually develops due to the genuine commitment of teachers and students to the practice of open-ended inquiry with a sense of care, trust and cooperation. As pointed out before, it requires time, effort, patience and persistence to create such a community in the classroom. Thomas E. Jackson emphasizes that "We are not in a rush to get anywhere…" is the spirit that animates, guides and informs the work of P4C that he promotes in Hawai'i.[2] By creating a space that allows children to explore their interests, wonders and questions slowly and deeply in cooperation with their peers, it becomes possible to grow a community of inquiry, which facilitates open, creative, and caring thinking.

Within the limited time framework of the *dangisho* workshop, however, it seems extremely difficult to develop such a community. Yet, I contend that the value of community remains significant, since it allows us to go beyond monological thinking, to look at things from various perspectives, and to deepen our understanding about a subject matter. By exploring different viewpoints with others, children are encouraged to challenge their own ideas and to develop new understandings about the world. The value of community also lies at the center of the growth of a person as a social being. Trust and care, which are necessary for connecting ideas with others, are highlighted in the development of a responsible personhood. These ideas about the importance of community in education have strengthened my belief that the *dangisho* workshop should attempt to create a community in which students can share diverse voices about the *toki* issue in a safe and playful atmosphere.

[2] Thomas E. Jackson, "Philosophy for Children Hawaiian Style—"On Not Being in a Rush…," in *Thinking* 17 (2004): 4–8.

In order to do this, we need to consider how to create a community appropriate for exchanging ideas, how to elicit students' voices about this issue in a given time framework, and how to share different ideas effectively. Hence, the design of the workshop has particularly focused on the following three points: (1) to create safety in the community, (2) to prepare simple and interesting questions that all students can think about, and (3) to provide as many opportunities as possible to share one's own ideas with others.

1. *Creating a safe community*. Safety signifies not only physical safety but also what Jackson calls *intellectual safety*. "I want to say something smart in the classroom"; "If I say something, other students might think that I am stupid": constrained by these thoughts, children are afraid to express what they are thinking, and cannot think creatively. Jackson states, "Intellectual Safety arises, in part, out of acknowledgement and celebrating [the diversity of views.]"[3] In order to secure safety in a community of inquiry, a facilitator should make sure that any ideas are welcomed and respected, by confirming this point with students before and during the workshop.

2 *Selecting questions*. Laurence J. Splitter and Ann M. Sharp state that meaningful content for inquiry is created and enlivened by "presenting ideas in such a way that students will be stimulated to think about them."[4] During my visits to several public schools on Sado Island, I realized that not all students were familiar with the *toki* issue. The degree of children's familiarity with this issue varies according to the location of the school. As mentioned in Chapter 2, the level of public concern about the *toki* issue varies from district to district. Since the *toki* preservation has been promoted mainly in the Niibo

[3] Thomas E. Jackson, "The Art and Craft of Gently Socratic Inquiry," in *Developing Minds: A Resource Book for Teaching Thinking,* 3rd ed, ed. Arthur L. Costa, (Alexandria: Association for Supervision and Curriculum, 2001).
[4] Lawrence Splitter and Ann M. Sharp, *Teaching for Better Thinking: The Classroom Community of Inquiry* (Melbourne: Australian Council for Educational Research Ltd, 1995), 24.

district, children who attend schools far from this district tend to show lesser interest in the *toki* issue than those who attend schools there. Topics for discussion, thus, had to be simple, interesting and open-ended so that even students who learn about the *toki* for the first time are stimulated to think.

3. *Sharing ideas*. When the student population is large, it is not possible to give each child a chance to speak his/her thoughts. As it is, we often break the class into small groups for sharing ideas, with one team member assigned to each group as facilitator. In order to record everyone's ideas efficiently in the course of inquiry, students write their ideas on a piece of paper. They read out what they wrote and display them on a whiteboard so that other students can also see them. Writing also helps them to organize their thoughts.[5] Moreover, paired dialogue might be conducted in order to create opportunities for students to talk with each other. After a group activity, either a student or a facilitator presents what has been explored in each group and shares ideas with the members of other groups. When there are not enough team members to facilitate group activities, whole-class inquiry is carried out instead.

6-3 Designing the workshop programs

The planning of each workshop starts with a visit to the school and a meeting with the school teachers. In order to design a program, I confirm student population, available equipment (computer,

Sample Program (minutes)

1) Opening remark and introduction (15)

2) Report on the ecological restoration projects in Sado (25)

3) Break (10)

4) Participatory activities (45)

5) Sharing ideas (20)

6) Survey (5)

[5] Mathew Lipman, Ann Margaret Sharp and Frederick S. Oscanyan, *Philosophy in the Classroom*, 2nd ed, (Philadelphia: Temple University Press, 1980), 14.

projector, screen, etc.) and the size of the room for the workshop. Direct communication with the teachers is important in order to find out their interests and concerns. In many cases, teachers were worried about the insufficiency of the students' knowledge of the *toki*. They were also concerned about children's lack of experience in participating in inquiry. I explained that the program for the *dangisho* workshop does not necessarily require background information about the *toki*, and that inquiry-based activities are designed to elicit their unique voices, even from students who are not used to communicative activities such as dialogue and discussion. So far, I have prepared two main inquiry programs for the *dangisho* workshop at schools. An adequate program is selected taking into account the conditions and concerns of the school. All the workshop programs are listed in Table 1.

Program 1: Thinking from different perspectives

When attempting to develop a sustainable environment for the *toki*, it is important to think about the world from the bird's viewpoint. In the framework of traditional Western epistemology based on the Cartesian search for certainty, knowing other minds is regarded as theoretically problematic, since it is not possible to literally put oneself in someone else's position. To think from non-human perspectives would be even more problematic inasmuch as non-human epistemic mechanisms might be quite different from humans. The analogical argument is hardly justifiable in this case. However, quite the contrary, the capability of a person to think about issues from non-human perspectives assumes great importance in the discourse concerning the symbiosis with non-human organisms. The exercise of such a capability is not an epistemological issue but an ethical one. An imagination capable of overcoming the Cartesian epistemic constraints is indeed necessary in order to consider non-human well-being.

The following two questions were posed in order to broaden children's perspectives to think about the *toki* issue:

(1) Imagine that you are a *toki* and say a few words.

(2) Imagine that you are something other than you and say something to the *toki*.

Through these questions, I encouraged children to put themselves in various positions and to look at the *toki* issue from different perspectives. Moreover, I asked them to explain the ideas underlying their comments. By doing so, I tried to elucidate the deeper concerns and interests embedded in their thoughts.

Children presented creative, thought-provoking ideas in response to these questions. The team members commented on their ideas in order to explicate some of the fascinating insights embedded in them. Below are some of children's answers to the questions, with team members' comments in parentheses.

Question 1

- I want to go back to China.
  (All the *toki* birds currently living in Japan are the offspring of the birds brought from China. This answer sounds slightly sarcastic but describes our honest feelings when thinking of home. It also reminds us the necessary collaboration with China.)

- I am tired because I am practicing flying all day long in the cage.
  (Fifteen birds were trained for flying in a specially constructed cage in the Re-Introduction Center. Flying is often associated with the value of freedom; yet, it may also require great effort.)

- Can I really fly the sky?
- I don't really expect to be able to go out of this cage.
  (These thoughts describe the hesitation that the *toki* might be experiencing before the release. Considering that the birds have never been out of the cage, how will they feel in the sky? These thoughts make us imagine the various feelings that the *toki* might experience in the process of re-introduction.)

- I want to fly around Sado Island.
  (This idea challenges the current politics of the *toki* preservation, which is based on the assumption that the *toki* will settle in the Kosado area. It reminds us that the boundary of zoning does not exist for the *toki*.)

Question 2

- I am a farmer. *Toki*, please do not walk around my rice paddy *too much*!
  (Bird, if you do not make enormous damage you can come to my rice paddy! The *toki* has been regarded as a pest for farmers. But the expression "too much" appeared in his remark reminds us the sense of generosity necessary for living with other life forms.)

- I am a car. *Toki*, please do not cross the street suddenly!
  (The enemy of the *toki* is not limited to martens, crows, snakes, etc. Streets are now much busier than they were 30 years ago, when the last wild population lived in Sado. This comment raises a new concern that we need to consider for the symbiosis with the *toki*.)

- I am the *Toki* Conservation Center. What is going to happen to me after the *toki* is released to the natural environment?
  (It is interesting that some children pretended to be non-living things. This question contains an acute logical argument and has enabled us to reflect on the course of the *toki* preservation in the long run.)

Program 2: Question making

> We were alerted to the realization that one of our beliefs wasn't working by the onset of doubt. It was doubt that caused us to reflect, to inquire. It was doubt that compelled our attitude to switch from an uncritical one to a critical one. It was doubt that forces us to begin thinking imaginatively, creatively, productively, so as to come up with a hypothesis of what could be done to make our doubt subside.[6]

Questions are the manifestations of our puzzlement, wonder and curiosity. Asking a question is a fundamental step to realize a deeper understanding of the subjects at hand. In the last three workshops, I assigned children the task of question making and spent the most part of the participatory activity in search for answers to their questions. After the lecture about the *toki* and environmental restoration, I told children that they could ask any questions *to anyone*. They could, for example, even ask questions to the *toki* or other living organisms. By letting children determine the respondent to their questions, it became possible for them to come up with questions from unique perspectives. For example, one

[6] Matthew Lipman, "Philosophy for Children's Debt to Dewey," *Critical and Creative Thinking: The Australasian Journal of Philosophy in Education* 12, no.1 (2004): 1–8.

child asked, "*Toki*, what is your hobby?" This question brought us to the dialogue concerning what the bird does apart from eating and sleeping, *viz*. the discussion about the behavioral features of the *toki*. This kind of question could not have arisen, if had I merely told the students to ask questions to us.

One of the important educational meanings of this program is that, by answering children's questions, it becomes possible to provide information based on their curiosity. In most lecture-based classes, teachers determine what contents children need to learn. In question-based discussion, on the other hand, educators can get to know children's interest and concerns, and respond to their desires to know. This way of providing information seems to expand children's intellectual curiosity and to encourage their active engagement in learning.

Giving answers to children's questions, however, is not the sole focus of this program. Educators can go further and focus, for example, on how the interpretation of questions can be deepened by connecting them to other associated issues. The question about the hobby of the bird presented above is one example of such a development in the interpretation process. Another example is when several boys asked about the bird's droppings. They thought their questions were silly; yet, to know about droppings is to understand eating habits of the bird. I told children that droppings can be a valuable source of information. They seemed surprised to know that even silly questions might contain relevant aspects that help us to understand subjects.

In question-based dialogue, we can also teach children the value of unanswerable questions. Children ask questions in order to obtain further information and clarification. But while not all of their questions are answerable, such unanswerable questions are particularly valuable in environmental education. Many questions that we encounter in

environmental discourse are difficult to be answered in a clear, coherent manner. What is nature? What does it mean to restore nature? Why do we need to preserve biodiversity? Why are we reintroducing the *toki*? It is simply impossible to provide a single, straightforward answer to each of these questions. What we need to do is to acknowledge the necessity to struggle with unanswerable questions and to enjoy the process of inquiry. Question-based dialogue in the *dangisho* workshop creates an opportunity to teach this way of thinking about questions.

The major difficulty with this program is to select the questions to be answered on the spot. It is not possible to respond to all the questions raised by students. In total, more than 150 questions were submitted at the fifth and the sixth workshops. Although I promise to send answers to all their questions after the workshop, answering questions on the spot contains a number of significant educational meanings. First, questions and answers can be shared with all the participants. Second, when their questions are answered in the lively atmosphere of the workshop, students tend to become more curious about the subject. Third, the answers to some questions need to be searched in cooperation with everyone involved. We must then consider how to choose the questions to be answered on the spot. According to the style of inquiry inspired by Lipman, students vote what question they want to inquire into. To endow students with the right to choose the topics for inquiry means to give them power to direct the course of learning. This approach manifests a genuinely democratic style of learning. Within the framework of the *dangisho* workshop, however, this approach could pose a number of difficulties. Hence, questions were selected on the basis of the educational objectives of the workshop.

The following five criteria seem to be relevant: questions (1) that many children ask; (2) that let us think about the symbiosis with the *toki*; (3) that challenges our epistemic

framework and let us see the subject from different perspectives; (4) that are addressed to governmental participants; and (5) that are playful. To screen children's questions using these criteria might be regarded as imposing educators' interests to children. Nevertheless, education is always value laden to some extent. The important point is what values and ideas we convey to children. Through the *dangisho* workshop, I aim at encouraging children to become responsible thinkers who see things from different perspectives, who can examine the meanings of their lives, and who can work with others for a better future. The activity of question-making is therefore guided by these pedagogical ideas. More serious issues arise when "the answers" are already "known" in advance. This was clearly not the case here.

School	Date	Student population	Activity style	Program
Matsugasaki Middle School	June 29, 2007	13	C	*a
Akadomari Middle School	September 13, 2007	71	G	1
Maehama Elementary and Middle School	September 18, 2007	41	G	1
Aikawa Middle School	October 30, 2007	155	G	*b
Hatano and Ogura Elementary Schools	February 2, 2008	57	C	2
Kanai Elementary School	September 18, 2008	54	C	2
Sawane Elementary School	September 19, 2008	8	C	2

Table 1: The list of the *dangisho* workshops held at public schools
"C" and "G" in the activity style stand for "class activity" and "group activity", respectively.
*a: The school requested us to comment on students' research projects. Half of the workshop is used for this purpose.
*b: There were two main conditions to be considered at this workshop: (1) the school is located far from the area for the preservation of the *toki*; and (2) the number of students is too large to set up group dialogue. We thus designed a *senryu* poem-making program and encouraged students to think about the *toki* through this artistic activities.

6-4 Students' responses and reflections

After each workshop, a survey was conducted in order to examine whether the workshop was meaningful from students' perspectives. In the survey, 96% of the students who participated in the group activity answered that the activity was interesting. 65% of them commented that it was a good opportunity to share different ideas with others. Question making was conducted in the last three workshops. A number of students who participated in this session commented that they enjoyed listening to the answers to their questions. The followings are some of the students' comments:

- I managed to deepen my thought.
- It was new but fun to think from the *toki*'s viewpoint.
- I enjoyed it because other students said something I could not come up with.
- It was good that I could share my ideas with others.
- It was difficult to think.
- I have never discussed the *toki* issue with friends, but it was good.
- It was interesting to see different questions.
- I am looking forward to having the answers to all the questions later.

Based on the students' positive feedback in the survey, I argue that the workshop-style education provided a good opportunity to raise children's interest in the *toki* issue and to let them think about it in a creative way. The values of community, safety, and questioning which were borrowed from P4C have successfully contributed to creating relevant learning experiences for students.

The *dangisho* workshop has proved a good learning opportunity for teachers as well. Teachers who participated in the workshop said that they could observe a different way—a more student-centered way—of teaching. Even though the workshop was held only once, the teachers managed to derive new educational ideas and values from it. From the fourth workshop onwards, a leaflet began to be distributed in order to explain the ideas and values embedded in the workshop education, and thereby to not only inform teachers but also to

lead them to reflect on its pedagogical implications.

Moreover, not only children and teachers but also parents, local residents and governmental officials were invited to the workshops at school. The involvement of these participants, especially the encounter with children's ideas, which are not confined by social status as are the fixed opinions and beliefs of many adults, was expected to contribute to expanding their views of the *toki* and local environments. In other words, the *dangisho* workshops at school were designed to maximize learning opportunities for a variety of stakeholders.

The most significant practical outcome was achieved at the workshop held at Sawane Elementary School. After this workshop, the students started new activities for the promotion of the *toki* preservation (e.g. making an original brochure to explain the preservation activities and designing a fund-raising campaign for the conservation of forest for the *toki*). The development of these voluntary activities is a sign of the growth of environmental autonomy. These students started to engage in inquiry about what they can do for the symbiosis with the *toki*. Such a process of collaborative decision-making is critical for the further development of their activities.

By creating a framework in which students explore local issues, we can give them a chance to engage in historical ongoing inquiry about their communities. This engagement carries a genuine educational value. John Dewey discusses this point in his essay titled "My Pedagogic Creed":

> I believe that the only true education comes through the stimulation of the child's powers by the demands of the social situations in which he finds himself. Through these demands he is stimulated to act as a member of a unity, to emerge from his original narrowness of action and feeling and to conceive of himself from the

standpoint of the welfare of the group to which he belongs.[7] In particular, teaching thinking skills by using actual local issues has a significant pedagogic value.

To encourage children to think together about actual local issues contributes to the enhancement of their experiences in the real process of social inquiry. At the same time, the activity of social inquiry will be deepened by incorporating ideas explored by children. Environmental restoration with a view to the symbiosis with the *toki* has been an issue of the utmost importance to Sado Island. Local people are expected to consider this issue and to realize a sustainable community over a long period of time. To think about the *toki* and associated issues is thus critically important in children's education on this island. We should therefore keep on searching for what can be done to make this educational opportunity more meaningful. The *dangisho* workshop carries a significant potential in the promotion of this task. Its continuous activity is bound to deepen the approach to environmental education as a way of fostering responsible citizens on this island.

[7] John Dewey. J. "My Pedagogic Creed (1897)," in *The Essential Dewey, vol. 1, Pragmatism, Education, Democracy*, ed. Larry A. Hickman and Thomas M. Alexander (Bloomington: Indiana University Press, 1998), 229–235. The quotation is on p. 229.

Chapter 7 A model for a multi-perspectival learning organization

In this chapter, I shall set out to explain the activities of a multi-perspectival learning organization, the KAMOKEN Research Center, which is being developed on Sado Island in collaboration with local residents, governmental officials and university researchers. I shall begin by explaining the context in which this organization has been founded (Section 7-1). I will then explore the theoretical and practical frameworks informing the organization as well as the activities it promotes in Sections 7-2 and 7-3. It will be argued that this center has considerate potential in terms of the development of genuinely democratic environmental restoration. In Section 7-4, I shall conclude by demonstrating how this organization can contribute to the opening up of new possibilities for the transformation of the currently predominant style of environmental restoration by incorporating a bottom-up decision-making process in environmental planning. In Section 7-5, I will summarize educational implications of the activities of KAMOKEN.

7-1 The context of the foundation of KAMOKEN Research Center

The restoration of an ecologically rich water system constitutes one of the essential issues that need to be considered for the realization of the symbiosis with the *toki* on Sado Island. In particular, such restoration is supposed to result in the creation of favorable places for the *toki* to look for food during winter, when most rice paddies are covered with ice and snow. The living conditions become quite severe for the *toki* in winter. The restoration of the water system providing the habitat for a variety of life-forms is expected to contribute to the successful survival of the *toki* in terms of increasing the amount of available food for this bird at all seasons. Yet, such practical reason is not the sole purpose

for promoting river restoration on the island. The improvement of environmental conditions of the rivers is regarded as providing a crucial contribution to the conservation of biodiversity, which has been one of the highest priorities in international environmental politics.

KAMOKEN is a multi-perspectival learning system aimed at the restoration of Lake Kamo (*Kamo-ko*, 加茂湖), which is located on the east end of the central plain between the Kosado and Ōsado mountainous regions. This organization took its cue from the voices of local fishermen who strongly wished to improve the environmental conditions of this lake and to revitalize their oyster farming industry. In terms of environmental restoration with a view to the preservation of the *toki*, Lake Kamo has not been paid sufficient attention because it is located outside the core zone of the *toki* preservation designated by the Ministry of Environment (see Chapter 2), and, besides, its waters have been considered too deep for the *toki* to look for food. Moreover, this lake consists of a unique ecological system peculiar to brackish water, which is the blend of freshwater from the rivers and saltwater from the ocean. It was uncertain whether the lake could form a part of a favorable habitat for the *toki*.

Instead, the Ten-nō River (*Ten-nō-gawa*, 天王川), one of the rivers flowing into Lake Kamo, has been selected as the main target for river restoration on Sado Island. This river runs through the Niibo-Shōmyōji district, where the Toki Reintroduction Center is located. In addition, this district had been proposed for the release of the *toki*. As it is, the Ten-nō River has been strongly associated with the *toki* preservation and regarded as one of the most suitable places to initiate river restoration in Sado as a part of the project for re-introducing the *toki*. In order to promote the restoration of the Ten-nō River, Niigata Prefecture, which is in charge of the management of this river, is currently conducting

workshops to which local residents as well as university researchers have been invited.[1] The discussion at the Ten-nō River workshops has resulted in the request for considering the restoration of Lake Kamo as part of the Ten-nō River project.

As previously mentioned, this river flows into Lake Kamo, which implies that restoration works at the river may severely impact on the environmental conditions of the lake. Local fishermen have claimed that the construction at the surrounding rivers in the past had caused the severe environmental degradation of the lake and has negatively affected the local oyster farming industry. It has been stated that about forty to fifty years ago, Lake Kamo was a habitat for a variety of fish such as eels, threespine sticklebacks, and icefish. But these kinds of fish are rarely seen in the lake these days. The fishermen claimed that the attempt to restore the lake is urgently needed in order to improve the environmental conditions of the lake and to prevent the further decline of the local oyster industry. Their concern is whether river restoration with a view to the preservation of the *toki* may cause a negative impact on the lake, in which case they would object to the restoration plan of the Ten-nō River. In the light of this concern, the participants of the workshop made a proposal to promote a comprehensive environmental project involving the restoration of Lake Kamo. Promoting such holistic environmental restoration involves, however, a serious difficulty: the fragmentation of land on the basis of the ramified governmental administration.

The Ten-nō River and Lake Kamo are administered by different governmental bodies. As mentioned above, the Ten-nō River is governed by Niigata Prefecture, which means that the river restoration project has been mainly promoted by prefecture officials.

[1] For the overview of the Ten-nō river restoration project, see Motoi Seki, "River management aiming to assist in returning the crested ibis to the wild (The second report)," *Report of Riverfront Research Institute* 19 (2008): 23–30, (in Japanese).

Lake Kamo, on the other hand, is currently governed by Sado City. Although the river and the lake are a part of the same water system, they are politically disconnected and cannot be identified as one continuous system. If we wish to promote environmental restoration in a comprehensive manner by taking into consideration the ecological well-being of various environmental components, it is then necessary to search for a way to connect landscapes hitherto fragmented due to governmental administration. The discussion about the comprehensive environmental restoration has continued among local residents, governmental officials and university researchers. We also held the *dangisho* workshop (see Chapter 5) to inquire into possible solutions to this problem.

In the course of the discussion at the *dangisho* workshop held at the Kamo-ko Fishermen's Cooperative, some participants requested university researchers to establish a lakeside branch laboratory to investigate the environmental conditions of the lake. University researchers responded to this request by proposing the establishment of a co-learning organization, in which not only university members but anyone can study the environmental issues concerning the lake and discuss possible solutions to identified problems. This suggestion has materialized thanks to the support of local residents and governmental officials. The organization was named Sado Island Lake Kamo Water System Restoration Research Center (*Sadogashima Kamoko Suikei Saisei Kenkyusho*, 佐渡島加茂湖水系再生研究所), alias KAMOKEN. This organization is run in the collaboration with local residents, governmental officials and university researchers. It is enormously important to regard the surrounding water system as a part of this lake, and to promote holistic restoration activities by taking into consideration various environmental components such as rivers, the seashore, spring water, the sewage system, forests, rice paddies and so on. This idea is embedded in the very name of this organization.

KAMOKEN is expected to play a crucial role in connecting governmentally fragmented land, e.g. the rivers and the lake as well as the farmland around the lake.

7-2 The philosophy and the system of KAMOKEN

KAMOKEN was established on July 11, 2008, as an organization that is open to everyone who is interested in the restoration of the water system around Lake Kamo. At the planning stage of this organization, there was already a variety of people wishing to participate in its activities: local fishermen, farmers, and businessmen, as well as governmental officials (both national and municipal) and university researchers. Since each person participates in KAMOKEN in terms of his/her own concerns, it is expected that this organization should be able to assemble diverse perspectives while examining issues concerning the lake. Such an environment is necessary indeed for promoting meaningful and creative public inquiry.[2]

There are mainly two fundamental ideas embedded in the coordination of this open-style learning organization. The first idea is that KAMOKEN needs to maintain a neutral, fair stance in promoting restoration research and activities. Although this organization started in response to local fishermen's requests, it aims at examining diverse concerns and interests around this lake, finding shared values among participants, and contributing to ecological and social well-being. With regard to the neutrality of this organization, some participants have expressed a deep worry that KAMOKEN might be used for personal interest and profit by those who do not appreciate the unbiased stance of

[2] I have discussed the importance of bringing different perspectives in environmental discourse in Chapters 3 and 4. T.B. Lauber et al. argue that widespread involvement of local stakeholders is critical particularly at the stage of developing ideas for the community-based natural resource management. One of the important roles of KAMOKEN is to promote the well-being of the lake as local commons. The multi-perspectival approach of KAMOKEN corresponds to the suggestion from Lauber et al. T. Bruce Lauber, Daniel J. Decker and Barbara A. Knuth, "Social Networks and Community-Based Natural Resource Management," *Environmental Management* 42 (2008): 677–687.

its research activities. As long as KAMOKEN is an open organization, this problem will always cast a shadow over the management of this organization. In order to promote fair research activities, it is critical that all participants accept the neutral stance of the organization. This policy about the management of the organization has been incorporated into *the Mission Statement of KAMOKEN* presented at the opening ceremony. In order to secure its neutral stance, the first directors of the organization were selected among university researchers. In addition, it has been determined that every person who wishes to join the activities of KAMOKEN must sign a form attesting that he/she endorses the fair stance of this organization.

The Mission Statement of KAMOKEN

1. We aim at promoting practical research from a fair, neutral standpoint for the realization of the healthy conditions of Lake Kamo.
2. We run the organization open to everyone who is concerned with the conditions of Lake Kamo and its surrounding water system, so that anyone can participate in the restoration activities of this lake.
3. We release research results in a comprehensible manner for everyone so that even children can understand our research activities.
4. In order to make the most out of the diverse skills of participants, we consider a variety of practical solutions to identified problems.
5. We promote research on the basis of local issues and concerns.
6. In order to establish a model of environmental restoration, we theorize research activities and publish them nationally and internationally.

The second idea concerns the problem of epistemic hierarchy that I discussed in Chapter 2. In order to create meaningful opportunities of co-learning, it is necessary to prepare a space where every participant can make the most out of his/her knowledge and experiences in terms of deepening our understanding of surrounding issues. The attempt at creating a community-based learning opportunity has been made in various ways as a means of civic education. This style of education developed in terms of collaborative learning, study circle, etc.,

focuses not only on providing new information to the participants but also on fostering their ability to deliberate and discuss the issues of import to their community. When academic experts are involved in such a learning scenario, however, there arises an important issue that threatens the impartiality of the participants' leaning experience. The problem lies in the prevalence of expert-oriented models of learning. This question has been discussed by Mark Button and David Michael Ryfe in the context of education for deliberative democracy. The authors argue that "deliberative movement around the globe is spearheaded by a relatively small cadre of experts."[3] According to them, this tendency is particularly true in the United States, where expert-created models of deliberation are predominant. Such activities as National Issues Forums, deliberative polling, planning cells, Citizens Juries, America*Speaks*, Collaborative Learning, and study circles are crafted and modeled "by individuals who make their living by thinking about how to deliberate."[4] They add that "Such individuals are, by definition, experts in at least their own deliberative processes."[5] What concerns Button and Ryfe is that by promoting a deliberative process in an expert-driven manner, this process might fail to fulfill its democratic potential: expert-driven models of deliberation might result in nondeliberative talk, strategic behavior, and elite opinions.[6] If we neglect the local ways of deliberation, we end up with excluding local participants.

This issue prompts the problem of expert-orientedness in the sphere of communication that I discussed in Chapter 4. I argued that if, in the context of decision-making, we circumscribed the participation in discussion to those who have

[3] Mark Button and David Michael Ryfe, "What Can We Learn from the Practice of Deliberative Democracy?," in *The Deliberative Democracy Handbook: Strategies for Effective Civic Engagement in the Twenty First Century*, ed. John Gastil and Peter Levine (San Francisco: Jossey-Bass, 2005), 20–33 (quotation on 21).
[4] Ibid.
[5] Ibid.
[6] Ibid., 22.

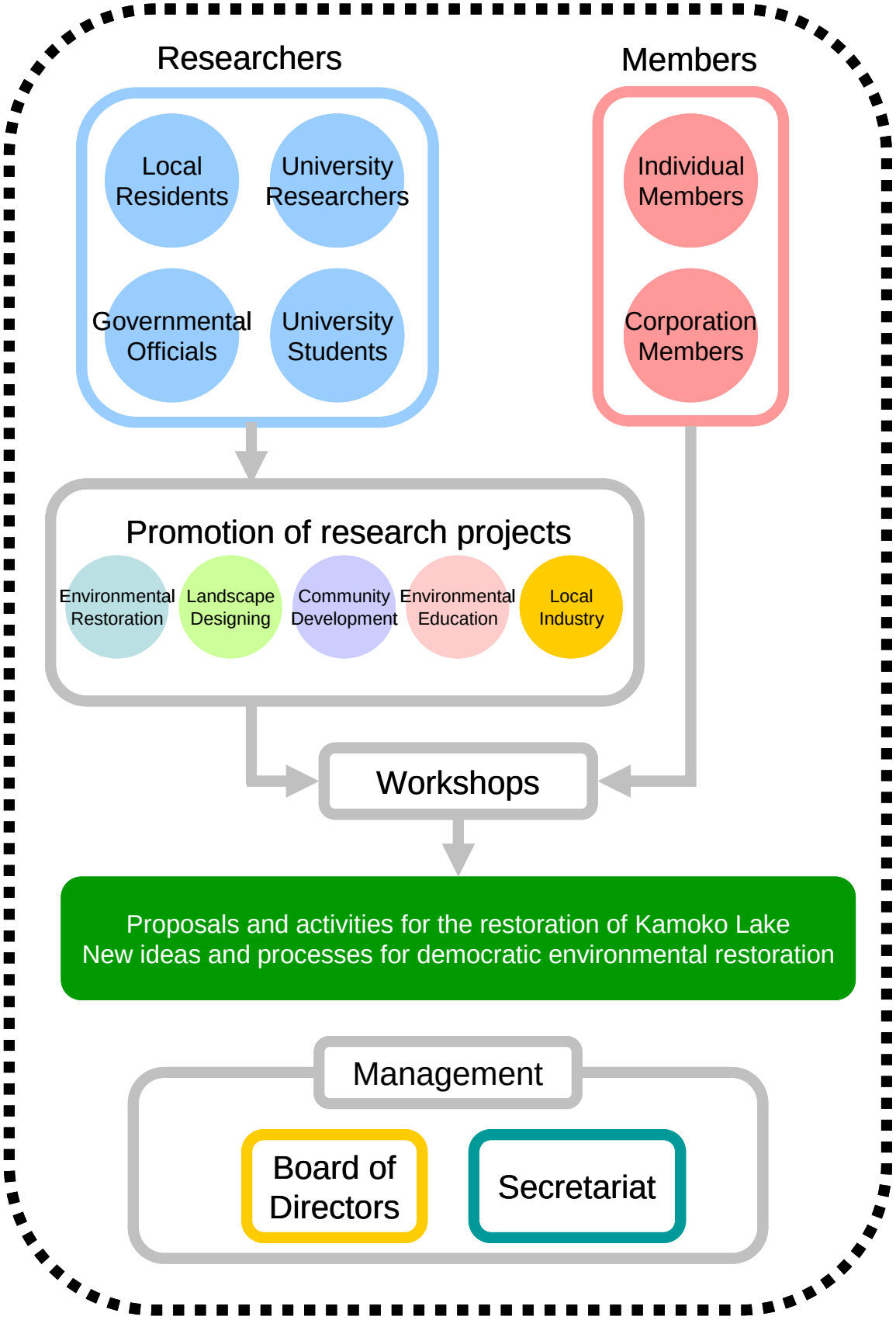
refined communication skills, it would not be possible to involve all who are concerned about the issues of their community. If KAMOKEN envisages to be a democratic learning space open to everyone, it perforce needs to avoid the problem of expert-orientedness and to develop a democratic framework for learning. At KAMOKEN, every participant, even a child, is respected as the holder of valuable knowledge. It thus presented the policy statement, "All of us are teachers and all of us are students."

The recognition of the importance of local knowledge has resulted in the public researcher system of KAMOKEN. In this system, not only university researchers, but also local residents and governmental officials are encouraged to participate in the activities as a researcher by putting one's knowledge and experiences to account. Their specialties cover a wide variety of subjects ranging from aquatic life-forms to water quality, from history to environmental policies. While this system provides an adequate ground for identifying local knowledge as valuable information, it also contributed to setting a flexible participatory style. People can also participate in KAMOKEN as a general member so that they can learn about the lake by attending workshops and symposiums. In response to a variety of interests that participants bring in, several projects have been launched beside the restoration of the lake. As of March 2009, there are five key project promoted by KAMOKEN: environmental restoration, landscape designing, community development, environmental education and the revitalization of local industry. The number of projects may increase when new perspectives are brought in during the course of ongoing research activities.

The KAMOKEN laboratories are located at three sites as of March, 2009. These laboratories are used to hold workshops, to compile information about the lake and the research outcomes, to develop co-learning communities, and so on. The first laboratory of

KAMOKEN was set up on the lakeshore using a vacant house owned by a local fisherman. This laboratory has been useful for facilitating fieldworkshops (see Section 4-5) around the lake. After the opening, more people started to actually visit the lake to discuss and deliberate about what can be done for the improvement of the lake as well as for the sustainable future of their communities. The rich perceptual experience at the lake is expected to inspire people's creative thinking.

Although both KAMOKEN and the *dangisho* aim at cultivating the actors of democratic environmental restoration, there are some differences between these educational systems. First, KAMOKEN was launched in response to a proposal by local residents. This system has been developing in a democratic manner from the beginning. The *dangisho*, on the other hand, has been coordinated by the Toki and Community Research Team. Although the workshop is promoted on the basis of local concerns, there are less opportunities for local residents to participate in it as organizers. Second, within the framework of KAMOKEN, it is possible to conduct continuous inquiry about environmental restoration. Whereas the *dangisho* workshop tends to result in a one-time opportunity to exchange and develop ideas, KAMOKEN provides the ground for on-going dialogue about the lake. This aspect of KAMOKEN offers a great advantage in terms of producing practical outcomes for the improvement of environmental conditions.



The system of KAMOKEN

7-3 The activities of KAMOKEN

In this section, I will illustrate some of the activities of KAMOKEN.

1. *Restoration of the water system*. As mentioned previously, KAMOKEN was established in the course of considering the restoration of the Ten-nō River. Since the residents in the Lake Kamo region, local fishermen in particular, expressed a serious concern for the degradation of the conditions of the lake due to the construction of the river, it is significantly important for the members of KAMOKEN to participate in the planning of the river restoration project and to think together with governmental officials and other local residents about the future of the water system that includes both the river and the lake. The members have been participating in the workshops for the Ten-nō River restoration and exchanging their ideas with others with a view to achieving the comprehensive restoration of this water system.

Another important focus of KAMOKEN is to study the ideas and approaches to the restoration of the lake. Local fishermen argue that the degradation of the water quality of the lake is related to the stagnation of water due to the bank with pile sheet and the contamination of water from raw sewage. In order to improve the conditions of the lake, it is crucial to investigate what other causes of environmental degradation are and to consider possible ways to mitigate the problems. Since armchair inquiry does not produce practical solutions, fieldworks have been conducted to actually observe and investigate the conditions of the lake. Such perceptual experiences have also been helpful for deepening our understanding of the lake through various senses.

The members of KAMOKEN are currently building the plan of restoring reeds on the lakeshore, which is expected to contribute to the improvement of the water quality of

the lake. In the course of the restoration of reeds, people encountered another critical environmental issue of the lake: the preservation of endangered seaweed, *Ruppia rostellata*. This issue has been elucidated by a group of people who have been voluntarily investigating this seaweed. The restoration activities were paused to carry out inquiry and investigation about its habitat. The plan was modified so as to avoid unnecessary impact on the seaweed. Through this inquiry, the participants deepened their understanding of the ecological features of the lake and broadened the local network for more widespread involvement. Moreover, the preservation of the seaweed has been recognized as another important goal of the activities of KAMOKEN.

2. *Landscape management*. One of the important approaches to understanding the current conditions of the lake is to investigate how the landscape around the lake has changed over a long period of time. Although it is not possible to actually situate oneself in the past landscape, artworks and historical records are useful for the discovery of the diverse values accumulated in the landscape. At the workshop held on August 29, 2008, a local resident explained the characteristics of the lake in the past using a landscape painting in 1836. According to his report, Lake Kamo was a widely known scenic spot with beautiful thick reeds on the shore. There were many visitors to the lake from outside the island. A significant finding was that thirty-five rivers were flowing into the lake at the end of the Edo period. Compared to the four rivers at present, we know that the surrounding water system has changed significantly over the past 150 years. Sand and soil were supplied from the forest to the lake with the heavy rain and formed shoals along the shore. In the old days Lake Kamo enjoyed rich ecological conditions attracting many forms of wildlife. It was inhabited by a variety of fish and provided important food source for islanders. The lake was also a favorite habitat for birds, but, with the disappearance of

reeds, a less variety of birds can be found on the lake nowadays.

The investigation of the history of Lake Kamo informed people that this lake has undergone significant transformations over time. While some features of the lake in the past can be valued positively in light of the ecological and aesthetic points of view, this investigation does not necessarily aim at admiring the past landscape as an ideal. By comparing the present state with the past, it becomes possible to know what is unique to the current conditions of the lake.

The members of KAMOKEN are also studying the landscape regulation currently being made by Sado City. The City attempts to incorporate public participation in the process of developing a plan for this regulation. Since the landscape around Lake Kamo forms a distinctive view that has been attracting both the residents of the area and visitors, the members of KAMOKEN considered it would be crucial to actively participate in this process. Several workshops were held inviting city officials in order to study the agenda of this landscape regulation and to share ideas about the scenery around the lake. Through these workshops, the unique values of the landscape of Lake Kamo as well as of Sado Island were illuminated. The participants however recognized that the process and the framework of making the landscape regulation were complicated and difficult to understand. Hence, they contended that further inquiry involving governmental officials would be necessary for meaningful public participation in the design of the landscape regulation.

3. *Collaboration with children*. The encouragement of children's participation in environmental restoration activities is significantly important for several reasons. First, children's creative perspectives are vital for enriching our understanding of the environment. Second, children will obtain relevant opportunities for practical

environmental education and will be able to learn necessary skills for collaborating with people from various walks of life. Third, through the engagement in real issues in their neighborhood, they will be able to know the importance of promoting environmental projects in a democratic manner. They are expected to play a central role in collaborative environmental activities in the future.[7] Accordingly, KAMOKEN facilitates the collaboration with children by building the cooperative relationship with schools and holing participatory workshops for children. The first workshop was held at Kanai Elementary School on November 4, 2008. The aim of this workshop was to consider the future of the Nakatsu River, which runs through the school district. The fourth-grade students visited the river in advance and assembled their ideas and concerns in a group after the field experience. On the day of the workshop, each group presented the view concerning how to improve the river. All ideas presented by students were put together on a large map of the river and submitted to the prefecture official, who commented that the students' ideas were so creative, informative and innovative that they would become valuable guides when developing the restoration plan for the river.

In order to facilitate the collaboration with children in environmental project, we need strategies for eliciting their concerns about their environments and incorporating their ideas into actual decision-making processes. The participation of governmental officials in the workshop at schools, for instance, is meaningful in this respect. They can integrate children's voices in the process of planning and implementing restoration projects. The workshops and activities conducted by KAMOKEN outside the context of school education are always open to children. Since they are important stakeholders in local communities, they will be recognized as the holder of valuable voices. Other participants

[7] See Section 6-1.

are required to explain their ideas in a lucid way so that children can also participate in inquiry.

7-4 Incorporating a democratic environmental decision-making

In the activities of KAMOKEN, environmental restoration is carried out in a way that is significantly different from the conventional approach. In most environmental restoration projects, governmental bodies take the initiative and build a plan on the basis of professional advice. Public participation in this case arises at the stage of obtaining a public consensus on a preestablished plan proposed by governmental agencies and specialists, or at the stage of implementing such a plan. What KAMOKEN has been attempting to accomplish is precisely the reversal of such a process: local residents take the initiative, identify local environmental problems, examine identified problems with the help of experts, and build action plans to cope with them. In this democratic framework of environmental restoration, scientific investigation is incorporated as a tool to clarify and to understand local environmental issues and to search for possible solutions to them. This reversed process, I contend, imparts a critical educational value in terms of cultivating people's environmental autonomy. By actually being involved in a project conducted in a genuinely democratic way, people learn adequate attitudes and skills for participating in ongoing environmental discourse and in environmental decision making.

Taking the case study of public discourse developed in the context of restoring the Chesapeake Bay as a reference, Bryan G. Norton argues that environmental projects should proceed through democratic discourse by incorporating people's diverse views and values as driving forces for determining their plans and courses of actions. He emphasizes that the deliberative process in decision making contains a great potential as a method of social

learning.[8] For example, he writes, "the ongoing process of articulating, criticizing, and re-formulating our beliefs and our goals in the light of new evidence provides a basis for ongoing criticisms and improvement of policies"[9] A communal process of value articulation encourages local communities to engage in cooperative action, and cultivates their adaptive, self-correcting mode of decision-making. Such a deliberative process plays a significant role in raising the level of environmental autonomy of a community. In the case of the Chesapeake Bay, local residents engaged in a public discourse in order to deal with turbidity in the bay and evolved a mental model of bay pollution. Norton reports that a local journalist witnessed the transformation in people's ways of looking at the bay in the course of public discourse. By deepening their understanding of bay pollution, people "gradually learned that to think like a bay, one has to first learn to think like a watershed."[10] For example, they abandoned the old map of the bay and requested for new maps including the whole watershed so that they could identify how water (polluted water) flows into the bay. The participants have learnt to think at a landscape level taking into account the various components connected with the bay.

With regard to the issue concerning the procedure of environmental restoration, Norton takes a similar position to mine. He calls for a radical shift in our understanding of environmental management and its decision-making process:

> We have shifted the approach, then, from trying to model an ideal decision process by which to represent a 'rational' decision based on the best science and aggregations from individual valuations, to actually immersing the choice of goals and multiple criteria and requirements for sustainability into an ongoing public process, relying on democratic discourse and people's values and love of their place

[8] The potential of deliberation as a method of social learning for local environmental management is also discussed by T. M. Schusler et al. See Tania M. Schusler, Daniel J. Decker and Max J. Pfeffer, "Social Learning for Collaborative Natural Resource Management," *Society and Natural Resources* 15 (2003): 309–326.
[9] Norton, 437.
[10] Ibid., 434.

> to encourage the use of scientific studies to reduce uncertainty and serve consensus-based community goals.[11]

He explains that there are two kinds of approaches to environmental management: serial and iterative approaches. Depending on which approach we take, we adopt a different mode of decision-making. The serial approach depends upon a unidirectional flow of information from scientists to policy makers and the public. This approach is predominant in the conventional style of environmental management. According to Norton, it is based upon the following image of environmental decision-making:

> … an ideal environmental decision maker, one who has gathered all the descriptive information regarding the functioning of an ecological system; determined the likely outcomes of further impact from human activities; polled the population to determine the values, goals and preferences in good democratic fashion; and armed with all the facts, decide what policy to pursue to maximize total welfare.[12]

Norton points out that the serial approach contains some fundamental problems that hinder the progress of adaptive environmental management. In this approach, there is no space for an open-discussion of the various sorts of values, no consideration of problem formulation, or no attempt to integrate various sources of information. According to Norton, these forms of engagement are extremely important for the growth of continuous public participation in environmental management. He thus proposes that the iterative approach, which depends upon the dynamic exchange of information among various participants, is more adequate for the procedure of environmental projects. Such an approach incorporates dialogical processes in which people consider and reconsider action plans by amalgamating various sources of information.[13]

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[11] Ibid., 435.
[12] Ibid., 142.
[13] In order to incorporate the iterative approach into environmental management, Norton proposes the procedure called a *process heuristic*, which includes two alternative phases: the action phase and the reflective phase. The former phase focuses attention on several action rules directed towards a variety of goals that multiple participants hold. The latter phase represents the communal process of considering what

The shift from a serial to an iterative approach, to use Norton's proposed terms, is critical in the case of environmental restoration on Sado Island as well. I have explained in Chapter 2 why the consideration of local needs and concerns is so important in promoting restoration projects on this island. In addition to this shift, what is needed for realizing genuinely democratic environmental restoration is to create a framework in which public initiative is strongly encouraged—and it is precisely here that the uniqueness of the KAMOKEN project resides. Its activities have been promoted on the basis of the proposals addressed by local residents. This approach of KAMOKEN contains a critical implication concerning the democratic implementation of environmental restoration.

7-5 Educational themes in the activities of KAMOKEN

As I stated earlier, most environmental projects are planned and promoted by governmental agencies. This tendency can be found in the case of major restoration projects on Sado Island. The re-introduction of the *toki* is at present one of the foremost national environmental projects. The Ministry of Environment has taken the initiatives of carrying out the project in collaboration with other ministries and municipalities. Environmental restoration projects aimed at creating favorable environmental conditions for the *toki*, e.g. river restoration and forest restoration, have also been, for the most part, government-driven. Although there have been several voluntary restoration activities initiated by local residents, those activities have been conducted in closed circles and have not grown into public projects calling for the cooperation of governmental officials and specialists. I am not arguing here that all grass-roots activities should be developed into the projects that require such cooperation. Rather, my point is that there has not been a

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goals and values to pursue. Since these two phases normally overlap and proceed simultaneously in practice, Norton calls these process a heuristic. See Norton, 144.

prominent example of bottom-up public work. Therefore, one of the central concerns of KAMOKEN is to attempt bottom-up environmental restoration and to demonstrate that it is possible to promote environmental restoration in a truly democratic manner.

On the basis of this approach attempted by KAMOKEN, I would now like to consider the educational aspects of this organization: what in particular do participants learn, or are going to learn, by engaging in the activities of KAMOKEN? I will identify three important educational themes embedded in the system of this organization.

First, people learn about local environmental conditions, particularly about Lake Kamo and its surrounding water system. In order to consider possible restoration activities, it is important to know how the various environmental components are connected as well as how they are disconnected due to anthropocentric land development and land management. Moreover, the investigation of the historical and cultural significances of the area reveals how people in the past have interacted with their environs and have transformed their local landscapes. The study of landscape paintings, poems, folklores and local religious activities, for example, contribute to deepening our understanding of the lake and its surrounding area.

Second, people learn necessary skills and attitudes for the collaboration with various participants. This theme includes the issue of appropriate communication that is necessary for facilitating democratic environmental projects. Local residents tend to make petitions and request compensation when they negotiate with governmental agencies. The governmental side, on the other hand, focuses on explaining their plans to the public and on persuading them to agree to their plans. Specialists may wish to teach the lay public the correct scientific knowledge about the environment. If people are confined to these styles of communication, it is difficult to promote active collaboration. In order to overcome such

conventional manners of communication, Yukihiro Shimatani, who has been promoting the participatory river restoration in various places in Japan, suggests that it is important to make a shift from request-oriented utterances to proposal-oriented ones when presenting ideas at the meeting.[14] Shimatani discusses this issue on the basis of his experiences in the *Azameno-se* environmental restoration project conducted in Fukuoka Prefecture. By being involved in the project as a national governmental official, he realized that the collaboration with local residents would not grow as long as people kept talking to each other in the style of "Could you …?" Instead, he insisted that presenting ideas in the style of "Shall we …?" would be more adequate in order to transform people's understanding of their roles and to enhance their sense of active involvement in the project. Shimatani's suggestion contains an important implication for the development of the collaboration among various participants. Likewise, in the activities of KAMOKEN, people are encouraged to engage in constructive dialogues by operating the shift from request-oriented to proposal-oriented communication so as to provide a more adequate ground for the collaboration to grow.

Third, participants learn how to promote genuinely democratic environmental restoration through the activities of KAMOKEN. It has been argued that incorporating public values into decision-making is one of the essential goals of public participation in environmental decision-making.[15] There are, however, various ways to do this, e.g. public hearings, meetings, workshops, advisory committees, negotiations and mediations.

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[14] Yukihiro Shimatani, *Kasen no Shizensaisei: Matsuuragawa Azameno-se wo Taishou ni* 河川の自然再生－松浦川アザメの瀬を対象に－, Unpublished manuscript for a lecture at Saga University (2003), www.geocities.jp/tombowengineer/Azame.pdf. See also Nobuyuki Isobe, "1000 nen Mae no Hanran no Rizumu wo Torimodosu 1000 年前の氾濫のリズムを取り戻す," in *Mori Sato Kawa Umi wo Tsunagu Shizensaisei, ed. Shizensaisei wo Suishinsuru Shimindantai Renrakukai* 森，里，川，海をつなぐ自然再生 (Tokyo: Chuohoki, 2005).

[15] Thomas C. Beierle, "Public Participation in Environmental Decisions: An Evaluation Framework Using Social Goals," discussion paper 99-06 (Resources for the Future, 1998), http://ageconsearch.umn.edu/bitstream/10497/1/dp990006.pdf (accessed April 20, 2009).

Depending on which method we employ, the degree of the democratic value of decision making will considerably differ. According to Thomas C. Beierle, more intensive forms of stakeholder involvement result in higher-quality decisions in terms of increasing information accessibility, facilitating new ideas and perspectives, developing join gains, and so on.[16] The process of multi-perspectival inquiry, which I have examined in this dissertation, requires an intensive form of participation in the course of exchanging, challenging and reformulating ideas with others. In virtue of encouraging the participation of diverse stakeholders including governmental officials, inquiry can be transformed into an opportunity to promote environmental decision-making in a genuinely democratic manner. Such an opportunity carries a significant educational value to cultivate people's capability to actively engage in environmental decision-making in democratic restoration projects.

Taking into account that KAMOKEN has been established as recently as July 2008, it is not as yet possible to carry out a thorough evaluation of its educational performances at this stage. To do this, it is necessary to conduct a long-term observation so as to find out whether this organization can successfully make some contributions to improving environmental conditions of Lake Kamo and its surrounding area through facilitating the active and responsible participation of local communities. However, it is important to design the activities of this organization on the basis of these three educational concerns stated above so that they may encourage people's continuous participation in environmental discourse in a democratic way. On the basis of its activities so far, it is feasible to state that KAMOKEN has been producing meaningful results towards the

[16] Beierle studies the relation between the intensity of public involvement and the quality of decision making, and concludes that more intensive forms of stakeholder involvement are more likely to produce higher-quality decisions. See Thomas C. Beierle, "The Quality of Stakeholder-Based Decisions," *Risk Analysis* 22 (2002): 739–749.

realization of an environmentally autonomous community. More people have started to listen to each other's ideas and to develop better relationships with trust and care. More perspectives and activities have started to emerge towards deeper understanding of the lake. What is critical at this point for the further development of KAMOKEN is to *strategically* secure fair learning opportunities open to anyone who is interested and to encourage more and more people to engage in the process of inquiry.

Chapter 8 The management model of a democratic organization for an inquiry-based environmental education

The ideas and methods of environmental education derived from the activities of the *dansigho* workshop and the KAMOKEN Research Center contain valuable sources of information for promoting inquiry-based environmental education. The question I shall consider in this chapter is: how is it possible to design and manage a democratic, non-profit organization of environmental education, in particular, with an emphasis on the education using the method of multi-perspectival inquiry? In this chapter, I will consider this question by extracting generalizable aspects embedded in the educational activities that I promoted on Sado Island. In Section 8-1, I will first lay out the goals and purposes for creating such an organization on the basis of the foregoing discussion in this dissertation. I will then consider the roles of specialists in establishing a democratic educational organization (Section 8-2) and present the guidelines so as to demonstrate some basic ideas concerning the management of such an organization (Section 8-3). I will conclude the chapter with the argument concerning the importance of strategic and adaptive approach to the organizational management (Section 8-4).

The term *management* is often used to signify the *financial management* of an organization. This business-oriented interpretation of management does not seem relevant in the context of non-profit organizations because their bottom lines are more than cost controlling and cost cutting.[1] I will adopt instead a comprehensive approach to the notion of management and attempt to establish a management model by integrating the various

[1] Hulmut K. Anheier points out that the problem of predominant discussions concerning the management of non-profit organizations lies in the interpretation of the notion of management in terms of financial management. See Hulmut K. Anheier, "Managing Non-profit Organizations: Towards a New Approach," working paper 1 (Center for Civil Society, 2000), https://www.lse.ac.uk/collections/CCS/pdf/CSWP/cswp1.pdf (accessed April 20, 2009).

components that need to be taken into account to understand the essential tasks and tenets of a democratic educational organization. This model demonstrates an approach to founding a relevant ground for environmental education aimed at fostering autonomous participation in collaborative environmental decision-making, and thus facilitating democratic environmental restoration.

8-1 The goals of a democratic organization for environmental education

The KAMOKEN Research Center, as discussed in Chapter 7, was launched in order to promote the restoration of Lake Kamo. Local residents, governmental officials and university researchers are learning various issues concerning the lake and searching for possible courses of action towards improving identified problems about the conditions of the lake. The participants develop action plans and submit proposals to governmental agencies in order to make some progress towards ecological and social well-being. In virtue of assisting collaborative activities among diverse participants, this organization has been influencing how people think about their environments and how they communicate with diverse participants to produce practical collaboration. Although KAMOKEN was designed from a local perspective in response to local problems, it contains several aspects that can be applied to a general context. To identify such aspects is crucially needed for enriching our vision of environmental education.

In order to clarify the point, let me review the characteristics of the educational framework of KAMOKEN and underlying ideas about inquiry-based environmental education. Environmental autonomy is a key educational concept that describes the essential aspect of empowered agents who participate in collaborative environmental decision-making. This ability is essentially important for promoting democratic

environmental restoration, which depends upon the active and voluntary participation of various stakeholders from the planning stage of a project. In the light of the notion of environmental autonomy, the scope of education was expanded so as to include the growth of agents' communicative, deliberative and decision-making abilities as well as environmental sensitivity to perceive the diverse dimensions of the surrounding issues. The activities of KAMOKEN have been designed with these concerns in mind.

Indeed, the framework of KAMOKEN based on the notion of environmental autonomy resonates with general expectations for environmental education. For example, the Basic Environmental Plan issued by the Ministry of Environment states that, in order to promote environmental conservation activities, it is important to facilitate the collaboration among a variety of people. It further suggests that, to do this, it is required that people are equipped not only with the knowledge of environmental conservation but also with the skills in organizational management and effective communication.[2]

What is then needed is a system that aims at cultivating communicative and deliberative competences of the public. Masayuki Horio, who investigates the measures against global warming, discusses the necessity to found a community-driven learning organization, which he calls *jishu-daigaku* (自主大学), *viz*. a locally-governed college. According to Horio, it is essentially important to cultivate the intellectual autonomous power of a community, which enables its members to identify surrounding issues and to

[2] The Ministry of Environment, *The Basic Environmental Plan* (2006). See chapter 8–3. The importance of cultivating responsible actors has been discussed in the context of the community governance for environmental management. See, for example, Ryoto Tomita, "'Shizen no Sekkei' no Shisou: Seibutsutayousei wo Hozensuru Shikumiwo 'Sekkei' Surutameni, 「自然の設計」の思想－生物多様性を保全するしくみを「設計」するために－" in *Kankyo: Sekkei no Shisou* 環境―設計の思想, ed. Sumio Matsunaga (Tokyo: Toshindo, 2007), 181–212, and Mitsuru Tanaka, "Seisakuketteikateiniokerushiminsanka 政策決定過程における市民参加," in *Kankyoumanejimentotomachidukuri: Sankatokomyunitygabanansu* 環境マネジメントとまちづくり―参加とコミュニティガバナンス, ed. Kenji Kawasaki (Tokyo: Gakugei Shuppan Sya, 2004), 80–103.

engage in the activities of problem-solving.[3] A community with intellectual power is able to identify problems and their solutions with its social eyes and brain, and to produce practical outcomes with its hands. The system of *jishu-daigaku* should be designed to facilitate the cultivation of such power of a community. In my view, KAMOKEN provides a relevant educational opportunity in this regard. It carries a great potential to contribute to the development of a self-governed community that is able to engage in its surrounding problems with the communicative and deliberative power of those who dwell there.

8-2 The roles of specialists

A democratic form of environmental education calls for the active involvement of local participants. Reverting to Horio's idea of the *jishu-daigaku*, in which *jishu* means independent, autonomous, self-governed, etc., the members of a local community play a central role in developing a relevant educational framework. Yet, putting the task of managing a community-driven learning organization entirely in the hands of local participants might not be the best approach for two main reasons.

First, actual participants are not decontextualized actors represented by such general terms as *local resident* and *public* but people who are living with their unique histories, social dispositions, and inclinations that have been developed through everyday experiences in their communal life. At a theoretical level, it does not seem problematic to simply state that a democratic organization should be designed and operated by local people. Yet, at a practical level, it is crucial to bear in mind that local participants might have difficulty in carrying out a neutral management of an organization because of the bonds of local human relations. External support might be helpful to deal with this

[3] Masayuki Horio, "Datsuondanka to datsukindaika 「脱温暖化」と「脱近代化」," in *Kankyo: Sekkei no Shisou*, ed. Sumio Matsunaga (Tokyo: Toshindo, 2007), 213–282.

difficulty particularly at the stage of initiating an organization.

Second, people who coordinate a democratic educational organization need to have appropriate skills to create relevant learning opportunities and facilitate networking, collaboration and bottom-up decision-making. They are expected to play an important role in activating mutual communication between local residents, governmental officials and specialists, and facilitating the productive exchange of a variety of ideas among them. Accordingly, for example, specialists in participatory consensus building whose task is to elicit participants' diverse thoughts can play a significant role in designing and developing this kind of organization.

In the case of KAMOKEN, the board of directors was established in order to secure the effective management of the organization. In the beginning, people in various positions were nominated as directors. However, after close consultation with local participants, university researchers specializing in participatory consensus building and inquiry-based education decided to designate themselves as the initial members of the board. I have also assumed this role and have been engaging in the design and management of this organization. The task of management will be gradually handed over to local participants as adequate environments and the capacities for facilitating fair and cooperative activities grow.

The collaboration with specialists in participatory consensus building has resulted in a strengthening of the power of local communities to facilitate democratic organizations. In addition to the cases on Sado Island, it is useful to the ongoing discussion to focus briefly on two other cases that I have had the opportunity to observe in the interim. The first example concerns an organization developed through landscape preservation in Yukuhashi City, Fukuoka. A beach called Ubagafutokoro (姥が懐) in this city was about to be

destroyed because of the construction of a new road to a fishing port. A number of local residents started the activities to protect this beach, which is characterized by a beautiful rocky shelf. First, they promoted a campaign to request the city to stop the construction. But since the campaign did not produce the desired effects, they asked for the support of specialists in order to improve the situation. The specialists were of the opinion that it was preferable to avoid a bitter conflict with the city and to put a greater effort into facilitating positive activities to discover the unique identity of the area around this beach. The first thing they did together was to study the religious and historical significance of the beach and its surrounding area by actually visiting various places associated with the beach. As a result of the study, the participants have discovered that this beach had been used for an important religious ceremony called *Oshioitori* (お潮井採り) at Mount Hiko (*Hikosan*, 英彦山) for over one thousand years. In this ceremony, priests walk along the river system of Mount Hiko and bring back the seawater to the shrine in order to purify the mountain. The participants realized that this link between the mountain (shrine) and the ocean (*Ubagafutokoro*) represents the ancient idea of ecological network. An idea implied in this ceremony is that the well-being of the mountain is related to that of the ocean. Local residents, in collaboration with specialists, held workshops and symposiums in order to share their discoveries with a wider audience. As a result of their effort, people's recognition of the beach started to change. Finally, the construction plan was modified in order to avoid the complete destruction of the beach and the shelf. The activities of this group in Yukuhashi have been growing even after the construction of the road. The local network has been expanded through open-style activities. Currently, local participants have started a collaborative project with Fukuoka prefecture about landscape management. They are conducting workshops aiming to discover historical and cultural resources entailed in

the landscape.

Another example is a community-oriented learning organization called *Yoriai-daigaku* (寄合大学) developed in Yamanouchi City, Nagano. This organization was established as a result of a series of workshops organized by governmental officials of Nagano prefecture and Yamanouchi City in collaboration with university researchers. These workshops were aimed at connecting local agricultural and tourist industries in the light of the concept of environment, and at generating new activities and products that may contribute to the revitalization of the local industry. The workshops were successful and produced some concrete outcomes, e.g. the creation of new forms of local business, the development of a local network and the facilitation of democratic activities of local organizations. According to a prefecture official who played a central role in coordinating the workshop, what underlie this success are specialists' contributions through presenting new perspectives to consider local issues and motivating the participants to challenge new things. In order to continue the search for further possibilities of revitalizing their community, local residents, governmental officials and university researchers created the *Yoriai-Daigaku* and started to study a variety of topics of their interests on a regular basis. The establishment of this organization was possible because horizontal relations had grown among various participants in the preceding workshops and because people became more interested in learning new things.

Both examples represent the development of community-oriented learning organizations started with the support of specialists. While I do not mean to suggest that the support of specialist is essential to the development of these organizations, I find it very relevant to stress the importance of their various roles in the process. These roles include presenting new ideas to look at local issues, designing constructive activities to avoid

conflicts, facilitating horizontal relations that generate collaborative activities, imparting adequate skills to participate in multi-perspectival inquiry, and, most importantly, learning together with local participants about their communities as well as the problems they encounter. Specialists can facilitate the growth of a democratic educational organization by abandoning epistemic hierarchy and actually engaging in co-learning activities.

It is important to mention that the roles of specialists might change during the development of people's environmental autonomy. For example, with regard to the management of the Iwakubi Dangisho, university researchers at first intensively engaged in the planning of its activities. In the two years that have passed from its foundation in June 2007, some local residents now actively apply for governmental funding and call for local cooperation in order to secure the continuous management and maintenance of the facility. These efforts are obtaining more support from other residents who are planning new activities for the revitalization of their local communities. The researchers now typically participate in these activities as a result of initial local initiative.

8-3 Guidelines for the management of an organization for inquiry-based environmental education

In the process of developing a democratic organization for inquiry-based environmental education, there are several aspects that need to be taken into consideration. On the basis of actual experiences in the facilitation of *dansigho* workshop and the management of KAMOKEN, I identify ten key ideas for strategically operating such an organization.

1. *Clarifying the fundamental policies of an organization*. In order to manage an organization that is open to everyone, it is important to explain its fundamental policies in

an explicit manner. Otherwise, its basic stance might be distorted as a result of the personal interests that various participants bring in. The mission statement of KAMOKEN (Section 7-2) provides a concrete example of such an explicit presentation of organizational policies. This statement explains the fair stance and approaches of the organization that need to be appreciated by anyone who wishes to participate in it. There are two anticipated effects of this clarification of organizational policies. First, it designates a general direction that an organization should take. Second, the policies imply the appropriate course of action required for each participant. A set of organizational policies functions as a normative guideline at both organizational and individual levels.

2. *A flexible organizational framework*. The adequate formation of an organization may not be delineated at the initial stage. Once we start running an organization, we gradually see what organizational framework is suited for maximizing learning opportunities in a given situation. It is important to start activities with a flexible formation so that, as activities proceed, we can readjust it and organize a more appropriate one that is capable of facilitating collaboration and generating more creative activities.[4] In other words, the notion of adaptive management needs to be employed in the process of building an organization. Even if an organization emphasizes its improvisational dimension, it is crucial to clarify who is responsible for the management and the activities of an organization. Otherwise, the style of adhocracy might be misunderstood as an irresponsible

[4] Anheier states that there are two approaches to develop organizations: *palace* and *tent*. "A palace organization values predictability over improvisation, dwells on constraints rather than opportunities, borrows solutions rather than inventing them, defends past action rather than devising new ones, favors accounting over goal flexibility, searches for 'final' solutions, and discourages contradictions and experiments... By contrast, a tent organization places emphasis on creativity, immediacy and initiative, rather than authority, clarity and decisiveness; the organization emphasizes neither harmony nor durability of solutions, and asks, 'Why be more consistent than the world around us?'" According to this distinction, a democratic learning organization can be characterized as a tent organization. It needs to be flexibly structured in accordance with shared needs among participants. See, Anheier, "Managing Non-Profit Organizations: Towards a New Approach."

management.

3. *Convening a variety of participants*. A deep inquiry that scratches the surface of a problem proceeds when diverse perspectives are brought together. In order to promote such an inquiry, it is necessary to invite a variety of people into co-learning activities. A genuine multi-perspectival inquiry grows on the basis of fair, horizontal relations that facilitate group work. It is important to provide a nonhierarchical ground in which people in various positions can share ideas and cooperate with a sense of care and respect.

In order to invite diverse participants, it is also helpful to provide a variety of ways for people to participate in activities so that they can choose the most suitable participatory style depending on their conditions and concerns. In the case of KAMOKEN, there are three participatory styles: as a governing board, as a researcher and as a regular member. As pointed out previously, the members of the board must be sincere in their efforts to maintain the neutral stance of the organization. People who wish to contribute to organizational activities by putting their knowledge and experiences to account are encouraged to participate in KAMOKEN as researchers and to lead various activities.

4. *Learning facility or centers*. Setting up a center contains important implications for the strengthening organizational activities. It helps us to integrate information, to develop networks, and to achieve greater publicity. The profound consequences of setting up a center have been observed throughout the case studies of both the *dangisho* and KAMOKEN. Iwakubi Dansigho (Chapter 5) has been developing as a community center and generating new voluntary activities aimed at revitalizing the local community. It is also contributing to the expansion both of local and broader networks. KAMOKEN, on the other hand, set up a lakeside research laboratory and provided a space where people can stop by, look at relevant information, talk with other participants, and so on. It has been

encouraging more people to visit the lake.

These facilities, moreover, have been working to integrate local voices into their management. For example, although the activities and plans of KAMOKEN have been determined by the board of directors consisting of university researchers (see p. 147), the multi-perspectival dialogues carried out in the laboratory have been influencing the direction of this organization.

5. *Setting goals at various scales*. An organization is generally established and operated on the basis of particular objectives. As I discussed at the beginning of this chapter, there are indeed some goals and purposes for creating a democratic organization for inquiry-based environmental education. Besides such fundamental objectives, an organization facilitates various projects in order to make practical progress. The promotion of project-based activities encourages the participants to build concrete action plans, to clarify feasible tasks and to act towards multi-layered goals. In order to expand the democratic value of the activities, it is critical to involve a variety of participants in the process of planning projects. One of the ways to do this is to hold open-style workshops in order to share ideas about what people want to do as a part of the organizational activities.

6. *Connecting activities to political decision-making*. If one of the objectives of an organization is to bring about a social transformation by exerting an impact on public policy, it is important to design activities with this point in mind. Patrick L. Scully and Martha L. McCoy argue that an effective strategy is to encourage officials to set action priorities and to work with citizens to implement action ideas.[5] In particular, they emphasize the following three points: (1) Involve public officials in leadership roles at

[5] Patrick L. Scully and Martha L. McCoy, "Study Circles: Local Deliberation as the Cornerstone of Deliberative Democracy," in *The Deliberative Democracy Handbook: Strategies for Effective Civic Engagement in the 21st Century*, ed. John Gastil and Peter Levine, (San Francisco: John Wiley & Sons, Inc., 2005), 204.

every stage of the program; (2) Recruit officials into the dialogues; and (3) Incorporate the main ideas from the deliberations into reports for officials. In addition to these points, it is also fundamental to participate in the decision-making processes carried out by governmental bodies. Public involvement has been encouraged in political decision-making in various fields such as city planning, landscape designing and environmental management. To participate in open-style meetings held by municipalities is crucial for setting particular focuses of learning and promoting activities that can effectively influence public policies. Both the public and the government need to understand the concerns of each side in order to generate further collaboration. This approach contributes to increase the knowledge about current social concerns at the governmental level.

7. *Releasing information*. It is important to report the latest organizational plans and activities both internally and externally. The purpose of releasing information is not just to satisfy public concerns for accountability. The effective sharing of information might result in increasing people's interests in the activities of an organization and in formulating new strategies for future development. There is a variety of ways to release information, e.g. the internet, newsletters, circular bulletins, etc. The most effective way to release information may vary in each region or community. For effective information release, it is necessary to know and utilize locally rooted methods for sharing information. Local residents play therefore a significant role in strengthening local publicity.

8. *Measuring and monitoring organizational performances and activities*. The measurement of outcomes of a democratic educational organization depends upon whether its activities contribute towards developing the participants' autonomous competences to engage in democratic environmental projects. The criteria for evaluating the performances

and activities of an organization include such components as the achievement of a deeper understanding of environmental issues among participants, the formulation of new ways to look at local environments and associated issues, the growth of voluntary, collaborative activities, and the change of people's communication styles into more collaborative ones. An outcome measure may be conducted by independent observers or by participants themselves. When academic researchers are participating in the organization, it is also possible to bring in external feedbacks through peer review, e.g. by reporting activities at academic societies. Since the activities of KAMOKEN have just only started in July 2008, the primary evaluation method at the present moment is self-evaluation by means of a survey. The survey consists of questions to check organizational performances in creating new ideas and activities and developing local network. The practice of self-evaluation has an important educational implication, in that it encourages participants to be sensitive to the meanings of their own activities and builds the habit of self-reflection.

9. *Financial management*. When running a non-profit organization, it is common to secure its financial source by collecting annual membership fees from the participants. This method works if there is a staff member who takes the task of the accounting of the organization. However, as the organization grows, such tasks as checking the account and collecting unpaid fees might become overly complicated. If no one can undertake these tasks, fund-raising is another method to secure financial source. In order to diminish accounting tasks, KAMOKEN is currently funded by donations from individuals and corporations. According to Kazuho Seko, who promotes comparative research concerning the management of NPOs between Japan and America, the individual donation is the largest source of income of American NPOs. In the case of Japan, the share of individual

donation is much lower.[6] Seko points out that the dependence on the public sector is still strong in Japan with respect to the promotion of public activities. Nevertheless, the custom of individual donation has traditionally been supporting local activities such as the management of neighborhood association, the maintenance of shrines and temples, and the organization of local festivals. The study of the traditional donation system might be helpful for the coordination of the donation management that is suitable for the Japanese tradition.

10. *Expanding community network*. The ability to connect people, things, and events is critically important in order to coordinate a multi-perspectival learning organization.[7] As mentioned under items 3 and 4, networking is a key concept for deepening inquiry and generating creative activities. To expand the community network is not merely to increase the members of an organization. It is important to facilitate networking that contributes to the activation of co-learning and the generation of collaborative activities. The development of such network is possible in virtue of the efforts to invite a variety of participants, to discover common concerns among them, and to facilitate collaboration on the basis of shared intentions.

8-4 The need for strategic and adaptive management

A democratic organization for inquiry-based environmental education should be multi-perspectival and community-oriented. In order to manage such an organization, there

[6] Kazuho Seko, *Shiminsanka no Dezain: Shimin, Gyousei, Kigyou, NPO no Kyoudou no Jidai* 市民参加のデザイン–市民・行政・企業・NPO の協働の時代, (Tokyo: Gyousei, 1999), 25–26, (in Japanese). According to Seko's report, the total amount of donation in the United States is $124,700,000,000 per year in average and more than 80% is from individual donors. In Japan, the amount is 5% of the U.S. and the donation by individuals is less than 15%.

[7] For the discussion concerning the power of networking in the context community development, see , for example, Yasuhiro Endo, "Chiiki Saisei no En wo Tsunagu Kansei 地域再生の縁をつなぐ感性," in *Chiiki Saisei to Network* 地域再生とネットワーク, ed. Mamiko Okada (Kyoto: Showado, 2008), 151–175, (in Japanese).

are some fundamental ideas and approaches to be taken into consideration. The guidelines that I presented in Section 8-3 contain various components that can be considered relevant in this respect. These ideas are not prescriptive because they do not necessarily represent explicit procedures required for the management of such an organization. Rather, they indicate an approximate direction to which we should proceed. As mentioned in item 2 in the guidelines, it is important to bear in mind that we have to be sensitive to the particular conditions of each case in terms of designing a community-oriented organization. KAMOKEN, for example, has gradually been developed as a consequence of continuous inquiry among local residents, governmental officials and specialists. A suitable form of organization needs to be considered in relation to the unique conditions of a local community.

An important issue to be considered at this point is the validity of the ideas laid out in the guidelines. Since these ideas are derived neither deductively nor inductively, and depend significantly upon experiential knowledge obtained from the research conducted on Sado Island, it may be argued that the validity of these ideas has not as yet been demonstrated. In the case of the study of theoretical and practical ideas concerning a community-oriented form of education, it is vital to pay attention to the unique conditions of a given situation, e.g. who the participants are, what they think, what issues they are concerned about, etc. The coordinator of an organization explores which educational framework is appropriate on the basis of educational theories, past experiences and local conditions and voices. The decisions and actions made in a particular organizational management are therefore essentially unique. Because of this uniqueness, there might arise the argument that the examination of one particular case of organizational management remains a mere case study and can hardly produce a generalizable management model.

The validity of this study certainly needs to be examined in the light of long-term measuring of organizational outcomes as well as their applicability to other cases. The list of ideas in the guidelines is certainly not exhaustive but needs to be refined through future case studies. In the process of evaluating and reformulating the guidelines, it will become possible to build a more comprehensive management model for a democratic educational organization. In this respect, the guidelines that I have presented might be regarded as a working hypothesis that needs to be further examined and refined through continuous theoretical and practical investigations.

To conclude this chapter, I highlight two important ideas for the development of democratic learning. First, the system for such learning needs to be designed strategically. For example, a mere emphasis on the importance of neutrality and horizontality is not sufficient for actually embodying these values. It is critical to design the organization and its activities strategically so as to secure essential aspects of democratic learning. The missions statement and the public researcher system of KAMOKEN are examples of practical strategies.

Second, the process of organizational management needs to be considered adaptively. It is not possible to present a definite set of ideas about organizational management as a manual that can be applied to all cases. Such an approach is rather problematic because it might result in manual-dependence and make people think that they can simply apply a model to a particular situation. No model can fully convey the perplexity and the diversity of real situations. In order to facilitate a community-oriented organization, people always need to observe particular conditions and consider how they can develop the ideas in the guidelines in accordance with given conditions. The process of management *per se* should be developed through ongoing reflective inquiry.

Conclusion and Discussion

Conclusion

The aim of this dissertation has been to examine the question "Is it possible to facilitate democratic environmental restoration through the practice of environmental education?" As a result of theoretical and practical research concerning the education aimed at democratic environmental restoration, I conclude that what is critical to the promotion of such restoration is the cultivation of the ability of empowered agents to participate in collaborative environmental decision-making, which I call *environmental autonomy*. There are three critical points that explicate this argument:

(1) The promotion of democratic environmental restoration rests upon the growing participation of empowered agents in deliberative decision processes.

(2) Environmental autonomy, which has been employed to describe such empowered decision-making ability, transcends the Kantian metaphysical autonomy and designates communicative and deliberative competences as well as the sensitivity to various aspects of our environments.

(3) The cultivation of environmental autonomy is possible through the practice of multi-perspectival inquiry, which facilitates the processes of deliberation and decision-making through the non-hierarchical exchange of ideas. Such inquiry needs to be designed strategically.

One of the fundamental requirements for democratic environmental restoration is people's autonomous participation in the process of planning and implementing the restoration. Autonomy, which designates the competence for appropriate decision-making, was thus focused as a key concept in the course of developing an adequate educational framework. In particular, I employed the term *environmental autonomy* in order to clarify the aspects of human competence necessary for environmental decision-making. For the proper integration of the concept of autonomy into environmental education, however, it is

of utmost importance to clarify the implications of this concept. By exploring the Kantian understanding of the notion of autonomy and identifying what is problematic in it, I argued that autonomy needs to be understood by taking into account the social dimension of the self and the creative dimension of environmental decision-making.

As an alternative interpretation of autonomy, the concept of *communicative autonomy* was highlighted. Tim Sprod develops this concept in the context of moral education and attempts to explain the sociality in moral reasoning on the basis of his pragmatic account of morality:

> …we are contextually situated in ways that restrict our thinking and we are restrained by our embodiment as individual persons. Nevertheless, as our abilities to expand our horizons grow, through engagement with the differing horizons of others, so we become more autonomous.[1]

Autonomous actors should be able to engage in the ongoing dialogue concerning humanity and, therefore, need to have the competences in communication, deep thinking and collaborative deliberation. All these competences also seem important within the framework of environmental autonomy; yet, they will not be sufficient for making environmentally responsible judgments. In addition to them, I argued that environmental sensitivity needs to be taken into consideration as an important aspect of environmental autonomy. Hence, I listed the followings in order to describe the concept of environmental autonomy:

(1) interpreting the various concerns and issues embedded in particular contexts through the exchange of ideas as well as through shared perceptual experiences;

(2) deepening the common understanding of surrounding issues while embracing multiple interpretations; and

(3) constructing shared ideas about what can be done to improve the environment by integrating multiple concerns and issues.

[1] Tim Sprod, *Philosophical Discussion in Moral Education: The Community of Ethical Inquiry* (New York: Routledge, 2001), 85.

The next focus of this research was to clarify appropriate educational methods for cultivating environmental autonomy. I initiated this examination from the consideration of an education based on Habermasean discourse. Jürgen Habermas also emphasizes the social aspect of autonomy by pointing to the role of discourse in the process of determining the responsible courses of action. His ideal form of communication, however, requires several criteria to become an adequate speaker or hearer, and does not seem to invite everyone to the communicative scene. This characteristic of Habermasean discourse is problematic because what is needed for facilitating democratic environmental restoration is to encourage various stakeholders, from children to senior citizens, to participate in environmental decision-making processes. In the course of searching for an adequate view on communication in environmental discourse, the notion of dialogical inquiry discussed by David Bohm and Matthew Lipman was examined. Differing from the idea of discourse presented by Habermas, their approaches cast light upon the value of fairness and open-endedness in communication as well as the attitude of open-mindedness necessary for constructive reciprocal communication. Inquiry conducted in a social context encourages us to examine things from various perspectives, and is vital to the achievement of deeper understanding of the world. I, therefore, arrived at the idea that the practice of *multi-perspectival inquiry* would be critically needed in genuinely democratic environmental decision-making, and thus would provide a relevant approach to the cultivation of people's environmental autonomy.

The *dangisho* workshop carried out on Sado Island was designed on the basis of the examination of the theories and methods of inquiry-based education as well as the observation of the social conditions of the island. As a consequence of the promotion of this workshop, there have been some positive indications of the change in people's

attitudes and activities. First, people started to show more interests in the *toki* issue by associating it with a variety of concerns emerging in their everyday life. For instance, they connected the *toki* with the revitalization of local communities, the development of tourist industry, and the improvement of local environmental conditions. Second, the activities of *dangisho* and KAMOKEN influenced the way people communicate each other. A number of participants started to acknowledge the value of multi-perspectival inquiry in which people in various positions exchange ideas openly and determine the courses of action. They thus have been asking for more opportunities to share ideas with others and to build practical plans for creating better communities. Third, following from the second point, cooperative human relationships began to be built as a result of the advancement of reciprocal communication among diverse stakeholders. The senses of trust and acceptance have been gradually growing in virtue of collaborative activities and open-ended decision-making processes.

On the basis of these pieces of evidence, I conclude that inquiry-based education has generated a positive impact upon people's autonomous participation in the process of environmental restoration. It is therefore adequate to argue that environmental education, if it is carefully designed for that purpose, can contribute to the facilitation of democratic environmental restoration.

The educational framework that I have developed in this dissertation consists of the guidelines for the *dangisho* workshop, which explain basic ideas necessary for designing non-hierarchical inquiry, and of the management model of a democratic learning organization, which provides the groundwork for facilitating collaborative activities of environmental restoration through the promotion of continuous inquiry. In addition to these two elements, the report on the actual activities and outcomes of the *dangisho* workshop

and KAMOKEN contains practical ideas for materializing an environmental education that aimed at facilitating democratic environmental restoration, and provides the framework with concrete examples of such education.

I would like to note that I have gradually developed the educational framework through various experimental trials of inquiry with diverse stakeholders. In this sense, my framework unfolds as a result of engaging in field activities and is therefore deeply grounded in the local context. However, such thorough incorporation of field research does not entail that this framework is only applicable to one particular case. As I mentioned in the introductory chapter, the uniqueness of the approach developed in this thesis lies in its integration of theory and practice carried out by extracting generalizable ideas from the observation of and reflection on particular activities conducted in Sado. While this framework may not have universal application, I believe, it provides helpful guides with a view to promoting environmental education for democratic environmental restoration.

With regard to the applicability of this educational framework, I argue that it can be employed in various kinds of environmental projects and public works that require the participation of a variety of stakeholders. Nevertheless, I admit that there are several cases in which solid governmental leadership is necessary. For example, a project that requires the forced evacuation of residents might be difficult to promote only by means of a bottom-up approach to decision-making. Further case studies on the application of this framework will be helpful for clarifying the range of its application.

The importance of the island-wide approach of the *dangisho* workshop became explicit especially after the release of the *toki* on September 25, 2008. ‘Unexpectedness’ is the expression that has been frequently used when describing the behaviors of the released

toki because most of them have chosen their habitats outside the core zone for the preservation of this bird.[2] As of March 2009, three of the released birds are living in the area that extends from the central plain to Lake Kamo, and two are in the Hamochi district in the southwest of the Kosado mountainous region. More surprisingly, three released birds flew to the main island of Japan, which is approximately 60km away from Sado Island. As mentioned in Chapter 7, Lake Kamo had not been given sufficient attention as the habitat of the *toki* before the release. Neither was Hamochi the main focus of people's concern in respect of *toki* preservation. Much fewer people expected that this bird would fly to the main island in a little while after the release. Since all these areas are outside the designated bird sanctuary, various problems began to emerge concerning the symbiosis with this bird. For instance, local residents worry about the delay of governmental responses to the farmers' concern about the maintenance of the paddies that have become the toki's favored foraging sites. They are also concerned with the absence of restriction on the use of hunting dogs in the current habitat of the *toki*, which is outside the bird sanctuary.

What we have learned from this historical project of releasing the *toki* is the risk of limiting our focus without sufficiently taking into consideration the *spontaneity* of the natural world. The behaviors of the *toki* have been described as "unexpected," because the predictions concerning them have been based on too limited understanding of the bird. Interestingly enough, a number of people had been anticipating the expansion of the *toki* habitat. Residents of the Lake Kamo region, for example, had strong expectations for the *toki* to gather again in the area after the release. One important environmental characteristic of this region contributed to their supposition: the deeper rice paddies are constantly

[2] See Section 2-3-1 for the explanation of the core zone for the toki preservation.

soaked with water, thus attracting many forms of wildlife. The residents of the area, having observed this natural phenomenon, therefore, instinctively form a natural schedule for their wildlife cohabitants, which include not only the *toki*, but also many herons who convene at these 'water holes.' Thus the people entertain many predictions concerning the movements of the *toki* based on their daily observation and cohabitation in the past. However, because their assumptions were not derived from scientifically-collected evidence, they could not have been adequately incorporated into the overall strategy for *toki* preservation.

When dealing with any environmental issue, it is important to take into consideration the spontaneity of the natural world and to cultivate our ability to respond to it. Moreover, local knowledge needs to be identified as a valuable source of information that deepens our understanding of a given issue. To achieve this, it is crucial to create a communicative space in which people can exchange ideas about a variety of possible concerns and determine the courses of action through fair reciprocal communication, and to develop their skills and attitudes and to participate in such communication.[3] The study on inquiry-based environmental education developed in this dissertation contains important implications in this respect as well.

Inquiry as a path to environmental ethics education

In Introduction, I mentioned that the important tasks of this research include the consideration of the ethical dimension of environmental restoration and the inclusion of

[3] In *Making Democracy Work*, Robert D. Putnam argues that "Spontaneous cooperation is facilitated by social capital," by which he means trust, norms, social networks, etc. Social capital, he writes, "can improve the efficiency of society by facilitating coordinated actions." For Putnam, the growth of social capital is the key to the development of a democratic society. Although I did not incorporate the idea of social capital into my research in this dissertation, this issue seems a relevant research focus in the future. Robert D. Putnam, *Making Democracy Work: Civic Traditions in Modern Italy* (Princeton: Princeton University Press, 1993), 167.

this dimension in the scope of environmental education.[4] In the light of the concept of *environmental autonomy*, I have explained the necessity for cultivating people's capacity to participate in the collaborative process of environmental decision-making, and have presented *multi-perspectival inquiry* as a method of education aimed at the development of this capacity. In my view, this method contains enormous potential as an approach to the embodiment of *environmental ethics education*, which has not been able to make an adequate development yet because of its confrontation with the difficulty in values education. Although this ethical dimension forms an integral part of environmental education, its promotion has been considered problematic, particularly in the United States.

Eugene Hargrove, one of the few proponents of environmental ethics education, discusses the issues that arise from promoting environmental ethics education in American public schools. The most serious issue among them is the fear that teaching environmental ethics at schools might result in indoctrinating particular views and values about the environment. Underlying this fear is the conservative view of educating ethics in the United States. According to Hargrove, ethics is often associated with religion in Western tradition. Because of this association, people tend to hold the view that ethics should not be taught at secular institutions like public schools. The central places for educating ethics have been the home and the church. This view has caused the distrust of parents concerning the teachers' ability to teach what is right or wrong. Thus, as Hargrove writes, "Teachers are constantly in danger of being accused of teaching students inappropriate values," and parents are "worried that teachers in public schools will teach their children

[4] It is instructive to refer to the argument of Akihiro Yoshinaga at this point. He argues that environmental education is one of the ways to materialize the discussions developed in the tradition of environmental ethics. See Akihiro Yoshinaga, "Kankyou Rinrigaku A Suggestion for Future Development of Environmental Ethics," Journal of Environmental Thought and Education 1 (2007): 57–64, (in Japanese).

the wrong values."[5] In the same vein, Nel Noddings discusses about the strong objection against teaching ethical or moral principles at public schools. She writes, "Evangelical educators sometimes argue that moral virtues should not be taught in a secular framework. They insist that the goodness of such instruction is lost if God is not identified as the source of virtues."[6] This sort of objection makes it almost impossible to teach ethical principles at public schools, which must keep the secular environment.

In contrast to American school education, which has been conservative about teaching ethics at schools, moral education has been a part of primary and secondary school curriculum in Japan since 1958. But here too the indoctrination of ethical values is recognized as a serious educational problem, for example, through the development of *shushin-kyoiku* between 1880 and the end of the World War II, whose focus was teaching moral and ethical principles to ensure allegiance to the government, or to the emperor. This education has received strong criticism from the public since the standards of morality in this education were prescribed by a small group of people, who were politically influential at that time.[7] In the current law concerning the basic educational policy, the importance of the individual's perspective has been highlighted.[8]

The fear of indoctrinating values through the education of ethics has prevailed both in the United States and in Japan. Hargrove argues, however, that there are some ways to avoid indoctrination when teaching environmental ethics. First, he writes, "ethical training

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[5] Eugene C. Hargrove, "The Role of Socially Evolved Ideals in Environmental Ethics Education in Canada and the Yukon: A Historical Approach Involving the Humanities," in *A Colloquium on Environment, Ethics, and Education* (v.14, #4), ed. Bob Jickling, (Whitehorse: Yukon: Yukon College, 1996), 20–31.

[6] Nel Noddings, *Educating Moral People: A Caring Alternative to Character Education* (New York: Teachers College Press, 2002), 7.

[7] Minoru Murai point out that the problem in *shushin-kyoiku* should not be regarded merely as the distortion of moral values through political influences. He emphasizes that our way of thinking about moral education needs to be examined because the inculcation of values *per se*, whether it is politically distorted or not, is a problem. Minoru Murai, Doutoku ha Ohierareruka 道徳は教えられるか (Tokyo: Kokudosha, 1990), 24–27, (in Japanese).

[8] *Kyoikukihonhou* 教育基本法 (Law for the policy of education), (Law. No. 120, 2006).

as public education can be clearly and narrowly aimed at furthering the goals of the community – that is, helping students understand generally accepted social values."[9] By the term community, Hargrove means a social group that is open to anyone in general. In such a community, even though people might have different religious, racial, or business background, there are certain rules and values that are shared among the members of the community. Hargrove argues that if the education of ethics merely focuses on such common values, it would then become possible to conduct normative education avoiding the value conflicts that occur due to the differences of cultural and/or religious backgrounds.

Second, when dealing with a morally controversial issue, Hargrove argues that the aim of instruction should not be to give a specific answer to the issue, but "to help students understand what the proponents of each side are saying."[10] His suggestion is that the fair presentation of conflicting values is necessary for environmental ethics to be educational. If the teacher explains a controversial issue based on his/her judgment, students will be enforced a certain view of the issue and denied the opportunity to judge the issue for themselves. Thus, the teacher should emphasize the importance of fairness in order to avoid ideological indoctrination.

In addition to these two points, Hargrove proposes the shift from "environmental ethics education" to "environmental citizenship education." According to the author, "Much of the stigma attached to ethics can probably be avoided by putting ethics, as social ethics, into a broader context, for example, teaching citizenship instead of morality or ethics."[11] Hargrove explains that Environment Canada employs the concept of

[9] Hargrove, "The Role of Socially Evolved Ideals," 21.
[10] Ibid., 22.
[11] Ibid.

environmental citizenship in order to express "an idea that we have responsibility for the environment."[12] The term citizenship is community-oriented, in that it describes the role of individuals in a human community. Yet, in the case of environmental citizenship, the community is extended to a biotic community that encompasses all kinds of living things. Thus, according to Environment Canada, "The term 'environmental citizenship' is a convenient way of describing the ethical obligations that link us with other members of the biosphere."[13] The idea of environmental citizenship education is meaningful especially in the United States, where some people regard ethics as a part of religious concern. Environmental citizenship, on the other hand, does not carry negative images of moral education, and seems an appropriate educational theme even in a secular context such as a public school. However, environmental citizenship education still aims at teaching certain thoughts and values to children. Depending on what thoughts and values are taught as well as how they are taught, this education might result in imposing particular views to children.

In order to avoid the problem of indoctrination, Hargrove describes that it is necessary to eschew educating students based on the teacher's value judgment, and to achieve a fair representation of various positions that are involved in environmental discussions. As the emphasis is placed upon fairness, the educational focus will shift from *teaching* to *clarifying*.[14] The problem of this shift is that it can give an impression that environmental ethics is based on relative value judgment. That is, it might lead the idea that there is no definite way to evaluate and judge various conflicting positions involved in

[12] Environment Canada, *A Primer on Environmental Citizenship: The Environmental Citizenship Series* (Ottawa: Minister of Supply and Services, Canada, 1993). Q1.8.
[13] Ibid., Q1.7.
[14] By comparing the programs of environmental education between the United States and Japan, Akira Ogihara points out that the programs in the U.S. tend to focus on value clarification, while most Japanese programs inculcate certain environmental values. Akira Ogihara, "A Comparative Analysis of Values and Environmental Sensitivity Instructed in Environmental Education Materials and Frameworks of Japan and U.S.A.," *Environmental Education* 15, no. 1 (2005): 39–48, (in Japanese).

environmental issues. Hargrove also discusses the problem of education through clarification:

> One serious difficulty has been an earlier effort called concept clarification, according to which the teacher avoids criticism about the values being taught simply by encouraging the pupils to make up their own values and ethics. This approach failed because opponents were able to argue, probably correctly, that it taught the relativity of moral values and ethics, promoting the idea that they were merely a matter of individual choice, independent of any generally accepted social and moral standard. This approach replaced the concern that teachers would present their personal moral views as the accepted standard with the concern that they would teach children that there were no commonly accepted standards at all.[15]

It is possible to avoid the problem of value indoctrination by encouraging students to make value judgments about environmental conflicts. But instead, there is a danger that students might think that there is no general ethical principle that should be accepted by all of us. The problem of value relativism is critical because it leads to the conclusion that any action can be justified by the individual judgment.

Environmental ethics education confronts with two serious problems: the fear toward indoctrination, and the danger of value relativism. These problems must be overcome if one wishes to realize environmental ethics education at public schools. One of the approaches to these problems is to shift the focus of education from the values of our action to the qualities of an ethical agent. The educational framework developed on the basis of the notion of environmental autonomy may be helpful in enriching our vision of environmental ethics education and making a practical progress towards the promotion of this education. In chapter 3, I defined this notion as the ability to identify various issues associated with a given environmental issue and to search for possible solutions to the identified issues in collaboration with others. Such ability is essentially important for making environmentally responsible judgment and is relevant in the context of

[15] Eugene C. Hargrove, "Toward Teaching Environmental Ethics: Exploring Problems in the Language of Evolving Social Values," *Canadian Journal of Environmental Education* 5 (2000): 115.

environmental ethics education.

It is important to mention at this point that the growth of autonomy entails the risk of leading to an unforseen conclusion that overrules the promotion of an environmental project *per se*. For example, whereas the inquiry sessions at the *dangisho* workshops have been conducted for the advancement of the symbiosis with the *toki*, after careful deliberation with a variety of stakeholders, people might conclude that the promotion of the re-introduction of the *toki* should be re-examined. The cultivation of environmental autonomy should not be circumscribed to the process of directing people to a certain predetermined conclusion. Rather, it should be the process of enabling people to examine issues from different perspectives and to consider the most adequate courses of action in a given situation.

Educating for such autonomy is certainly not value-free education. It is based on the idea that it is beneficial to cultivate people's ability to make moral judgments. However, there is a difference between an education aimed at cultivating autonomy and an education aimed at letting students conform to a certain set of values and beliefs. In order to find a way to avoid relativism or dogmatism, Hanan A. Alexander distinguishes two types of ideologies: moral and amoral. The former provides an adequate ground for open-ended dialogue, in which people are allowed to develop their views and values in virtue of the interaction with the other. In the latter, on the other hand, people hold fixed ideas and values that are not open to critical scrutiny and are expected to simply accept the views that are presented to them. The main difference between these two types of ideologies, according to Alexander, lies "in the degree which the conditions of human agency are embraced."[16] These conditions include "the freedom of will within reasonable limits to

[16] Hanan A. Alexander, "Education in Ideology," *Journal of Moral Education* 34 (2005): 1–18.

choose their beliefs and behaviors, the moral intelligence to tell the difference between better or worse according to some conception of these notions, and the capacity to err in belief and practice."[17] Alexander argues that freedom, intelligence and fallibility are essential for moral agency and that these conditions need to be taken into account in moral/ethics education.

Educating for autonomy that I develop in this dissertation has something in common with what Alexander calls a moral ideology. It allows people's participation in interpreting given situations and concepts; hence, there is always a room for negotiation. As emphasized in Chapter 4, in order to be environmentally autonomous, one needs to be open-minded when communicating with others. If one is unable to suspend fixed thoughts, this will result in enforcing certain views and values on others and will not engage them in creative inquiry towards a new understanding of a subject matter. By cultivating people's ability to participate in ongoing environmental inquiry, it should be possible to create a relevant opportunity to learn environmentally responsible courses of action. The *dangisho* workshop focused upon the capacity of environmentally responsible agent might thus be an adequate starting point for promoting an environmental ethics education. Further examination of its theoretical and methodological ideas will no doubt be helpful for the development of this education.

Three main questions emerging from this study

In order to strengthen the support for my argument, I examine some questions that might be raised against this research and develop my responses to them. Three questions are discussed below.

[17] Ibid.

1. *Is it possible to answer the main question of this dissertation merely on the basis of the case study conducted on Sado Island?*

Since this research has developed for the most part on the basis of the field research conducted on Sado Island, it may seem difficult to secure the objectivity and generality of the study compared to the methodology such as case survey based on a systematic review of a number of similar cases. In addition, the re-introduction of the *toki* is an issue peculiar to this island for it has not been planned in other regions of Japan yet.[18] Consequently, one might question whether the field research in this dissertation provides a fair ground to develop general theories concerning education aimed at democratic environmental restoration.

In response to this question, I would argue that although this field research specifically focuses on one particular case, it is still possible to generalize some ideas through careful deliberation upon what has been observed and experienced. The unique approach of this dissertation lies in the deep integration of theories and practices. Throughout the research, I attempted to weave together generality in theories and particularity in practices so as to develop a feasible account of environmental education. For instance, while the activities of *dangisho* and KAMOKEN are firmly grounded in local contexts, they embody educational theories and methods developed on the basis of general concerns in environmental decision-making such as fair reciprocal communication and collaborative deliberation. Accordingly, they contain a number of relevant ideas that are helpful when promoting environmental restoration in a democratic manner in other cases.

[18] If we consider the fact that three ibises have flown outside Sado Island, it is no more adequate to state that the *toki* issue is peculiar to this island. But this issue is a part of governmental policy in Sado, while it is not so in other places of Japan. In this sense, the preservation of this bird can be considered as an issue of this island.

In order to refine the theories and methods presented in this research, however, it is crucial to conduct comparative field research by integrating the findings from various case studies.

2. *Is it possible to measure the effect of education within a short period of research?*

Field research was conducted from April 2007 to March 2009. Within this limited time span, it is indeed difficult to measure the effects of educational activities that may arise in a gradual and subtle manner. Moreover, while the effect of content-oriented environmental education might be measured by conducting a survey to examine the amount of knowledge and the degree of understanding that people have in a given environmental issue, the effect of agent-oriented environmental education attempted in this study cannot be measured in such a method.[19] In the latter, one possible indicator of effect is the change in people's attitudes and activities. But since such a change may occur slowly and may develop in a complex manner, it may sometimes be difficult to identify it.

In spite of this difficulty, I concluded that inquiry-based education has contributed to democratic environmental restoration on the basis of some observable changes in the participants' attitudes and activities. These changes were critical to the promotion of democratic participation and contributed to materializing concrete progress towards the improvement of local environments. Although the observation of long-term effects is necessary for evaluating and refining educational theories and methods, the approach presented in this study has provided a relevant step towards facilitating people's autonomous participation. A continuous study of inquiry-based education has been conducted on Sado Island mainly within the framework of KAMOKEN. Moreover, with regard to the evaluation of the effect of inquiry-based education in the future, it will also be

[19] See Chapter 4 for the explanation of these two forms of environmental education.

important to more systematically survey local voices concerning the effectiveness of this approach.

3. *Can we expect the same effect if we apply the approaches of dangisho and KAMOKEN developed in this research to other cases of environmental restoration?*

Throughout this study, it has been emphasized that we need to pay close attention to particular conditions when carrying out an environmental restoration project. An adequate educational strategy for facilitating democratic restoration may also differ in each case because of the variation of ecological and social conditions. Accordingly, it is inadequate to conclude that this research has elucidated *the* educational strategy applicable to *any* case of environmental restoration. The theories and methods of education developed through the examination of the activities of *dangisho* and KAMOKEN neither works as a universal model nor provides a set of procedures that tell people what to do. Nonetheless, it is also incorrect to conclude that these cannot be applied to other situations. Although the strategies of *dangisho* and KAMOKEN may not work universally, they still share a number of common concerns with other manifold restoration projects, e.g. the necessities for facilitating communication in which anyone can participate and coordinating a fruitful collaboration among various participants; thus, they provide helpful *guides* to establishing a unique educational framework in each project. The educational theories and methods presented in this study should be flexibly modified in accordance with local necessities within each situation.

For further research

This research which led to the present dissertation is only the beginning of

establishing the framework of environmental education aimed at the cultivation of autonomous participants in democratic environmental restoration. In order to deepen our understanding of this education, further research is required to scrutinize a number of concerns emerging from this study. Here I list five critical themes for the further development of the research.

(1) Investigating the consequences of people's continuous engagement in the process of environmental planning, implementation and management on Sado Island;

(2) Expanding the focus of research so as to include diverse environmental and social issues of the island;

(3) Promoting case studies concerning an inquiry-based education in other parts of Japan and developing tools to measure their effects;[20]

(4) Refining the guidelines for inquiry-based education through the accumulation of theoretical as well as practical data; and

(5) Developing the ideas and methods of environmental ethics education.

Some of these themes have already started to be investigated. For instance, the second issue has been explored in light of the notion of the restoration and revitalization of *local commons*—various forms of resources being maintained and utilized with the effort of as well as for the benefit of local communities. Indeed, many parts of the natural environment, e.g. forests, rivers, lakes and the ocean, are functioning as local commons supporting our life and industry. The conservation of their well-being is essential to the realization of sustainable communities and thus provides a relevant scope of research that is strongly tied with the current global environmental concern. Compared to the study of environmental restoration for the symbiosis with the *toki*, the issue of local commons entails a much broader scope of research integrating the issues of various environmental

[20] In collaboration with the University of Hyogo, which has been promoting research concerning the re-introduction of stalks, a comparative study between Sado City and Toyooka City will be implemented in order to investigate the activities of environmental restoration for species preservation.

components as well as communal systems that carry out the constant maintenance of local resources.

The framework of KAMOKEN illustrated in Chapter 7 provides the basis of the research concerning the restoration and revitalization of local commons on Sado Island. Through the consideration of the improvement and the sustainable use of Lake Kamo, further research will be carried out in collaboration with local residents and governmental officials with a view to realizing the empowerment of local communities.

While the importance of public participation has been emphasized in environmental projects, there is not sufficient consideration of how to facilitate the participation. In order to make a contribution to this matter within the framework of environmental education, I have conducted field research concerning environmental restoration on Sado Island, identified concrete issues that impede the promotion of public participation, and attempted to explicate the theories and methods that were necessary for overcoming those issues. In the course of this study, several suggestions were made concerning the design and management of inquiry-based environmental education on the basis of the practices of *dangisho* and KAMOKEN. These suggestions would no doubt need further development as discussed above. Nevertheless, the presentation of the models and the guidelines for the planning and implementing inquiry-based multi-perspectival learning contains an important meaning in terms of clarifying generalizable ideas and methods involved in this education and providing the framework of comparison with other cases of democratic learning.

In the end, I would like to mention that the emphasis on a particular location in the inquiry-based environmental education project conducted on Sado Island does not entail the neglect of the global component of environmental issues. While the re-introduction of

the *toki* needs to be considered from the vantage point of the local communities, it nevertheless contains important global implications, for example, the conservation of biodiversity, which requires the consideration of the global context. In other words, in the promotion of environmental projects, it is critical to examine issues and consider appropriate courses of action from both local and global perspectives. One of the purposes of inquiry-based education, developed in this dissertation, is to cultivate people's ability to connect these two aspects of environmental issues. By encouraging the participation of a variety of agents in multi-perspectival inquiry, e.g. governmental officials who work on a global environmental issue and local residents who are concerned with the problems in their daily lives, it aims to integrate different perspectives local and global, so as to promote comprehensive restoration of environments.

Public participation will become more important in a variety of political services. This trend leads to the need for an education concerning the ideas and skills required for such participation. The theoretical and practical frameworks of inquiry-based education developed in this study thus provide a relevant ground that responds to this social trend.

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