

# **GEA Conference for Sustainable Future: Education, IT and Natural Resources**

## *Recommendations*

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### **Introduction**

The Conference for Sustainable Future: Education, IT and Natural Resources was organized by the Global Environmental Action (GEA) on 24-26 October 2003 in Tokyo, Japan with the participation of world leaders in relevant fields from all over the world.

It was the sixth international conference convened by GEA, co-organized with the UN Department of Economic and Social Affairs (UNDESA), the United Nations Educational, Scientific and Cultural Organization (UNESCO), the United Nations University (UNU) and relevant ministries of the Government of Japan.

Considering serious environmental and social deterioration in the last century, the 21<sup>st</sup> Century should be turned into the “Century of the Environment” with common goals defined under international coordination. The key to sustainable development for the human race on the Earth lies in wisely utilizing natural resources like water and energy, as well as effectively using information technology (IT), which is an asset generated by human intelligence.

Under the key phrases of “Education,” ”IT” and “Natural Resources,” the conference discussed options in achieving a sustainable future, and present its findings to the world as the prescription for building the “Century of the Environment.” More specifically, the conference explored future directions in the environmental education in the 21<sup>st</sup> Century, from the perspective of educating the world population, especially younger generations, on the all dimensions of sustainable development. The findings of this conference are expected to be reflected in various actions, including the International Implementation Scheme for the UN Decade of Education for Sustainable Development.

### **General Message**

The conference was honored by the presence of Their Imperial Highnesses Crown Prince Naruhito and Crown Princess Masako. His Imperial Highness welcomed the participants, emphasized our responsibility to conserve our precious global environment for future generations and encouraged the conference to come up with concrete recommendations. The Prime Minister Junichiro Koizumi, in his statement, emphasized the importance of education and human resource development and encouraged the GEA to take the lead in realizing sustainable society through the active discussions.

Mr. Steven Rockefeller, Professor Emeritus of Middlebury College, in his special address on vision, courage and sustainability, introduced the drafting process and major contents of the Earth Charter, emphasizing the extensive consultation processes. He suggested that the Earth Charter could be used as an ethical framework for sustainable development. He proposed the initiatives that are voluntary and decentralized, urged transition of three critical areas, (i) technology, (ii) global governance and market reform and (iii) knowledge values and education, and called for political initiatives to support this transformative process.

It was emphasized that GEA should strengthen political momentum to enhance institutional change toward sustainable society, taking into account the long time we need to realize institutional change in society.

It was also emphasized to listen to the voices from developing countries, especially in the area of utilizing IT and promoting environmental education, to follow-up the outcome of the World Summit on Sustainable Development.

The conference welcomed the commitments by younger generations at the GEA Eco Youth Conference towards sustainable development. In noting the responsibility recognized by youth and their resolution to act toward sustainable development, the conference affirmed a mutual responsibility of all sectors to work towards sustainable development and involve youth in this joint process.

The conference included three working groups dealing with the following topics: (i) education, (ii) information technology and (iii) natural resources. Major discussions of the working groups are summarized as indicated in the Summaries of the Working Groups. The conference held discussions based on reports from the three working groups and concluded recommendations as stated below. The conference agreed that the recommendations of each working group are inter-linked and mutually supportive.

The participants welcomed GEA's leadership in taking actions toward a sustainable future through its political initiatives. In this context, the GEA Secretariat took note that there was a request for GEA to lend support to the organizing of a gathering to enhance the activities of multi-stakeholders, in the realization of the objectives of the UN Millennium Development Goals (MDG).

## **Recommendations**

### *Education*

- (i) All countries should develop their respective plans and programs on education for sustainable development, allowing diversity at the local community level. In this respect, economic, social and ecological sustainability should be addressed at all levels.
- (ii) Reorientation and transformation of education for sustainable development would require strong political leadership and effective formulation and implementation of essential policy reform.
- (iii) Each country, developing or developed, is requested to consider establishing high-level multi-stakeholder national mechanisms to stimulate individual activities by various stakeholders, facilitate their dissemination and monitor the overall progress of DESD at the national and international levels.
- (iv) More investment needs to be considered for education for strengthening institutional capacity to promote sustainable development, especially at the local level, taking into account the on-going decentralization processes in various countries. Donor organizations are urged to consider increasing ODA for education activities across all segments of population.
- (v) The scientific and technological community should be urged to provide concrete contributions by identifying priority areas and necessary materials for reorienting educational curricula in all forms of education.
- (vi) Higher education organizations should play the key role on training and re-training of school teachers to improve teaching capability on sustainability. They should also consider working more closely with other partners such as primary and secondary schools and also community-based organizations.
- (vii) The business sector should be encouraged to intensify its effort to contribute to education for sustainable development, in particular, community-based education activities in terms of both technical and financial cooperation including personnel exchange.
- (viii) An important role should be given to media, science museum (zoos, botanic gardens) of all kinds etc to provide the public at large with up-to-date information and create learning opportunities to promote sustainable development.
- (ix) Active participation of NGOs and civil society with all its innovative competence, networks and associations, should be facilitated in the activities for DESD, particularly in those countries where their role is not fully recognized.
- (x) Partners to promote DESD should consider establishment of an ethical framework for sustainable development. The guiding principles in the Earth Charter could be reflected in materials used in all learning efforts to promote sustainable development, including those in the school systems.

- (xi) Such learning materials should cover both local and global issues, and reflect the critical importance of local culture, values and conditions. Task Forces may be established at the national and international levels to develop modules, text books, reorient curricula and teacher training and retraining, and also to disseminate good practices. The World Heritage sites could provide a good basis to develop such materials.
- (xii) Locally-based, integrated, holistic approaches should be encouraged. A few demonstration projects should be undertaken to promote regional (as parts of a country) centers of excellence for education for sustainable development, with the participation of local institutions of primary, secondary and tertiary education, non-formal education, research institutions, museums and local governments etc. deemed as appropriate. This might be considered as a first step to create global learning space through networking of regional centers of excellence.
- (xiii) UNESCO and its partner organizations should make their utmost efforts to mobilize as many partners as possible to contribute to the formulation and implementation of the International Implementation Scheme for DESD, particularly through extensive consultation processes. They should also facilitate the networking of partners who promote education for sustainable development.
- (xiv) UNESCO should consider developing a concrete calendar on DESD to document activities of all partners, in particular in 2004-2005 to kick off the Decade.

#### Information Technology (IT)

- (i) Ubiquitous access to environmental information

For the future sustainable society, it is critical to develop a social system in which the public can easily access, whenever and wherever, reliable environmental information regarding goods, services, business management, the local environment, the global ecosystem, etc., express their opinions, and participate in decision-making processes. It is extremely important to develop collaboratively high-quality contents and promote content sharing in local languages, to demonstrate causal effects of actions, and sustainable alternatives.

- (ii) Addressing the digital divide and sustainable development

Digital divide affects developed and developing countries alike, although it takes different forms. It is vital to improve the capacity to access IT and environmental information. Real needs of local stakeholders should be grasped and information should be provided in local languages. Universities and other training resource centers should focus providing training for SME (Small and Medium Enterprises), microenterprises, government officials, and communities to improve the institutional capacity of local society. It is also important to focus on hands-on, useful information that leads to concrete

action. Funding may be most accessible by linking into existing and emerging programmes. By linking specific content development activities to these programmes, it may be possible to build synergies and increase the effectiveness of ODA-related investments.

(iii) IT as an effective tool for environmental education

Recent advancement of IT, such as the Internet and multi-media, should be fully utilized for the environmental education of various consortiums, groups and stakeholders, particularly the youth, who will play an important role for the realization of sustainable future. Environmental education outside the formal education system is also highly important. It should be recognized that IT is a means/tool, not an end, and IT should contribute to much broader goals, such as sustainability. IT should be integrated with fieldwork, experimentation and other educational tools to be more effective. The local communities should be better connected to the global community by using IT networks, linking local thinking to global action, and global thinking to local action.

(iv) Improvement of eco-efficiency and resource productivity through IT (eco-design)

IT has great potential to improve eco-efficiency and resource productivity by changing production processes, products, transportation, business practices, and human behavior. Significant improvement of efficiency should be realized via an innovative approach by various stakeholders including business and governments, fully utilizing market mechanisms. It is also recommended that IT should be used to assess and manage natural resources.

(v) Application of IT for the better understanding of the environment

It is critical to utilize up-to-date IT, such as GIS and satellite imaging, and computing power to monitor and analyze the environment and to predict future environmental change to better understand the natural environment and the socio-economic condition of society. It is expected that such technology would significantly improve the quality and coverage of environmental data and the availability of tools to assess the environment. It is also important to share this information with various stakeholders, including academic institutions.

(vi) Minimizing negative effects of IT

It is important to minimize negative environmental effects of IT by developing environmentally-conscious IT devices, ensuring reusing, recycling and zero-emission, and utilizing natural energy. It is also necessary to pay attention to possible social and psychological impacts of IT and to promote media and information literacy of all stakeholders, especially young people.

(vii) Immediate steps

To tackle the great challenge of realizing a sustainable future with the help of IT, it is important to initiate prototype projects (action-oriented) to clearly show the potential of IT, with a broad partnership among sponsors, technology providers and government officials to act as facilitators in order to promote sustained capacity enhancement in communities. It is also recommended to create mechanisms to promote the sharing of experience of an extensive range of existing IT projects related to sustainable development education.

Natural Resources

The conference recognized the need for

- (i) Good data and good science, especially with respect to monitoring changes over time;
- (ii) Political leadership and political will, particularly with regard to evaluating and assessing conflicting demands and making difficult decisions;
- (iii) An educated public, to help inform and drive forward the political process;
- (iv) Education of the public, not only about specific issues but also about how global policy is made and implemented as well as how international economic mechanisms would ideally work;
- (v) A shift from a growth-oriented paradigm to a sustainable growth paradigm, acknowledging the limitations of the earth's natural resources;
- (vi) Technological development, which is critical to implement efficient use of natural resources, while recognizing that the best available technology is heavily dependent on the indigenous culture and the socio-economy of the area under discussion;
- (vii) Education at all levels, not only at the national but also at the global level, as a key means for developed and developing countries to properly manage natural resources;
- (viii) Political will supported by an informed public and by the leadership to implement actions for sustainable use of natural resources agreed upon internationally, despite the difficulties involved in encouraging policymakers to make decisions which have long-term objectives;
- (ix) Regional cooperation, in light of the similarity of conditions among neighboring states;
- (x) Further development of international frameworks to manage natural resources, including the atmosphere, based on lessons learned from existing regimes, supported by an informed general public;
- (xi) A holistic/integrated approach rather than a fragmented approach, in order to bring about a sustainable future for our planet. It has also been emphasized that market mechanisms, however imperfect, should be taken into consideration in natural resources management.