

# **A Collaborative activity for Curriculum Development of High School in Okayama among Okayama University, a High School and Stakeholders at Local Communities: From the Perspective of Challenging Un-Sustainability Issues at Local Communities**

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## **Abstract**

While the Graduate School of Environmental Science, Okayama University has been engaged in promotion of Education for Sustainable Development (ESD) for these 2 years, from the earlier year, there had been some activities to promote ESD at local level. The following is one of such activities for ESD.

One of the projects of UNESCO Chair at Okayama University focuses on un-sustainability issues at rural communities, such as the aging society and depopulation, and their incidental problems like not-well kept natural trails in the mountains in the tourist areas, and insufficient inheritance of local traditions deeply linked to maintenance activities of infrastructures in the community.

In this project, these issues are taken into consideration in the high school whose curriculum has the perspectives of ESD, so that high school students can participate in the community development in some ways. Not only professors but also undergraduate and graduate students participate in this project, and stakeholders at the communities also have been joining this process as important informants and as inhabitants.

The present situation of the project, and the outcomes and challenges will be presented as an example of university's contribution to curriculum development and community development.

## 1. Introduction

The International Implementation Scheme for the United Nations Decade on Education for Sustainable Development (hereinafter with ESD) identified four thrusts for ESD in order to embody its basic vision “ a world where everyone has the opportunity to benefit from education and learn the values, behaviour, and lifestyles required for a sustainable future and for positive societal transformation”; improving access to quality basic education; reorienting existing education programmes; developing public understanding and awareness of sustainability; and providing training. As the IIS emphasizes, it should be recognized that how sustainable development and related educational processes are attained will vary from context to context. Therefore it is crucial to identify challenges of sustainability both at local, national and international level, and it is local residents and stakeholders that should have ownership about the challenges of their region. Then appropriate solutions to them can be found.

In Okayama, Japan, there have been several international meetings on ESD for this 5 years in cooperation among Non-Governmental Organizations (NGOs) and Civil Society Organizations (CSOs), and the theme of collaboration and cooperation among Formal Education institutions and Non-Formal Education institutions has been the very point of discussion on how ESD should be promoted at local level as well as at international level. Recently, this theme has been discussed in light of promotion of Life-Long Learning society and Knowledge-Based Society.

This paper focuses on the activities of Kominkans, Non-Formal Education institutions in Japan<sup>1</sup>. They have educational and learning activities of the environmental issues, intercultural understanding and so forth. While some of them have a collaborative programmes with schools, it is the challenge how to promote effectively collaboration among Formal and Non-Formal Education institutions.

And the Graduate School of Environmental Science, Okayama University has been collaborating with Yakage Prefectural High School (hereinafter with Yakage High School) and Shiraishi Kominkan, in order to implement ESD toward high school students and to provide possible solutions of sustainability to the community of Shiraishi Island.

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<sup>1</sup> Okayama City has been designated on 2005 by the United Nations University as one of Regional Centres of Expertise for ESD, and one of its characteristics is active engagement of Kominkans.

Many international documents on promoting ESD, in order to realize them, indicate the important roles of Non-Formal Education institutions and their collaboration with Formal Education institutions. And as the Annex I of the IIS mentions as key characteristics of ESD, ESD engages formal, non-formal and informal education.

This paper introduces the efforts among Okayama University and Community-Based Organizations (CBOs) and Formal and Non-Formal Education institutions, for introducing principles of sustainable development into educational programmes, pick out a case of Shiraishi island in Okayama prefecture, Japan.

## **2. Preliminary explanation**

### **a. ESD at Formal Education in Okayama**

In Japan, there has been the movement of reform of formal education, in order to adapt it to the societal environment. A Period of Integrated Study is one of the outcomes of this discussion, introducing the theme of intercultural understanding, social welfare and health care, career development, and environmental education into primary and secondary education curriculum, and also the efforts for safe and secure communities are being made in cooperation among educational institutions and communities groups. These efforts are seen as those for integrating an agenda of sustainable development in their surrounding communities.

In general, however, teachers in primary and secondary education have not been provided with teacher trainings on environmental education and learning. In the schools where there are some teachers who are motivated to be trained in teacher-training courses provided by the national and prefectural governments or in the post-graduate courses in universities, environmental education can be implemented effectively, but it can be said that there are few. And in Japanese educational system, any certificates or license of teachers as to the subject of the Environment or Intercultural Understanding, or etc., are not be provided, so teachers have to find resource persons who are able to provide such educational and learning programmes to students. Ministries and NGOs consider that coordinators who can bridge schools and resource persons and the external entities, should be provided. Who is eligible for the coordinators?

## **b. ESD at Non-Formal and Informal Education in Okayama and Japan**

There are some NFE settings in Japan at every level; Kominkan at community level, lifelong learning center and institute, and museum at city, prefecture and national level. These institutions provide both educational courses and places for the general public. NGOs and CSOs often provide educational activities for them at the places of these institutions. And many universities have the lifelong learning courses targeting the general public who are not their students, aiming at disseminating their educational and research outcomes.

Especially, Kominkan is the unique institution for NFE in Japan. Kominkan has been providing a lifelong learning activities for the general public in the way of community based approach, under Social Education Act enacted in 1949. There are some 17,947 Kominkans around Japan which were established by local governments. The Board of Education in every local government is responsible of entire management of their Kominkans. According to “The Kominkan”, the publication of National Kominkan Association, it has three kinds of activity; community based activities; activities for children and for heightening the cultivation of the local residents; and local networking activities. While they are educational institutions, Kominkan has been playing an important role of community development.

And Kominkan has been providing learning activities by adapting them to local contexts. In this term, some Kominkans consider itself as central organs for promoting ESD at local level. And in Okayama, “ESD” is considered as chance to reform and revitalize educational and learning activities in Kominkans.

Since networking is one of the central roles of Kominkan’s activities, Kominkan can bridges stakeholders to coordinate programmes of ESD activities.

## **c. ESD at Higher Education Institutions and Okayama University**

We can say that while societies in Japan have been developing, “Education” in formal setting has been separated from community development issues by focusing on the fundamental subjects such as language, mathematics, sciences. And each subject as a system, is not linked with others and also with life of society. More, it can be said that this too-much-emphasized separation of subjects has been derived from ways of research and education in higher education institutions. Now many efforts have been done in many universities for integrating knowledge in many sciences for contributing

them to the development of the communities.

In Okayama University, after establishing the Graduate School of Environmental Science, many efforts have been done both inside and outside its campus. Many NGOs and CSOs in Okayama have been making efforts to promote ESD activities, and advocating to governments, inter-governmental organizations like UNESCO and UNU, NGOs, and universities, etc. Okayama University has responded these efforts to integrate the principles of sustainable development into its educational and research activities. The establishment of UNESCO Chair in Research and Education for Sustainable Development at Okayama University is one of the outcomes from this effort.

The UNESCO Chair in Okayama University aims to provide such educational opportunities as students and experts can take courses for learning and researching environmental science in trans-disciplinary, problem-solving, and participatory approach, so that they can undertake programmes and activities of environmental education in their own communities and countries

### **3. Collaborative Project among Okayama University, Shiraishi Kominkan and Yakage High School**

#### **a. Outline of the project**

Professors of the Graduate School of Environmental Science of Okayama University, Shiraishi Kominkan and Yakage High School have been cooperating to develop the curriculum of environmental education at high school level. At first, the starting point was the programme of the Education Bureau of Okayama Prefecture, which is in charge of management of high schools in the prefecture. The Bureau has proposed some schools to launch pilot projects of how environmental education should be integrated at secondary education level. The cooperation between the Graduate School and the High School has started since then. There were no experiences in the High School, so a teacher has often come to the laboratory of the Graduate School, to jointly develop the curriculum.

In the other hand, the professors of the Graduate School has other projects in Shiraishi Island (hereinafter with “the Island”), which is part of the National Park designated by the Japanese Government in 1934 for its outstanding landscape typical to Japan. The Island as the same like other islands in Seto-uchi inland sea, however, has

been suffering from depopulation and aging society, leading to not-well lands and tourist courses management. And these problems could cause degradation of natural and social environment of the Island. The professors were invited by the Ministry of the Environment to research the present situation of the islands and the problem that it causes, including those of the National Park scheme. In conducting research, a director of Shiraishi Kominkan, who has lived for some 60 years and thus know the best about the Island, helped them.

The professors have considered the field of the Island could be suitable for case studies of environmental education of Yakage High School under the collaboration among Okayama University, Shiraishi Kominkan and Yakage High School.

## **b. Curriculum Development and Implementation**

Draft of the curriculum was developed in consultation among teachers and professors. And professors, especially Prof. Yoshiro ONO, have been supervising the development and implementation of this curriculum of environmental education. In the regular curriculum, the subject of “the Environment” has not been included at high school level. This curriculum includes the subject of the Environment and it will be implemented for the term of 3 years. The aim of this subject is for students; to have their interests and concerns towards natural environment and the environmental problems surrounding them; to have skills and thinking and make their decisions in the environmentally considered way, based on the comprehensive recognition and awareness about relationship between human beings and natural environment; and to have behavior and lifestyle to take actions for their local environment. Environmental Education cannot be completed only with in-room lectures, so field visits programmes are included and they are implemented in cooperation with external organizations.

And during this curriculum development, the perspective of sustainability was integrated. As described below, students visit to Shiraishi Island to see its environmental situation, and also sustainability situation, such as depopulation and aging society, and the environmental degradation that it has been causing. In this sense, this curriculum has integrated not only environmental perspective, but also social and cultural one.

At first year, all students have to take “the Environment: Basic” as a compulsory subject. In this course, basic concepts about the environment and sustainability are the

topics, such as life cycle, local contamination, etc. Students visit a final disposal center of solid wastes, a wind power generation site, and a town where 3R project is implemented actively by separating wastes into more than 30 parts.

Then, students can take courses of “the Environment: Practice I and II”, and “Environmental Science”. These courses are set as optional subjects in 2<sup>nd</sup> and 3<sup>rd</sup> years. There are not only in-room lectures, but also field visits and practical learning activities.

The High School takes into consideration that those students who don’t take these courses have many opportunities to learn more about natural environment and local and global sustainability. For example, in the school excursion to Okinawa or Hokkaido, the programme of environmental learning activities such as nature games and rowing on the sea, are always included. And extracurricular activities are encouraged, such as joining in the environmental conservation activities in the local river and volunteering activities to assist management of a small aquarium set in the local museum.

### c. Field Visit to Shiraishi Island

One of the outstanding activities in this curriculum is the field visit to Shiraishi Island. This visit was successfully done in cooperation and comprehensive support with Shiraishi Kominkan.

#### About Shiraishi Island

Shiraishi Island is one of the Kasaoka islands, located off the coast of Kasaoka, at the center of the Seto-uchi inland sea, Okayama Prefecture (see the right map and picture). The number of population is some 730, and the rate of elder population (more than 65 year-old) is some 55 percent. Main industries are fishery and tourism. Depopulation and increasing rate of elder population are the main challenges of these islands. Kasaoka city government and CSOs



have been cooperating for community development and revitalization of the islands, by inventing the products manufactured locally, and promoting their sales, and by attracting people to the islands.

Shiraishi Island has a long history and traditions. It has been developed by extending the reclaimed land for the cultivation of rice, vegetables and fruits, since 17<sup>th</sup> century. Shiraishi Odori (dance) is the designated National Intangible Heritage, and this dance was developed also in 17<sup>th</sup> century. This tradition has been very important for life in the island. As nowadays the number of the younger generation is decreasing, the inheritance of the tradition is the big task for the island, and the seminars for learning the dance have been held throughout a year both inside and outside the island.

Management and maintenance of reclaimed land and inheritance of the traditions are affected by depopulation and the aging. Decreasing the rate of younger generation have been affecting worse the sustainability of the island community.

### **About Shiraishi Kominkan**

Shiraishi Kominkan has dual roles in the Island. The first is the provision of lifelong learning activities towards the population. There are mainly learning activities for inheritance of the traditions, such as learning the traditional way of spinning of the thread from the cotton produced in the island, or exercising of performance of Japanese traditional dram (Taiko). And editing the history and tradition of the Island is included in its projects.

The second is the promotion of community development in the island. Interestingly, the office of Shiraishi Kominkan has the function of branch office of Kasaoka city government. There are a community development committee, aiming at coordination of the activities of industry promotion, environmental conservation, social welfare promotion, and ICT and culture promotion. Many associations and clubs of elders, women, fishermen etc., participate in the committee, and Kominkan plays a central part for the coordination. In addition, the committee has been assisted by CSOs relating to community development in Kasaoka islands.

This means Shiraishi Kominkan have a potential to coordinate and network the issue of community development and learning activities. And this centrality of Shiraishi Kominkan led to networking of Okayama University and Yakage High School, focusing on the challenges of sustainability of the Island.



## **The content of the field visit**

Students of Yakage High School visited Shiraishi Island as part of environmental education programme of the high school this July. There were lectures and practices, to learn the sustainability issues in Shiraihi Island. The programmes are;

- The present situation and challenges in Shiraishi Island
- Let's know more about Shiraishi Island
- Sea Kayak
- Coast Cleaning activity
- Experience of Shiraishi Odori (Dance)
- Trekking on the hill and Cleaning on the tourist walk course
- Lecture and discussion on sustainable society

These activities were planned and implemented in cooperation among professors and students of Okayama University, teachers of Yakage High School and staff of Shiraishi Kominkan.

In the activities, waste problems were found by high school students. Especially, when moving to the inhabited island, there were many wastes floating on the sea and washed up on the coast. Some wastes were produced by tourist, and others came from somewhere. This experience moved students to consider and take actions about their lifestyle

In the lecture of Shiraishi Odori (dance), culture and traditions of the Island were also explained by the Kominkan staffs. Students learned the important role for sustainability of the society of the culture and traditions.

In the trekking, students saw how the walk and course have been managed for a long time, and how difficult it should be done in the depopulated and aging society. They assisted to clean and maintain the walk and trekking course.

In addition, there was the lecture on the maintenance of reclamation system of the island. As written above, the island was developed by the reclamation. Nowadays, tradition of reclamation and technology were forgotten. If irrigation system and buffer ponds are not well managed, the environmental sustainability of the island cannot be maintained. And in the depopulated and aging society, this kind of management and maintenance are not so easy without younger generation. Assistance from the people outside the islands is critical for the sustainability of the Island.

In the discussion, students concluded their experiences and their reflection on how they can do for realization of a sustainable society.

## **Reflections**

Through the lectures and experiences, students found the reality of the problems of the environment and sustainability, such as waste problem, difficulties in the depopulated and aging society. Since it is possible that reality of Shiraishi Island can come to the entire Japanese society, many students took its reality seriously. At the same time, many students came to consider voluntarily what they can do for such kind of issues. And after the field visit, some students communicated their experiences to the same generation and next generation in the places of school festival and extracurricular activities. Last, many students felt that they could learn by enjoying the cultural and traditional events and experiences.

## **d. Conclusion**

The efforts of curriculum development and implementation of environmental education by Okayama University, Yakage High School and Shiraishi Kominkan have just started. However, in this project, integration of Community Development and Formal and Non-Formal Education is the very outstanding point. In many Formal Education and Non-Formal Education institutions, “development issues” or “sustainability issues” of the community are likely to be forgotten in Japan. In this sense, Kominkan has the important role and potential to play in the promotion of Education for Sustainable Development.

Considering that the outcomes of this project include, as the outstanding point, the changes in lifestyle of students of Yakage High School, this process and outcome of this project can be mentioned as a success. Although issues of sustainability in one community vary from those of others, it is the key to find the person or agent who can find the problems and solutions and coordinate the stakeholders. In this case, especially, Kominkan staff played this role for joining and integrating forces and knowledge necessary for this environmental education project.

## **Acknowledgement**

Authors would like to thank Mr. Takayuki MURO and Mr. Takashi YAMAMOTO, who are teachers of Yakage High School, Mr. Motonori MORIYA, staff of Kasaoka Shimazukuri Kaisha, and Mr. Tadashi AMANO, director of Shiraishi Kominkan for their much cooperation throughout the project and for making this paper.

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