

**Final Report of JSEE/ACCU Asia-Pacific Conference for Environmental Education  
Research Professionals, "Past, Present, and Future: Reorientation of Environmental  
Education Practices towards ESD in the Asia-Pacific"**

**INTRODUCTION and PROCEEDINGS OF FINAL REPORT**

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**INTRODUCTION**

**SCOPE OF THE MEETING**

JSEE/ACCU Asia-Pacific Conference for Environmental Education Research Professionals. "Past, Present and Future: Reorientation of Environmental Education Practices towards ESD in the Asia-Pacific," was convened by the Japanese Society of Environmental Education (JSEE) and the Asia/Pacific Cultural Centre for UNESCO (ACCU) from 27 February to 5 March 2006. The conference was organized as an ACCU International Exchange Programme under the UNESCO Japan Funds-in-Trust for the Promotion of International Cooperation and Mutual Understanding.

The Conference was attended by 4 Environmental Education (EE) research professionals from the following 4 countries: the Republic of Korea, China (Taiwan), the Philippines and the United States of America. Approximately 40 experts that belong to the JSEE and an ACCU representative participated in the Conference.

**MAIN OBJECTIVES**

The conference aimed at reviewing past and present EE research activities and practices in the region, and discussing what future EE research and practices are necessary to better the needs of the region and to improve the quality of education for sustainability.

**IMMEDIATE OBJECTIVES**

Review of EE Research Development and Achievements in the Asia-Pacific:

- to share information regarding the history and present status of EE research throughout the Asia-Pacific region;
- to clarify research trends and achievements in EE.

Consideration of Measures to Integrate EE Research and Practice:

- to share and learn from examples of current EE practices in the area of: (a) Primary and Secondary Education; and (b) Higher Education and Educator Training; and
- to consider and propose measures to integrate EE research and practice, also aware of the need to integrate EE practice and theory under the following themes: (a) Pedagogy/Teaching Methods & Programme Development; and (b) Monitoring and Evaluation.

#### Reorientation of EE towards ESD:

- to review and reassess conventional EE practice from the viewpoint of "ESD," or education that contributes to the realization of a sustainable society;
- to discuss and propose measures to effectively integrate prior research achievements into practice in diverse fields, such as specialist training, partnership and practice evaluation, and realize the importance of EE for a sustainable future.

#### EXPECTED OUTCOMES

- Realization of the "Regional Conference of Research Institutions," to identify and further delineate the key research issues.
- An academic exchange among Asia-Pacific EE researchers and professionals regarding significant EE research achievements from the past, as well as the present situation, and future outlook.
- Prioritization of EE research for the next decade.
- Methods of integrating EE research achievements into practice.

### PROCEEDINGS

#### OPENING

The meeting opened with a welcome address by Prof. Kimiko KOZAWA, President of the Japanese Society of Environmental Education, and a professor at Tokyo Gakugei University. First, she welcomed all the participants and expressed her heartfelt gratitude to them and sincere appreciation to the Asia/Pacific Cultural Centre for UNESCO (ACCU). She mentioned that the theme of this Conference, "Past, Present, and Future: Reorientation of Environmental Education (EE) Practices towards Education for Sustainable Development (ESD)," is very important for the promotion of EE in the Asia-Pacific Region. It was also mentioned that this Conference will be an exceptional opportunity for exchanging and creating many good ideas and insights on EE. Lastly, Prof. Kozawa again expressed deep appreciation and gratitude to all involved and wished an enjoyable stay and good discussions to all.

Following her address, Prof. Hiromi KOBORI, chairperson of the Steering Committee of the Conference, and a professor at Musashi Institute of Technology, extended her heartfelt welcome to all the participants. Referring to a series of international initiatives that began with Stockholm in 1972, and include the World Commission on Environment and Development (WCED) in 1987, World Summit on Sustainable Development (Earth Summit, WSSD) in 1992, International Conference on Environment and Society held in Thessaloniki in 1997, it was addressed that the importance of EE has already been recognized as an important element in realizing a Sustainable Future. After pointing out the historical development of EE, she mentioned that the year 2005 marked the start of the UN Decade of Education for Sustainable Development (UNDESD). Then, she addressed that the Conference was co-organized by the Japanese Society of Environmental Education (JSIE) and the Asia/Pacific Cultural Centre for UNESCO. Further, it was noted that the conference was a reply to UNESCO's call to implement an international conference in the Asia-Pacific region to discuss ESD from the joint perspectives of EE research and practice.

Then, Prof. KOBORI introduced the overall objectives, immediate objectives, and expected outcomes of the Conference. At the end of the opening session, she expressed her hope for a fruitful outcome of the Conference and a pleasant stay in Tokyo for all the participants.

**AGENDA 1: Learning From Environmental Education Practices (DAY 1)**

Agenda 1 aimed to share information regarding the history and present status of EE research throughout the Asia-Pacific region, and to clarify the research trends and achievements in EE. Under the moderation of Prof. Osamu ABE, professor at Rikkyo University, six presentations were provided regarding China, the Republic of Korea, Taiwan, Philippines, U.S.A. and Japan.

*For details, please see the Analytical Report.*

**AGENDA 2: Connecting EE Practices and Theories (DAY 1-2)**

Agenda 2 aimed to discuss and consider measures to integrate EE research and practice. The afternoon session of DAY1 and morning session of DAY 2 were used for the discussion. The session was structured with both plenary discussion and group discussion.

- Plenary Discussion I. Primary & Secondary Education:  
presented by Dr. Sun-Kyung LEE (Cheongju National University of Education), Mr. Masakazu GOTO (National Institute for Educational Policy Research), and Mr. Ryoji IZUMI (Yokohama City Board of Education)
- Plenary Discussion II. Higher Education & Professional Development:  
presented by Dr. Tzuchau CHNAG (National Taiwan University), Dr. Hiromi KOBORI, Mr. Herbert A. DONOVAN (Rikkyo University), and Dr. Toshihiko HIGUCHI (Tokyo Gakugei University)
- Plenary Discussion III. Pedagogy / Teaching Methods & Programme Development:  
presented by Dr. Joseph Heimlich (Ohio State University), Dr. Lucile GREGORIO, and Dr. Shinichi FURIHATA (Japan Nature Game Association)
- Plenary Discussion IV. Monitoring and Evaluation:  
presented by Dr. Masahisa SATO, and Ms. Ikuko YABUNAMI (Graduate Student, Rikkyo University)

Then, the session was divided into four Group Sessions:

- Group Discussion I. Primary & Secondary Education:  
chaired by Dr. Sun-Kyung LEE and Dr. Toshihiko ANDO (Saitama University)
- Group Discussion II. Higher Education & Professional Development:  
chaired by Mr. Herbert A. DONOVAN, Prof. Toshihiko HIGUCHI (Tokyo Gakugei University), and Dr. Tzuchau CHIANG (National Taiwan Normal University)
- Group Discussion III. Pedagogy / Teaching Methods & Programme Development:  
chaired by Dr. Lucile GREGORIO, and Prof. Kazuyuki MIKAMI (Miyagi University of Education)
- Group Discussion IV. Monitoring and Evaluation:  
chaired by Dr. Masahisa SATO

*For details, please see the Discussion Reports.*

**AGENDA 3: System Thinking and Holistic Approach, Future Direction (DAY 2)**

Agenda 3 aimed to: (1) review and reassess conventional EE practice from the viewpoint of "ESD," or education that contributes to the realization of a sustainable society; (2) to discuss and propose measures to effectively integrate prior research achievements into practice in diverse fields, such as

specialist training, partnership and practice evaluation, and realize the importance of EE for a sustainable future. Under the moderation of Prof. Kimiko KOZAWA, President of the JSEE, Dr. Lucille GREGORIO, Consultant of UNESCO National Commission of the Philippines, and Dr. Masahisa SATO, Senior Programme Specialist of ACCU, "System Thinking" and "Holistic Approach" were discussed as the cross cutting approaches for the reorientation of EE.

*For details, please see the Discussion Report.*

#### **AGENDA 4: Field Trip (DAY 3-4)**

Agenda 4 aimed to present current EE practices in Japan. Under the arrangement of Mr. Kousuke TODA (Learning and Ecological Activities Foundation for Children) and Dr. Akira OGIHARA (Mie University), overseas participants traveled to Kyoto, and visited the Lake Biwa Museum, and Learning and Ecological Activities Foundation for Children in the city of Nishinomiya.

*For details, please see the Field Trip Report.*

#### **AGENDA 5: Open Forum: Reorienting EE towards ESD in the Asia-Pacific (DAY 5)**

Agenda 5 aimed to open the conference to ordinary citizens as well as JSEE members who were in the audience, regarding the reorienting of EE towards ESD in the Asia-Pacific.

The open forum consisted of following three sessions:

- Open Forum I: Report: Analysis Report on the Past and Present of EE Research in the Asia-Pacific
- Open Forum II: Open Forum: Implication of "ESD," for Further Improvement of Quality Education for Sustainability
- Open Forum III: Open Forum: Linkages between Theory and Practice, its Meeting Point and Praxis

*For details, please see the Discussion Report.*

#### **CLOSING**

Prof. TANIGUCHI, the chairperson of DAY5, invited Prof. KOZAWA, on behalf of JSEE, to make some closing remarks. Appreciative of the active participation in the meetings of each and every one of the participants, she assured them that the JSEE would proceed to organise a series of meetings for the further promotion of EE research and practices, to be based on the invaluable comments and suggestions obtained during the five-day conference. Although the meeting was about to finish, Prof. KOZAWA expressed that she expects participants' future cooperation and contribution for the promotion of EE research and practice in the Asia-Pacific region.

For the closing, Prof. ABE laid emphasis on the cooperation between academic societies of EE, which he asserted would help promote effective implementation of EE research and practices. Then, the conference was officially closed with applause.

## ANALYTICAL REPORT

### AGENDA 1: Learning From Environmental Education Practices

Moderator: Osamu ABE (Rikkyo University)

Rapporteur: Rie IMOTO (Fukuoka Institute of Technology)

The history and present status of EE research were reported by six country presenters from China, the Republic of Korea, Taiwan, Philippines, U.S.A. and Japan, for sharing information regarding research trends and achievements in EE.

At first, Qing TIAN's report titled 'The history and trend of EE research in China' was presented by Donovan. The report showed that after the contents of the academic papers in EE from 1979 in China are analyzed and the paper numbers are made quantity statistic the fact that EE research began hotter and hotter in China after 1994 was discovered.

It was followed by Sun-Kyung Lee's presentation titled 'Reflecting and Rethinking Environmental Education Research in Korea.' She classified environmental education in Korea as three periods, and raised issues of research methodology, research themes and contents, relevance to local community coupled with consideration of context, the importance of participatory action research for sustainability.

Next Tzuchau CHANG's report titled 'The status of sustainable development education in Taiwan' was presented. He reported that The Taiwan Sustainable Campus Program and the Green School Partnership Program were two important endeavours supported by the Ministry of Education in Taiwan to promote education for sustainable development.

Then Lucille C. GREGORIO's report titled 'Think Globally Act Locally: Environment Education Has Always Been Here' was presented. The evolution of the program EE – EPD – ESD was discussed in her report based on her extensive experience in UNESCO.

Fourthly, Joe E. HEIMLICH's report titled 'EE/ES Research Trends in the United States' was presented. He showed a major shift in EE from an internal view of contexts, risk, and reflection to one of EE as a means of mediating change in others leading toward achieving the goals of the organization.

At last, Kimiko KOZAWA's report titled 'Environmental Education in Japan: The Role of The Japanese Society of Environmental Education in Linking Theories and Practices' was presented. In her report, the problems resulting from the theories and practices of environmental education in Japan were clarified.

## DISCUSSION REPORT

### AGENDA 2: Connecting EE Practices and Theories

#### Group Discussion I : Primary & Secondary Education

Toshihiko ANDO (Saitama University) and

Sun-Kyung LEE (Cheongju National University of Education)

Rapporteur: Yasuo IKARI (Environmental Learning Centres' Network of Japan)

To provide the platform and raising issues for discussion on EE/ESD implementation and research in primary and secondary education, three presentations were shared with participants.

First, Sun-Kyung Lee gave a presentation titled '*Education for Sustainable Development through Environmental Education in Primary and Secondary Schools in Korea*', where she introduced various EE practices in schools, such as EE integration into various subjects, discretionary activities, and 'Environment' / 'Ecology & Environment' as the independent selective subjects. She showed four quality cases of EE in primary and high schools, which reflected ESD.

It was followed by Masakazu Goto's presentation titled '*Science-centered and Fieldwork-based Integrated Learning with Local Actions and Global Perspectives*'. He shared the integrated curriculum and teaching method in his presentation, which he had developed during as a junior high school science teacher. He also explained how Earth System Education, on which his curriculum was based, could be related to various aspects of common elements of ESD.

The final presentation '*Environmental Education in Hanoi City, Vietnam*' was given by Ryoji Izumi, which dealt with the BoE's international EE cooperation project for Hanoi, Vietnam. This project aims to improve awareness and enhance understanding on environmental issues of teachers and students in schools in Hanoi City, which began in 2005 and will continue until 2007.

This discussion group included more than twenty participants from schools, universities, nature centers, and community education organizations, where they presented short comments on presentations and discussion regarding EE/ESD issues in primary and secondary education based on the presentations and their own experiences.

*Relationship between EE and ESD* was the most popularly issue raised, which was discussed over and over again in terms of definition, philosophy and purpose, etc. Many participants considered ESD as the broader concept than EE, as it included other perspectives like human rights and culture, etc. and they thought the implementation of ESD needed a clear distinction between EE and ESD with clear criteria. However, some participants expressed their concerns that the broader concept of ESD would overwhelm nature-centered (or nature-oriented) EE. On the other hand, there was a comment that teachers should not pay much attention to the distinction between EE and ESD because the most important thing in educational practice is developing humanity, and refining the distinction of EE/ESD does not contribute to that goal.

*The possibilities of integration of ESD into subjects in schools and the measures for it* was another popular issue in the discussion. Teachers from elementary and high schools mentioned that ESD seemed to

be possible in many subjects referring to the three presentations, but they were wondering how to integrate EE/ESD into subjects in schools or how to teach EE/ESD in their own subjects. Also some people mentioned the importance of interdisciplinary approach based on the case of special education in one new school.

*The role of the citizens and NPOs as partners of schools in ESD implementation* was stressed out in the discussion. It was said that schools needed partnerships with local communities and environmental groups in order to offer better ESD programs, where the participation should not be merely helping in classrooms but more substantial ones including planning and managing the environment. *The important role of administrative sections* such as the boards of education was mentioned using the case of a Japanese local board of education, which coordinated the event on the rehabilitation of the local Tsurumi River. The board invited teachers and NGOs to that event in order to increase participation of NGOs in primary and secondary education.

*Attitudes or beliefs of teachers toward ESD* were also discussed. It was commented that teachers needed to have their own vision and passion for ESD, so that they should be encouraged to conduct real action and to develop their own teaching materials. There was a comment stating teachers needed to give pupils hopes that their action can make differences towards a sustainable society.

After these comments, participants were suggested to discuss on the following questions:

1. *What are the criteria for quality ESD cases in primary and secondary schools?*
2. *What are the drivers or challenges in implementing ESD?*  
*Who should play roles to overcome these barriers or challenges?*
3. *How can research contribute to ESD implementation or promotion?*

The actual discussion, however, was more practical than suggested. It focused on how teachers could implement ESD in classrooms and how practitioners and scholars could help them. There was a proposal to document good ESD teaching practices that would be useful for teachers in classrooms and many participants expressed their support to this proposal. There was a consensus that providing information on *quality cases of ESD* in Asia and Pacific countries would be helpful for teachers in schools. Participants pointed out that perception of and practices in ESD might be different among different countries, so that publishing a booklet of quality cases of ESD would contribute to improve communication among countries.

A comment was made that quality case studies should include not only what they have done and how they have done in a case but also contextual information such as socio-economic circumstances and community and government support. It was also commented that the process of writing quality ESD requires skills and there should be workshops to improve such skills so that clear case studies could be established. It was followed by pointing out of *the importance of research* in collecting quality cases and finding the quality criteria for ESD.

In addition to the quality cases documentation, *establishing the framework for ESD* was also suggested. It was because interpretation would be needed to make or suggest models for grasping environmental problems, natural disasters or other ESD related issues such as peace and human rights, or to guide stakeholders to start actions in their own contexts. However, it was not fully discussed because of time constraints.

In conclusion, it was suggested that the Japanese Society for Environmental Education and participants of this conference should play an indispensable role to build an international learning community by linking theories and practices such as collecting quality cases and further works.

## DISCUSSION REPORT

### AGENDA 2: Connecting EE Practices and Theories

#### Group Discussion II : Higher Education & Educator Training

Herbert DONOVAN (Rikkyo University),  
 Toshihiko HIGUCHI (Tokyo Gakugei University),  
 and Tzuchau CHANG (National Taiwan Normal University)  
 Rapporteur: Herbert DONOVAN (Rikkyo University)

Before discussion, there were some questions and comments to the four presenters, Dr. Chang from NTNU, Dr. Kobori from Musashi Institute of Technology, and Dr. Higuchi from Tokyo Gakugei University. After that, the group was divided into two subgroups and had fruitful discussions on the two themes. After these discussions, participants shared the information and results of discussion from each workshop, and looked at relations between each theme.

In the question session, Dr. Kobori was asked about the shape of collaboration between the university and the local community. Mr. Harada suggested the University should not only support the community for EE/ESD leaning but also lean from the local community. To this question/comment, Dr. Kobori answered, although their action is one-way, they should be interactive.

There was also a comment from Dr. Heimlich on the experience of university extension programs in the US. He said that universities in the US have also leaned from this kind of outreach that they must contribute (come in) as a convener and facilitator, not as the source of knowledge, or claiming to know the right way. "In playing the role of expert, which was done in the past, we cut ourselves from a lot of indigenous and local knowledge." Dr. Chang added that universities, in their research role, are being pushed by the government to publish papers in highly ranked journals, taking time and resources away from community involvement.

After the questions and discussion, the groups divided to consider separately these two questions:

1. What kind of capacity/ability of school teachers/community leaders should be developed at university and teacher training?
2. What kind of educational programs in universities and teacher training courses are required for EE/ESD including educational approach?

In their answer to Question 1, the group listed the following keywords for capacity/ability, grouped here into four categories:

1. Optimistic Personality
  - Hope
  - Confidence & attitude
2. Skills
  - Communication
  - Facilitation



**3. Comprehensive Perspective**

- Wide View
- Common Understanding of ESD

**4. Participation**

- Community Involvement
- Place: understanding local area

The group also emphasized having a place to have practical training and experience, that children should be helped to develop certain capabilities and capacities, as should teachers, and that both should learn how to form agreements. The group also thought that ESD could be separated, in the sense of "E" : for education ability/capacity for the teachers, such as making agreements, and "SD" : for sustainable development ability/capacity, processes that need to be considered and organized.

Question 2: What kind of educational program in university and teacher training course is required for EE/ESD including educational approach?

**Assumptions**

Science will already be covered in the curriculum, so we focused on education.

There were four broad categories, Theoretical base, Thinking skills, Technical skills, and Application skills

**Theoretical Bases:**

- Learning Theory
- Instructional Theory
- Curriculum Theory
- Measurement Assessment (both environment and learning)

**Theoretical foundations of EE/ESD**

- Thinking Skills
- Critical thinking
- Decision-making/problem solving
- Comparative studies

**Inquiry-based learning**

- Technical Skills
- Science skills
- Social Science skills
- Communication skills

**Application Skills**

- Methods of Instruction
- Integrated Interdisciplinary learning
- Critical Thinking
- Holistic approach
- Applied integrative learning
- Action research
- Service Learning
- Community Service
- Classroom Management

We shared the outcome of each group's discussion and looked at the relationship between the two topics. It is important to emphasize that the many single phrases that we proposed here on EE leader capacity and educational program/approach are not final conclusions. Many of the phrases suggested in our group II discussion were introduced only by comments that participants described on EE/ESD in each country through their experience. Therefore, we should regard these phrases as a base for future discussion and examine them again next time.

We conducted only round table discussions this time. If we could have a chance to discuss about EE/ESD research looking one at a time at specific educational practices, it will be an excellent complement to the work we have accomplished in this conference.

## DISCUSSION REPORT

### AGENDA 2: Connecting EE Practices and Theories

### Group Discussion III: Pedagogy/Teaching Methods & Programme Development

Kazuyuki MIKAMI (Miyagi University of Education),  
and Lucille C. GREGORIO (UNESCO National Commission of the Philippines)  
Rapporteur: Yasuo IKARI (Environmental Learning Centres' Network of Japan)

Group Discussion III divided in two mini-groups to answer the following:

- **Topic 1:** What are the effective Pedagogy/Teaching Methods for implementing the program to re-orient EE Practice towards ESD in the Asian/Pacific region?
- **Topic 2:** What actions could be implemented using the pedagogy for effective ESD, particularly on the issues of (1) School education, (2) Teacher training, (3) Research, (4) Community action, and (5) Policy formation?

**What are the effective Pedagogy/Teaching Methods for implementing the program to re-orient EE Practice towards ESD in the Asian/Pacific region?**

The differences between EE and ESD were identified, and one difference is "outcome" from the two processes. EE aims to change an "individual" behavior" while outcomes from ESD are focused on "systematic" change. A similarity is that both EE and ESD are not only "learning about" the environment and sustainable development, but also "learning for" the environment and sustainable development.

On the teaching approaches and methodologies of EE and ESD, EE focuses on changing individual behaviors and development of higher order thinking skills. The goal is to develop decision-making skills and critical thinking skills, therefore, action-based learning, experience-based learning and inquiry based learning approaches could be selected. ESD that aims to change the social system including community participation in education, therefore, would utilize community-based learning approach, such as community action research and community service.

**What actions could be implemented using the pedagogy for effective ESD?**

The discussion focused on:

- **School Education:** Environmental education should be taught in an integrated manner, however, in the Japanese school system there are about 300 themes to be taken up during the studies, and EE is only one of them. ESD could be a major theme utilizing the strategies to integrate the variety of issues in the subject areas.
- **Teacher Training:** There is still a lack of effective program of training school teachers on

EE/ESD. The existing teacher-training programs are often subject-based, but with ESD concepts integrated in the different subjects, teacher-training programs need to be reviewed and if possible renovated. A life-stage-based training program could be adopted. Japan has subject-based teacher training programs for newly hired teachers, for teachers with 10 years experience, and for teachers with 20+ years experience. These programs could be developed as ESD training programs for teachers with certain number of years teaching experience.

- **Community Action:** The concept of "community" has three levels, local, national and international. People tend to pay attention more to the local or community level, and less on the national and international levels. Perhaps the issues at the local level are more visible, and less controversial. However, we should not forget that national and international perspectives are also important for local actions.
- **Policy formation:** The goal to be realized is "the Ladder of Participation" of Roger Harts. It maybe difficult to achieve but it could be tried out and faced as a challenge. A balanced perspective could be created, not only goal-oriented education but also rather a process-oriented education important for ESD. It requires building consensus while developing critical/analytical thinking and problem-solving skills and positive values and attitudes for the environment through education. Therefore, policies need to be formulated and special actions implemented especially to improve literacy. In order to improve environmental literacy, which will require a variety of multi-level strategies and methodologies.



## DISCUSSION REPORT

### AGENDA 2: Connecting EE Practices and Theories

#### Group Discussion IV: Monitoring and Evaluation

Masahisa SATO (Asia/Pacific Cultural Centre for UNESCO)  
Rapporteur: Yuko OGURI (Kagoshima University) and Tai HARADA (ESD-J)

The group discussion session was organized to: (1) provide common understanding on the international trends and situation on monitoring and evaluation activities for EE; (2) to share related terms on monitoring and evaluation; (3) share some cases of monitoring and evaluation activities for EE in Japan as well as Asia-Pacific Region; (4) deepen understanding on the monitoring and evaluation activities in line with the implementation of UNDESD related programmes; (5) discuss points to be considered for the promotion of monitoring and evaluation activities for EE; (6) identify some prioritized areas for further quality improvement of monitoring and evaluation activities.

Before discussion, Dr. Masahisa Sato, chairperson of the group discussion, provided opportunities for participants to share their interest on the evaluation and monitoring activities and their expectation to the session. Then, he pointed the reasons why the evaluation activities are needed: (1) for the improvement of quality of a project and practice through constant feedback and real time understanding; (2) for the improvement of the skills of the staff facilitating or managing the project and practice through the continual process of self-testing and refining; (3) for the improvement of the project and practice, increasing a project/practice's impact and effectiveness. Then, he summarized different evaluation types in terms of the time series (diagnostic, formative, summative and follow-up), evaluators (self evaluation, international evaluation, external evaluation, joint evaluation and participatory evaluation), evaluation methods and methodologies (quantitative and qualitative manner, and semi-structured interviews, questionnaire, observation, longitudinal study, dialogue, analysis of process documentation, analysis of teaching logs and educational guidelines, word association survey, etc.), and evaluation content (not only skills, knowledge of individuals, but value and attitude point of view, as well as that the project management, i.e. effectiveness, efficiency, relevance of the plan, project sustainability, social impact, degree of community involvement, degree of satisfaction of the beneficiaries).

Then, Dr. Sato provided a case presentation on the ACCU's EE Packaged Materials on Environment

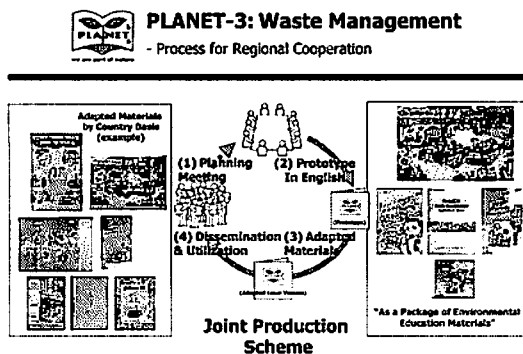


Figure 1: PLANET Regional Programme

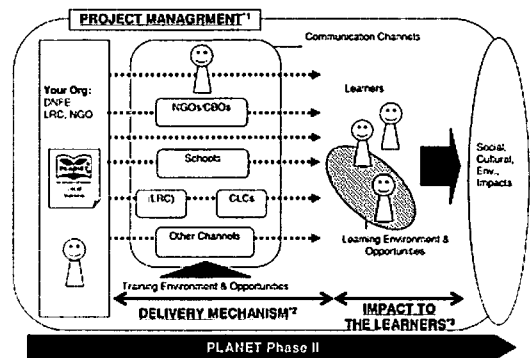


Figure 2: ACCU PLANET Dissemination and Utilization Scheme

(PLANET) Programme, its dissemination and utilization scheme, and the evaluation activities on the project management, delivery mechanism and its impact to the learners. Dr. Sato introduced the overall framework of the Programme, and the evaluation framework employed: (1) Project Management; (2) Delivery Mechanism; (3) Impact to the Learners.

After his presentation, the following points are raised by the participants of the session:

- Importance of both views: project management and individual learning.
- Consideration of that whose will are reflected. Political will might be reflected for the design of the indicators, and implementation of evaluation activities.
- Importance of sharing the framework and leaving the details to the individual cases.
- Process of future scenario building of SD
- Consideration of the impact to the community, as well as individual and institutional level.
- SD is the important part among ESD
- Indicators need to be easy understandable and transparent

Finally, based on the discussion framework prepared by the Dr. Sato, the following points were recommended by the participants as points to be added for the conduction of evaluation activities in the context of ESD.

**Table 1: Points to be added for the Implementation of Monitoring and Evaluation Activities in the context of ESD.**

<b>Why Evaluate</b>	<b>What to be Evaluated</b>
<ul style="list-style-type: none"> <li>• check the direction</li> <li>• educational purposes</li> <li>• acquire the social relevance</li> <li>• improve the quality of educational practices in ESD</li> <li>• improve sustainability of community</li> <li>• consideration of evaluation about "evaluation society"</li> </ul>	<ul style="list-style-type: none"> <li>• About learner</li> <li>• Impact to the community</li> <li>• Biological species</li> </ul>
<b>How Evaluate</b>	<b>Others</b>
<ul style="list-style-type: none"> <li>• various level and various stakeholders</li> <li>• holistic approaches</li> <li>• participatory approaches</li> <li>• scenario building</li> <li>• process documentation</li> </ul>	<ul style="list-style-type: none"> <li>• Appeal to media</li> <li>• Differences of view point of researcher and practitioner</li> <li>• Can we have a common model/image of the sustainable future among the stakeholders?</li> </ul>

## DISCUSSION REPORT

### AGENDA 3: System Thinking and Holistic Approach, Future Direction

Kimiko KOZAWA (Tokyo Gakugei University),  
Masahisa SATO (Asia/Pacific Cultural Centre for UNESCO),  
and Lucille GREGORIO (UNESCO National Commission of the Philippines)  
Rapporteur: Rie IMOTO (Fukuoka Institute for Technology)

The summary of the session is indicated in this part of the report. The session started with Dr. Masahisa Sato's presentation where he showed 3 diagrams: (1) an example of a balancing loop; (2) the effect of a gap and the system and, (3) systems thinking of natural environment (adopted from Okayama, 1985). Discussion followed

**Systems Thinking** is based on "Cause Effect Relationship", "Proactive Ways of Thinking", and "Time Frame rather than Phenomena", thereby requiring a "time series".

Questions can also be raised, such as:

- How factors are related, how one factor will change when another changes?
- How factors may feedback in either balancing loops or reinforcing loops?
- How external factors impact on the system?
- How gaps operate?
- How delays affect the system?
- What are the complexities of the system?

Some examples of how Systems Thinking works could be shown in tsunami affected areas wherein several factors relate to the natural disaster – the cause and effect and the complexities of the process. Since there was no systems' thinking, the disaster took place. It was only after the damage that learning took place. This refers to behaviors, rather than systems dynamics.

Concrete examples were cited on why systems thinking affect the "carrying capacity" of the natural environment. One example is on certain deer overpopulation. The movie "Bambi" shows this. The same thing is occurring in Mt. Yatsugatake and Yakushima Island in Japan. The colonization of living organisms needs systems thinking. Another concrete example is the setting up of "ecological ponds." Decisions are made after systems thinking.

The final statement on this topic mentioned the risks involved. The thinking seems sophisticated and difficult to apply to any community.

**Holistic Approach** could be applied from a "Management Viewpoint", following the sequence: (I) Situation Analysis (SWOT Analysis, Force Field Analysis, Cause-effect Analysis, etc); (II) Scenario Building; (III) Logical Framework (Preconditions and Important Assumptions); (III) Implementation; (V) Monitoring; and (VI) Evaluation.

From an In-service Teachers Capacity Point of View, a holistic approach involved (I) a Social

Support System; (II) the Institutional Capacity of the formal system; (III) the in-service teacher's capacity; and (IV) the programme or curriculum. All four needs the support of communities, social context and culture, and others.

One concrete example is the "Paddy Field Project" of the Environment Education Center, Miyagi University of Education where the social, economical, environmental, and cultural points of view were considered.

For a "Lifelong Learning Local System" for promoting ESD, there needs interconnectivity of content, methods, processes, and contexts among various partners of formal, non formal and informal systems with an underlying "Social Support System."

To conclude the session, it was mentioned that "Systems Thinking and Holistic Approach" are words which are not easy to understand. Concrete models are needed to illustrate how the concepts would illustrate ESD for improving quality of education and learning towards a knowledge society. The models would come out when good practices are documented. Additional components could include: participation, accountability, individual understanding in addition to eco-geographical and eco- socio-historical issues.





## FIELD TRIP REPORT

### AGENDA 4: Field Trip

Akira OGIHARA (Mie University)

March 1, 2006

We left the Olympic center at 8:00 p.m. We walked through Yoyogi Park and arrived at Harajuku Station. In Yoyogi park, the plum blossoms were already blooming and dogs were playing on the grass.

While riding on the Shinkansen, We were talking about environmental education.

We went to Biwako Museum. We ate lunch there. We ate soba, udon, and black bas "tendon" (tempra rice bowl !. Mr. Kusuoka and Mr. Mr. Grygier lectured us about outline of the museum.

Then Mr. Grygier took us on a tour of the museum. The exhibits were all very interesting. But as far as I could see, what interested all participants is the most in Gallery A was "Uplifting and folding of rock strata" and "A preserved tree stamp of the dawn redwood, in Gallery B was "Maruko-bune on display", "A wooden waterwheel", in Gallery C was "The floor of the circular 'birds-eye' room",



"The kawayu of the farmhouse", "The barrel-shaped bath". In the aquarium, foreign guests seemed to feel that the Japanese fish were the most interesting. For example, Biwa catfish, Biwa salmon, ko-ayu. We were standing in front of the salamander tank for about 5 minutes. When Japanese giant salamander appeared, everyone let out a cheer.

For dinner we were guided by Mr. Mizuyama from Kyoto Educational University. We ate very delicious Kyoto-style foods.

March 2nd

Before we left Kyoto we visited the Higashi Hongannzi Temple. We are deeply impressed by how big this temple was and the solemn atmosphere of the place of worship.

On the day we went there, we had the chance to observe the Nishinomiya City LEAF (Learning and Ecological Activities Foundation for Children) special event.

Mr. Yamada lectured us about outlining what is being done by LEAF. He showed us the "Eco-Panel Exhibition" posters relating to the environment by children of Nishinomiya city and other foreign countries. The posters showed a close examination of local environmental problems and what needs to be done to protect the environment in the future. We are really moved by the expressiveness of this art work.

In the afternoon we visited the beach at Kosien. The people in charge of Kosien beach for



Nishinomiya city gave us a lecture about creatures living around the beach and how to protect marine life. We went to the beach and saw many wild birds and realized that this is an important part of nature that is being preserved by Nishinomiya citizen.

We deeply appreciated the kindness of staff of Biwako Museum and LEAF and Mr. Mizuyama.

## 02-03 MAR. 2006 Field Excursion Lake Biwa Museum and Nishinomiya-city

DAY	SCHEDULE		
02Mar. (Thu.)	8:00Lv. 8:25Lv. 8:54Lv. 11:04Ar. 11:13Lv. 11:31Ar. 12:00Ar. 16:30Lv. 17:13Lv. 17:31Ar. 17:45Ar.	<b>Hotel Lobby</b> Harajuku St. to Shinagawa by JR-L* Shinagawa St. transfer to JR-S to Kyoto Kyoto St. transfer to JR-L to Kusatsu Kusatsu St. <b>Lake Biwa Museum</b> Lunch Time Presentation and Lecture (Lake Biwa Museum) To Kusatsu St. by bus Kusatsu St. Kyoto St. Hotel	Lake Biwa Museum
03Mar. (Fri.)	8:30Lv. 8:56Lv. 9:48Ar. 10:10Ar. 11:30Lv. 11:50Ar. 14:20Lv. 14:45Ar. 14:58Lv. 15:13Ar. 15:30Lv. 18:00Ar. 18:30Ar.	Breakfast at hotel <b>Hotel Lobby</b> Kyoto St. to Nishinomiya by JR-L Nishinomiya St. meeting Local staff <b>Nishinomiya Public Gallery</b> Presentation about Environmental Education of Nishinomiya-city to Koshienhama by car <b>Koshien-hama Nature and Environmental Center</b> Lunch Time (Lunch Box) Presentation (Koshien-hama Nature and Environmental Center) to Nishinomiya St. by car Nishinomiya St. to Shin-osaka by JR-L Shin-osaka transfer to JR-S to Tokyo Shinagawa St. transfer to JR-L Shinjuku St.	

## DISCUSSION REPORT

### AGENDA 5: Reorienting EE towards ESD in the Asia-Pacific Open Forum I : Report: Analysis Report on the Past and Present of EE Research in the Asia-Pacific Research Themes that Emerged from the Six Research Papers

Joseph E. HEIMLICH (Ohio State University)

Looking across the six papers, several clear themes emerged in the papers from China, Japan, Korea, Taiwan, Philippines, and United States. These themes were identified by the researchers present at the conference through the oral presentations of the papers and the written documents in the Program Preprints. Although not exhaustive, the themes presented here were echoed throughout the dialogues that followed and so are highlighted as they appear to be salient and prescient to the participants.

First, however, it is interesting to note some underlying observations offered by the researchers in their discussions regarding the papers. First, although each country uses different terms/language and the time scale and frames differ, all the countries seem to have moved through parallel 'life spans' in terms of environmental education history. The similarity of progression and the parallel issues leading from one period to another are striking. A second observation is that there is a definite need for (and current lack of) best practices indicators or indices, especially relating to impact. The final underlying observation relates specifically to the progression of EE in Japan: the constructs of Pollution Education, Environmental Protection, and Education for Sustainable Development are not exclusive and not truly linear. Although the focus related to EE follows this general pattern, the concepts are all related and interwoven (as are the 'labels' used in other countries such as conservation education, outdoor education, nature study, environmental education and the like).

The researchers noted eight themes that seem to be important in the papers.

- The first theme is that of *political context*. Every paper contained some discussion that referred to the political will of the country, the policy statements and actions that drive or inhibit education and environmental action, and the political shifts that affect EE and ESD.
- The second theme that emerged was that all countries seem to be dealing with *professionalization* of EE/ESD. In all cases, there are stages of development of the field starting with early definitional work and moving toward impact measurement. As the field matures, there are increased studies related to career paths, effectiveness measures, comparative studies and basic research.
- *Definitions of environmental education and education for sustainable development* was a third theme observed. There is a tremendous challenge in differentiating between EE and ESD – each individual has a clear perspective, but there is no shared distinction nor has there been a clear enunciation of the motivation for change beyond the political drivers. ESD is different from EE, but as the movement grew from political rather than educational motivations, the differentiation is not theoretically grounded.

- The fourth theme to emerge was the need to *broaden the concept of stakeholder*. In all the reports, there were various stakeholders identified: administrators, politicians, schools, citizens, students, teachers. Yet, few of the trends reflect a view that all stakeholders are engaged concurrently and consistently in planning, implementation, and valuing outcomes.
- *Considering multiple levels of community* also was revealed as an emergent trend or need. ESD is concerned with the individual in the context of their immediate culture and community, but also placed in the larger contexts of nation, region, and world.
- There was a clear gap in *best practices/indicators*. The papers as a whole identify ways in which cultural and contextual conditions vary among learning experiences, and that such variance can and should lead toward building a base of understanding of what works, when, where, how, and why.
- Another clear gap was that of *research on the media*. Whether the research is on the mass media or on media for transmission of information in the classroom, the concepts of ESD that are delivered via the various tools have not been well studied. The prevalence of media driven programs and resources being used in education suggests a need exists for critical analysis of the materials, the use of each medium, and the messages and relationships of educators with the mass media.
- The final theme is also the theme that evoked the most passion: *giving voice/exploring power relationships in ESD*. In all situations, there are challenges of whose vision is being used; what components of society are being sustained; who is invited to the "table" and how are they heard; continued views of equity and justice; and equity and access issues.

Each of these themes could warrant a great deal of discussion and exploration. Given the constraints of the setting and time, the themes were introduced with examples from the various papers and countries represented by the researchers, and offered to the participants as issues that need to be explored.

## DISCUSSION REPORT

### AGENDA 5: Reorienting EE towards ESD in the Asia-Pacific Open Forum I : Report: Analysis Report on the Past and Present of EE Research in the Asia-Pacific Implication of “ESD”, for Further Improvement of Quality Education for Sustainability

Masahisa SATO (Asia/Pacific Cultural Centre for UNESCO)  
and Fumiaki TANIGUCHI (Konan University)

Dr. Fumiaki TANIGUCHI, a chairperson of afternoon session, briefly explained the structure of the afternoon session, which consists of two parts under the titles of: (1) Implication of ESD for Future Improvement of Quality Education for Sustainability; and (2) Reorienting EE towards ESD in the Asia-Pacific, Linkages between Theory and Practice. Then, Dr. Masahisa SATO, co-chairperson of the session, invited four reporters from each group session, i.e. Prof. Toshihiko ANDO from session I: primary & secondary education, Prof. Toshihiko HIGUCHI from session II: higher education & educator training, Prof. Kazuyuki MIKAMI from session III: pedagogy/teaching methods & programme development, and Prof. Yuko OGURI from session IV: monitoring and evaluation. Each reporter explained the components of presentation, process of discussion and the discussion points at the group discussion. The details can be found from the enclosed discussion reports prepared by the chairpersons of group discussion.

After reporting the discussion points by the four reporters, panel discussion was conducted with the reporters under the title of “Implication of ESD for Further Improvement of Quality Education for Sustainability”, which was as a meeting point of the group discussion sessions. First of all, for the basic understanding of EE and ESD as a result of a series of international discussion, Dr. Masahisa SATO briefly introduced the origins of ESD by referring to the UNDESD International Implementation Scheme (IIS) published by UNESCO in 2005, which include (1) basic education, universalizing access and promoting equity; and (2) sustainable development and education. In particular, it was pointed out that EE was one of the roots of ESD as referred to the Thessaloniki Declaration (1997), however, it was also pointed out that preliminary findings indicated that ESD was still predominantly conceptualized in the context of EE by many key stakeholders and decision makers, and the moving from EE to ESD would be a key challenge for the Decade, as referred to the Asia-Pacific UNDESD Regional Strategy (2005).

Then, he proposed the following points to be discussed at the panel discussion: (1) values, ethics and ways of thinking; (2) approach, process and relativeness; and (3) attitude, participation and action; (4) civil capacity and life long learning society. The following points were raised by the panelists and the participants from the floor.

#### Values, Ethics and Ways of Thinking

- Importance of moral education
- Transmission of knowledge on sustainability from forefathers
- Knowledge of historical development of the situation
- Roles of education for respecting differences of values and ethics

- Acknowledgement of different knowledge systems
- High-order thinking, e.g. meta-thinking, critical thinking and system thinking, analysis, synthesis, application, and evaluation
- Locally oriented values and ethics (economical aspects, socio-cultural aspects and environmental aspects)
- Probing into the essence of a problem
- Critical review of the concept of ESD
- Consideration of ownership, historical context, community of environment, and communication
- Democratic consensus
- Danger of the abuse of the word "ESD"
- Potentiality and difficulties brought by the ambiguity of the concept of ESD
- ESD under the political context, and its potentiality for political change
- Implication of "change", not only as an individual change but as an institutional and social change

#### **Approach, Process and Relativeness**

- Linkages between social issues and learning objectives
- Acknowledgement of different ways learning/teaching
- Interactive communication
- Collective decision making
- Participatory and dialogical learning process
- Promotion of collaborative works for identifying the common issues and resources at multi-level and multi-sectoral
- Linkages among pedagogical approaches
- Narrowing knowledge-action gap
- Vision building to make a bridge between knowledge and action
- Shared vision for the effective linkages between social development (environment, socio-cultural, economic perspectives) and education
- Action oriented/Action learning
- Culturally sensitive

#### **Attitude, Participation and Action**

- Shared vision and scenario building which enable to identify the role of stakeholders
- Narrowing knowledge-action gap
- Action oriented/action learning

#### **Civil Capacity and Life Long Learning Society**

- Potential for multi-level and multi-sectoral impact
- Promotion of collaborative works for identifying the common issues and resources at multi-level and multi-sectoral
- Shared vision and scenario building which enable to identify the role of stakeholders and level
- Setting common objectives for community development
- Inter-personal relationship for community development
- Dialogue among different stakeholders, which enables to develop community identity

After break, panel discussion was moved onto the next session, which was under the title of "Reorienting EE towards ESD in the Asia-Pacific, Linkages between Theory and Practice" Dr. TANIGUCHI summarized points raised by the panelists, then he invited five panellists who presented at the morning session, Dr. Sun-kyung LEE, Dr. Tzuchau CHNAG, Dr. Lucile GREGORIO, Dr. Joseph HEIMLICH and Dr. Kimiko KOZAWA. In this session, discussion was focused onto the conceptual relationship between EE and ESD. In particular, the discussion was done under the

questions of: (1) whose society we want to be sustainable?: (2) with whom we want to do partnership for sustainable development?: and (3) how do we develop vision/scenario building which enables to promote action?

In this discussion, it was pointed out that:

- Relativity of the concept of sustainability
- Individual, institutional and social change
- Process of ESD should be educational not as political, importance of learning individuals, institutions and societies.
- Importance of contextualization
- Spiral learning structure at multi-level and multi-sectoral

Finally, a series of the discussion was recommended by the panellists and participants for further development of the concept of EE and ESD, and linkages between theory and practice.

