

Summary of Working Group II: Information Technology (IT)

This working group reviewed recent developments in utilizing Information Technology (IT) for sustainable development in broad areas and sectors, including industrial process and products, transport, management, environment monitoring and information, environmental education and assistance to developing countries for environmental protection.

The working group shared the view that rapid progress of IT has generated huge potential for our society to advance toward a sustainable future, and it is critical to establish a network of government agencies, international organizations, NGOs, academic institutions and the IT industry.

It was also stressed that human resource development is the key to economic and sustainable development for both developing and developed countries and that it is vital to address the issue of the 'digital divide'.

Participants also recognized the great potential of IT to provide a highly effective tool for environmental education, especially for the education of youth who will shoulder the realization of a future sustainable society, and discussed intensively how IT could be best utilized as a 'tool' to realize sustainable development.

The working group stressed the importance of concrete IT projects related to sustainable development education and recognized an example of a successful initiative by NTT and GEA of donating PCs to be installed in schools in south east Asia to instruct teachers and student to use them, and to train local people to install and maintain them.

On the basis of its deliberations, the working group put forward seven recommendations which are relevant to policy makers and other stakeholders and which fall within both the framework of the Decade of Education for Sustainable Development and the on-going negotiation concerning the World Summit on the Information Society.

Recommendations

(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.