

## Regional Strategy on Environmental Education in the Asia-Pacific

Education should help everyone to become, to some extent, a citizen of the turbulent and changing world that is being born before our very eyes.

*(Learning: The Treasure Within, UNESCO 1996, p.49)*

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### I. General Introduction

1. The primary goal of the Environmental Education Project of the Institute for Global Environmental Strategies (IGES) is to promote and foster eco-consciousness in relation to an environmentally sound and sustainable society and the wise use of resources in the Asia-Pacific. The Project has identified two objectives to achieve this goal: (1) to prepare a comprehensive regional strategy on environmental education in the region, and then (2) to facilitate the gradual implementation of the strategy in selected countries of the region depending upon resources. This document seeks to provide concrete directions for environmental education in the region by suggesting an integrated action plan for all agencies involved in environmental education, including formal educational institutions, business and industry, non-governmental organizations (NGOs) and media. These four sectors have been identified by the IGES/Research Project Plans as the key channels through which to promote environmental education in the region. Detailed action plans for each of these channels (or sectors) will be prepared at a future time.
2. **The Vision:** The vision of the IGES/EE Project is:  
  
*“An active, better informed, capable and responsible network of environmental educators, facilitators and organizations, who actively work in their own community to achieve the goal of a sustainable society for the Asia-Pacific Region”.*
3. **Mission:** The mission statement of the IGES/EE Project is:  
  
*“To provide leadership in promoting, inspiring and fostering citizens to work towards achieving a sustainable future”.*
4. This document outlines a strategic plan for promoting environmental education in the Asia-Pacific. Its unique features are:
  - i. It is the outcome of a series of participatory processes including brainstorming sessions, discussions, consultations and workshops with representatives of regional organizations, governments, NGOs, donor agencies, universities and research institutions.

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- ii. It is a comprehensive strategy on environmental education covering the Asia-Pacific region and takes account of Asia-Pacific perspectives on enhancing environmental education.
  - iii. It is primarily based on the empirical data collected from status reports written by collaborators in 36 countries.
  - iv. It builds upon successful practices in education found in the region.
5. **Facilitator in the implementation process:** IGES, in partnership with regional and sub-regional organizations, governments and other institutions, will be involved in assisting/facilitating national partners in the implementation of the strategy.
6. **Target audience:** The document is prepared for those institutions and individuals concerned with improving the quality of human life through environmental education. This includes a broad range of governments, schools, universities, business and industry, the media, research organizations, donors, NGOs, professional groups, international organizations, inter-governmental agencies and civil society in general.

## II. Major Environmental Issues in the Region

7. The world's environmental condition is deteriorating at an alarming rate due to changes in human activities triggered by inappropriate economic activities and rapidly changing demographic and socio-economic patterns. Consequently, the world is beset with a range of problems such as global climate change, degradation of ecosystem, ozone depletion, rapid population growth, transboundary pollution (ocean, water and air), increasing rates of urbanization, high levels of solid, toxic and industrial waste and noise pollution, acid rain depositions, depletion of natural resources, desertification, loss of biodiversity and natural habitats, inadequate shelter, health care and water supply, and diminishing wetland and coastal resources. The deterioration of the natural environment is linked inextricably with patterns of increasing poverty and declining opportunities for improving human health, living standards, gender equity and human rights.
8. These problems mentioned above are also serious in the region of the Asia and Pacific. Also the region is beset with other problems such as i ) domestic and other forms of pollution (mostly caused by dust, transportation and smoke), ii ) water shortage and contamination, iii ) shrinking forest, iv ) problems of sanitation, v ) disposal problems of poisonous materials (including nuclear waste), vi ) light pollution, vii ) incidence of haze episodes, viii ) coastal zone (mangrove, seagrass and coral reef) degradation, ix ) marine pollution and x ) loss of soil and soil fertility<sup>1</sup>.

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<sup>1</sup> Abe, Osamu and Bishnu Bhandari (1998). **IGES and the Environmental Education Project in Asia and the Pacific Region**. Proceedings of the 4<sup>th</sup> Asia-Pacific NGOs Environmental Conference, 26-27 Nov. 1998.

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9. These problems are the outcome of dynamic interaction of poverty, population growth and its changing distribution, and the misuse of resources, wasteful production and human greed. Paradoxically, underdevelopment as well as haphazard development processes are also responsible for its precarious situation.

### III. The Study Setting

10. The study area of the Asia-Pacific region extends from Mongolia in the north to Tonga in the south and Kiribati in the east to Pakistan in the west. The area covers a total of 36 places, of which seven are from South Asia<sup>2</sup>, 10 from Southeast Asia<sup>3</sup>, four from Northeast Asia<sup>4</sup>, 13 from the Pacific region<sup>5</sup> and two special areas<sup>6</sup>. The unique characteristics of these sub-regions<sup>7</sup> are given in Box 1.
11. The Asia-Pacific covers about 23% of the world's total land and houses almost 58 % of the world's population. Over 40% of this population are concentrated in China, India, Indonesia, Pakistan and Bangladesh. The region also contains fifteen of the 25 cities with over 10 million people. The Asian Development Bank (1998) reports that out of the world's 15 worst polluted cities, 13 are in Asia<sup>8</sup>.
12. The region also includes a vast expanse of the Pacific Ocean and the Indian Ocean and contains a large and diverse range of terrestrial ecosystems, including deserts, rain forests and temperate valleys. The region has the second largest biologically rich forest cover in the world and houses over two-thirds of the world's coral reefs and one-third of the world's mangrove areas.

#### Box 1. Unique Features of Sub-regions

**South-Asia** comprises of:

- ◆ The highly populated country of Bangladesh with a population density of 831 persons per sq. km.

<sup>2</sup> Bangladesh, Bhutan, India, Maldives, Nepal, Pakistan, Sri Lanka.

<sup>3</sup> Brunei Darussalam, Cambodia, Indonesia, Laos, Malaysia, Myanmar, Philippines, Singapore, Thailand, Vietnam.

<sup>4</sup> China, Japan, Korea, Mongolia.

<sup>5</sup> Australia, Fiji, Kiribati, Marshall Islands, Micronesia, Nauru, Niue, Palau, Papua New Guinea, Samoa, Solomon Islands, Tonga, Vanuatu.

<sup>6</sup> Taiwan, New Caledonia.

<sup>7</sup> Bhandari, Bishnu and Osamu Abe (2001). **Environmental Education in the Asia and Pacific Region: Status, Issues and Practices (A Condensed Version)**. Environmental Education Project, Institute for Global Environmental Strategies, Japan. Also it can be found in Abe and Bhandari (1998). *op. cit.*

<sup>8</sup> ADB (1997). **Emerging Asia: Changes and Challenges**. The Asian Development Bank Publication. Philippines: Asian Development Bank.

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- ◆ The Buddhist country of Bhutan with a self-imposed isolation for many years and now embarked on modernization with the monarchical system.
- ◆ The country of India with great diversity in terms of physical features, culture, religion and linguistics.
- ◆ The country of Maldives (a small archipelago of 1190 islands with a chain of coral atolls, of which only 198 are inhabited). Some 80% of the land is less than 1 meter below mean sea level. Economy is based on maritime and marine resources.
- ◆ The mountainous land-locked Hindu country of Nepal with Mount Everest.
- ◆ The world's three dominating religions; Hinduism, Buddhism, Islam (Muslim) and secular country like India.
- ◆ Sea-locked countries like Sri Lanka and Maldives.

### South-East Asia comprises of:

- ◆ Countries that are diverse in ethnicity, culture, religion, language and physical and biological resources.
- ◆ Country with largest Muslim population in the world (Indonesia).
- ◆ Archipelagoes like Indonesia and Philippines.
- ◆ Largest archipelago with four times larger sea area than the land area (Indonesia).
- ◆ Land-locked country of Lao PDR.
- ◆ City-state based on trade and business economy like Singapore.
- ◆ Vietnam is full of rivers with an average of 1.5 to 2 km. long rivers for every km sq. of land.

### North-East Asia comprises of:

- ◆ The highly populated country of China, which has a population of 1.3 billion and a policy of "one country with two systems".
- ◆ The land-locked country of Mongolia. It has a nomadic population and lowest population density of 15/1000 hectare of land, 15 times more livestock population (29.3 mi.) than the human population (2 mil.)
- ◆ The homogenous country of South Korea and a small country like Taiwan, which is rich in biodiversity to its small size.
- ◆ The rich and developed country of Japan.

### The Pacific: According to Eteuati (No date), the Pacific Region

- ◆ *"Has 22 countries and territories.*
- ◆ *10,000 islands with a total land area of 550,000 square kilometers, spread across a sea area of 30 million square kilometers.*
- ◆ *Papua New Guinea has largest land mass (462,000 square kilometers, or 84% of total).*
- ◆ *7 countries have a land area of over 700 square kilometers while 4 have less than 30 sq. km. each.*
- ◆ *Total population of the region is 5.5 million with 3.5 million living in Papua New Guinea. Fiji has the next largest population of 700,00 people. Fiji has over 300 islands, Kiribati, Marshall Islands and Solomon Islands have at least 30 while other (Niue, Nauru) are single island nations.*
- ◆ *The islands are either volcanic or coral atolls. With the exception of Samoa, the volcanic countries also have coral atolls in their groups.*
- ◆ *The island ecosystems are extremely fragile and vulnerable to human and natural*

<sup>9</sup> Kilofi, Eteuati (No date) **The Law of the Sea and the South Pacific**. UNEP/International Ocean Institute, Malta.

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*forces. Many countries periodically experience droughts, cyclones and other natural disasters”<sup>9</sup>*

- ◆ The country of Fiji is located mid-way between the equator and the Pacific Ocean
- ◆ Kiribati is situated in dry belt of the equatorial zone and consists of 33 coral islands and atolls.
- ◆ Marshall Islands, mostly of atolls, is just 2-3 meters above the sea level.
- ◆ Federated State of Micronesia has a sea area, which is four thousand times (2,980,000 sq. km) larger than its land area (701 sq. km).
- ◆ The region also houses ancient island such as New Caledonia.
- ◆ The population of Niue is about 20,000, of which 10 % are in the country and the rest are abroad for employment, particularly in New Zealand. This country has only two schools; one primary and another high.
- ◆ Papua New Guinea is situated at the crossroad of several bio-geographical provinces and the shifting cultivation is practiced as a dominant mode of farming
- ◆ There are many archipelagoes of oceanic and volcanic islands such as in Samoa.
- ◆ Some of the islands are volcanic in nature, geologically very young and are at the range of constant seismic activities such as earthquake and volcano.
- ◆ The islands of Vanuatu are oceanic in nature (meaning no attachment to any continental or island landmass). The country is in the cyclone belt and people of Vanuatu speak Bislama, a Melanesian creole (pidgin) as the language of communication.
- ◆ Nauru is the smallest country with an area of 22 sq. km.

**Source:** Abe and Bhandari (1999)

13. Economically, the region is the fastest growing in the world with economic output tripling during the past 35 years. Yet there is a persistence of poverty with great inequality between the rich and the poor both within and between countries<sup>10</sup>. The region contains the high-income economies like Japan, newly industrialized economies (NIEs) and world's lowest income economies (like Bhutan, Nepal, Bangladesh and Maldives). Livelihoods in the region span the entire range of human experience from nomadic and subsistence agriculture to plantations and other forms of commercial and intensive agriculture through all forms and scales of manufacturing and tertiary service industries. Several areas in the region are international information technology nodes also<sup>11</sup>.

14. Being vast and diverse, the region is one of sharp contrasts. It has two of the world's most populous countries, People's Republic of China and India, and some of the world's smallest island countries. It houses the land-locked countries of Nepal, Bhutan, and Mongolia and the sea-locked countries of Maldives, Sri Lanka and all the small island Pacific states. The geographical diversity of the region is marked in that it includes the world's highest mountain, the deepest sea trench (Mariana Trench), the deepest lake (Baikal), highest city (Lhasa in Tibet) and driest deserts (Gobi in central China). There are numerous small one-island nations as well as archipelagic counties such as the Philippines and Indonesia.

<sup>10</sup> United Nations/ESCAP (1995). **State of the Environment in Asia and the Pacific, 1995**. ESCAP, United Nations and Asian Development Bank, ST/ESCAP/1585, Bangkok.

<sup>11</sup> Abe, Osamu and Bishnu Bhandari (1999). **An Overview of Environmental Education in the Asia and Pacific Region**. Proceedings of the International Conference on Environmental Education in The Asia-Pacific Region, Yokohama, Japan, 27-28 Feb, 1999.

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Countries such as Nepal and Bhutan are mountainous, whereas a country like Tonga has neither a river nor a mountain<sup>12</sup>.

15. The Asia-Pacific region is home to all the major religions of the world, Hinduism, Buddhism, Christianity, Islam (Muslim), and many others. For example, Nepal is a Hindu country; Indonesia is the country with the largest Muslim population in the world, and Bhutan, Thailand and Cambodia are Buddhist countries, while many of the Pacific countries have Christianity as their religion.
16. Over a thousand of languages are spoken in the region<sup>13</sup> with some countries containing more than one national language. For example, there are over 800 distinct languages in Papua New Guinea.
17. The region is also quite diverse politically. India has the world's largest democratic system while China has a policy of "one country with two systems". Some countries have kings while others are republics. Most countries won independence in the last 20 to 50 years after a century or more of colonization.
18. Despite all these contrasts, the region also displays some similarities such as environmental degradation, persistent poverty, population growth and crowding, soil loss, urban problems, similar norms and values, etc. This is true in the field of education as well. As most of the environmental education problems faced by the countries of the region are similar, it is possible to improve the region through collaborative ventures.

### IV. The Nature and Scope of Environmental Education

19. Environmental education is known by different names. The United Nations, in the 19<sup>th</sup> Special Session of the General Assembly, described it as education for a sustainable future<sup>14</sup>. The Assolink Conference refers to it as education for the environment and sustainability, and education for sustainability<sup>15</sup>. Some argue that the concept of education, or environmental education is like a diamond, which appears to be of a different color when seen from different angles. Delors (1996) mentions that learning throughout life is based on four pillars: learning to know, learning to do, learning to live together and learning to be (i.e. to assume one's duties and responsibilities)<sup>16</sup>.
20. The Commission on Education and Communication of IUCN has defined environmental education as "*a process in which individuals gain awareness of their environment and acquire and exchange the knowledge, values, skill,*

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<sup>12</sup> Abe and Bhandari (1999) *op. cit.* 105-117

<sup>13</sup> Abe and Bhandari (1999) *op. cit.* 105-117

<sup>14</sup> UNESCO (1997). **Educating for a Sustainable Future: A Transdisciplinary Vision for Concerted Action.** EPD-97/Conf.401/CLD.1

<sup>15</sup> UNESCO (1997). **Declaration of Thessaloniki.** International Conference on Environment and Society: Education and Public Awareness for Sustainability, Thessaloniki, Greece. Paragraph 11.

<sup>16</sup> Please refer to **Learning: The Treasure Within.** Report to UNESCO of the International Commission on Education for the Twenty-First Century by Jacques Delors and *et. al.* 1996. Paris: UNESCO.

*experiences and also the determination which will enable them to act individually and collectively, to solve present and future environmental problems.”<sup>17</sup>*

21. Even though environmental concerns/themes are being incorporated into primary, secondary and tertiary education, the approach needs further improvement in its effectiveness. It is necessary to recognize environment and development as two sides of the same coin. Environmental education should expand into new horizons on the basis that environment is multi-sectoral, multi-disciplinary and multi-faceted. Education should undergo reforms with a view to bringing about radical changes in thinking, deciding and executing both environmentally and developmentally. Optimum benefits should be derived from the use of indigenous knowledge, traditional methods and systems and environmentally friendly livelihoods.
22. A review of common views of environmental education in the region was provided at an UNESCO meeting in 1993<sup>18</sup>. This review indicated that:
  - i. “Environmental education considers the environment in its totality, i.e. ecological, political, natural, technological, sociological, aesthetic and built environments.*
  - ii. Environmental education develops awareness of the importance, beauty and wonder that is, and can be, found in these aspects of the environment.*
  - iii. Environmental education explores not only the physical qualities of the human relationship with the environment, but also the spiritual aspect of this relationship.*
  - iv. Environmental education is a response to the challenge of moving towards an ecologically and socially sustainable world.*
  - v. Environmental education is concerned with the interaction between the quality of the biophysical environment and the socio-economic environment.*
  - vi. Environmental education transcends the division of knowledge, skills and attitudes by seeking commitment to action in an informed manner to realistic sustainability.*
  - vii. Environmental education recognizes the value of local knowledge, practices and perceptions in enhancing sustainability.*
  - viii. Environmental education supports relevant education by focusing learning on local environments.*
  - ix. Environmental education considers the global as well as the local environment. Since the world is a set of inter-related systems, there is a need for a world perspective on environmental issues.*
  - x. Environmental education focuses on current and future perspectives on environmental conditions.*
  - xi. Environmental education is interdisciplinary and can be taught*

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<sup>17</sup> IUCN-The World Conservation Union (No date). CEC Strategy & Work Plan, 1997-1999.

<sup>18</sup> UNESCO (1993). **Final Report of the UNESCO Asia-Pacific Regional Expert’s Meeting on Overcoming the Barriers to Environmental Education Through Teacher Education**, Griffith University, Brisbane, 5-9 July.

*through and used to enhance all subjects in the curriculum.*

- xii. Environmental education emphasizes participation in preventing and solving environmental problems and revokes the passive accumulation of information about the environment. It should foster and arouse a sense of personal responsibility, greater motivation and commitment towards the resolution of the environmental situation.*
- xiii. Action is both a vehicle for, and an outcome of, environmental education.*
- xiv. Environmental education develops the skills:*
  - to identify alternative solutions for the environmental situation;*
  - to clarify the values associated with the alternatives, and*
  - to use these values to make decisions about which alternatives to choose”.*

23. The goals and objectives of environmental education agreed in the Tbilisi Declaration at the 1977 Intergovernmental Conference on Environmental Education held at Tbilisi have been amended at UNESCO meetings in the region to indicate that sustainable development ought to be a key focus of environmental education<sup>19</sup>. The amended goals and objectives are presented in Boxes 2 and 3 respectively.

### **Box 2: Goals of Environmental Education**

- To foster clear awareness of, and concern about, economic, social, political and economic interdependence at local, regional, national and international/global levels.
- To provide every person with opportunities to acquire the knowledge, values, attitudes, commitment and skills needed to protect and improve the environment.
- To develop and reinforce new patterns of environmentally sensitive behaviors among individuals, groups and society as a whole for a sustainable environment.

Source: UNESCO, 1993

24. Environmental education involves active, informed and responsible participation of all concerned stakeholders and participatory processes should be reflected in the overall policy, plans and program of the educational system.

25. Environmental education is responsive to local contexts. This means those local environmental questions, issues and problems should provide a focus for the development of environmental education projects. This means that materials produced in one country will need to be adapted by others in response to local cultural and educational requirements.<sup>20</sup>

<sup>19</sup> UNESCO (1993) *op. cit.*

<sup>20</sup> UNESCO-ACEID and Griffith University (1994). **Final Report of the Planning Group Meeting for the UNESCO-ACEID Project, Learning for a Sustainable Environment: Innovation in Teacher Education.** Brisbane: Griffith University, pp. 9-10

26. Environmental education involves innovative teaching and learning strategies, which can inform the development and improvement of teacher education.<sup>21</sup>

### **Box 3. Objectives of Environmental Education**

1. **Awareness:** to help social groups and individuals acquire awareness and sensitivity to the total environment and issues, questions and problems related to the environment and development.
2. **Knowledge:** to help individuals, groups and societies gain a variety of experience in, and acquire a basic understanding of, what is required to create and maintain a sustainable environment.
3. **Attitudes:** to help individuals, groups and societies acquire a set of values and feelings of concern for the environment, and motivation for actively participating in environmental improvement and protection.
4. **Skills:** to help individuals, groups and societies acquire the skills for identifying, anticipating, preventing and solving environmental problems.
5. **Participation:** to provide individuals, groups and societies with an opportunity and the motivation to be actively involved at all levels in working toward creating a sustainable environment.

Source: UNESCO (1993)

27. There are opportunities for environmental education to be taught through and enhance all subjects in the curriculum. Thus, environmental education is relevant to all aspects of the teacher education curriculum, including foundation studies, content studies and applied curriculum studies.<sup>22</sup>
28. Environmental education encourages direct involvement of students and teachers in teaching and learning process in both school as well as out-of-school activities.
29. A summary of successful (best) practices identified by SPREP (1998)<sup>23</sup> to guide environmental education is given below:
- i. Proper utilization of existing environmental education materials.
  - ii. Translation of educational materials into local languages.
  - iii. Incorporation of environmental education into existing subject areas in the formal education system to ensure that teachers are able to incorporate environmental messages through a wide range of subject areas.
  - iv. Use of the community and traditional leaders to raise awareness and increase knowledge of those traditional practices, which serve to protect the environment.
  - v. Provision of in-service training in environmental education for existing teachers.
  - vi. Use of a variety of media for environmental awareness raising including local (traditional) media.
  - vii. Integration of environmental ethics and appreciation of natural resources at all levels of education, especially in the formal education area.

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<sup>21</sup> *Ibid.* pp.9

<sup>22</sup> *Ibid.* pp. 10

<sup>23</sup> SPREP/UNEP (1998). **Action Strategy for Environmental Education and Training in the Pacific Region**, 1999-2003. Samoa: SPREP

- viii. Use of existing networks and institutions to spread an environmental protection message, e.g. by calling upon the services of religious and/or social groups.

## **V. The Significance of Education for Sustainable Development**

30. To educate (including training and awareness) is to provide intellectual and moral instruction to young and old alike through different channels of education. Chapter 36 of Agenda 21 states that education, public awareness and training traverse all areas such as poverty alleviation, meeting basic needs, capacity building, etc. and should be recognized as a “*process by which human beings and societies can reach their fullest potential*”<sup>24</sup>. Furthermore, the scope and content of environmental education should be enlarged to encompass the environment and development interface. In this regard integration of environmental concerns into the development process should be recognized as the principal means of harmonizing environment and development. Needless to say the recommendations of the Tbilisi Conference (1977), Chapter 36 of Agenda 21 (1992), Final Report of the UNESCO-Asia-Pacific Regional Expert’s Meeting (1993) and Thessaloniki Declaration (1997) are the cornerstone of this document.

31. The UNESCO International Conference on Environment and Society: Education and Public Awareness for Sustainability held in Thessaloniki in 1997 underlined the importance of education as the force for a sustainable future:

*...education is the most effective means that society possesses for confronting the challenges of the future. Progress increasingly depends upon the products of educated minds: upon research, invention, innovation and adaptation. Of course educated minds and instincts are needed not only in laboratories and research institutes, but in every walk of life. Indeed, access to education is the **sine qua non** for effective participation in the life of the modern world at all levels. But education, in its broadest sense, must be a vital part of all efforts to imagine and create new relations among people and to foster greater respect for the needs of the environment... Education must not be equated with schooling or formal education alone. It includes non-formal and informal education modes of instruction and learning as well, including traditional learning acquired in the home and community*<sup>25</sup>.

32. In another paragraph the report notes:

*Education serves society in a variety of ways. The goal of education is to make people wiser, more knowledgeable, better informed, ethical, responsible, critical and capable of continuing to learn... Education is also the means for disseminating knowledge and developing skills for bringing about desired changes that will be required if humanity is to alter its courses, leaving the*

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<sup>24</sup> United Nations (1992). **Earth Summit: Agenda 21 (The United Nations Program of Action From Rio)**. New York: United Nations Department of Public Information, pp. 9-11.

<sup>25</sup> UNESCO (1997) *op.cit.* 15

*familiar path that is leading towards growing difficulties and possible catastrophe, and starting the uphill climb towards sustainability. Education, in short, is humanity's best hope and most effective means in the quest to achieve sustainable development*<sup>26</sup>.

33. Thus, the report stresses:

*It is clear that the roots of education for sustainable development are firmly planted in environmental education. While environmental education is not the only discipline with a strong role to play in the reorienting process, it is an important ally*<sup>27</sup>.

## **VI. Issues in Environmental Education**

34. Bhandari and Abe (2001) have summarized a number of trends, patterns and issues facing environmental education in the region as follows<sup>28</sup>.

35. The results of the analysis of the environmental education reports from the region<sup>29</sup> reveal that people of the Asia-Pacific region are conscious of, and responsive to, the environmental problems and their consequences. They are seriously dealing with the problems of environmental deterioration and have developed a positive attitude towards its mitigation. Environmental responsibility is gradually permeating the formal education system. People seem cooperative and enthusiastic to learn about how to safeguard the environment. The concept of “*Protect environment and protect the humanity*” is emerging in the region. But there appears to be a lack of consensus on the meaning and concept of environmental education and level of their understanding.

36. Environmental education is not a new concept to the indigenous people of the region. It is deeply embedded into their norms and values and has been transferred from generation to generation by word of mouth.

37. Environmental education, in the region, is provided by many agencies and institutions such as government, NGOs, educational institutions and the media. Activities such as green bank, green press, eco-clubs, nature club, eco-polis center (a place for environmental information, education and hands-on activities in the community in Japan), eco-farming and eco-harvesting are emerging in the region. This is supported by special economic incentives (such as subsidy, tax-exemption and other incentives). Also, legal systems are becoming responsive to environmental concerns.

38. Environmental education is coming to be seen as a new approach to education in the region. Some see it as a holistic education (which implies that it encompasses all that is around us and brings various disciplines together), whereas others see it

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<sup>26</sup> Ibid. 16

<sup>27</sup> Ibid. 27

<sup>28</sup> Bhandari and Abe (2001) *op. cit.*

<sup>29</sup> Ibid. 37

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as education of values (respecting nature and life, stewardship over natural resources, simple living, personal responsibility and gratitude for the precious gift of nature, etc.). Still others think that it is a new perspective to education (meaning incorporating environmental considerations across the whole curriculum).

39. Some countries have begun to initiate “greening their curriculum”, whereas in others this is the result of the efforts of individual schools and teachers attempting to localize environmental subjects through the use of locally available examples, skills, materials and local (traditional) media in the classroom. Composite courses have been successfully adopted at the primary level, whereas environments are either integrated into the existing subjects - such as *Science, Moral Education, Biology, Hygiene, Geography* and *Civic Education*, or are developed as a compulsory course at the secondary level. Some countries have introduced environment as an optional course at the school level education. Separate degree courses with the provision of majoring the discipline have been initiated in tertiary education and are complimented by co-curricular and extra-curricular activities. However, on the whole, environmental education is not being systematically taught, nor are social and ecological relationships emphasized. These tend to be taught in discrete disciplines and subjects. Some good examples of innovative activities undertaken in the region are briefly outlined in Box 4 below.

**Box 4: Some Innovative Activities in the Region**

1. *Cambodia*. The Government has formed the Inter-Ministerial Steering Committee for Environmental Education to coordinate environmental education at the national level.
2. *China*. China shows how a school promotes environmental education activities among children. For example, under the project “Hand in Hand in the Earth Village” students with support from the teachers set up an earth village, which includes a waste recycling station and a small bank. The recycled products (from cans, papers, newspapers, batteries and plastic bags) are sold and the proceeds are collected in the bank and then sent to rural areas for development activities. The Project has already been successful in building two primary schools in Jiangxi Province. The Project was initiated by Ms. Lu Qin of Yucai Primary School in collaboration with the *China Children Newspaper* in 1996. This Project is becoming popular in many Chinese primary schools especially in rural areas. Villages in the province now have a recycling station run by Children.
3. *Fiji*: Fiji National Training Council has undertaken a program called the Levy Grant Scheme whereby private organizations submit 1% of their gross salaries to the Council to fund environmental courses for their employees at a subsidized rate.
4. *India*. In India, the Supreme Court of India has passed a judgement whereby the University Grants Commission is required to include environmental courses in the universities. The Ministry of Environment and Forests has set up two centers for excellence in environmental education and awareness. The National Environmental Education Program in Schools is a good example of linkages between NGOs and educational institutions through ‘cluster program’ and (2) EE resource center.
5. *Indonesia*. The Ministry of Environment and the Ministry of Education have jointly established Environmental Study Centers (ESC) in all state universities. These Ministries are jointly responsible for the capacity development of the ESC as the University’s executive units for implementing the Tridharma missions (education and training, research and community service in the field of the living environment). Indonesia also has established the Environmental Education Network to promote environmental education in the country.
6. *Japan*: In order to promote environmental education among children, the Ministry of Environment has initiated Junior Eco-Club, a nationwide “green” club activity. In this program, children are encouraged to set up a group up to 20 and carry out environmental activities, which are supported by the Ministry. The Japan Environment Association serves as the national secretariat to the Junior Eco-Club. It publishes a bimonthly newsletter and conducts exchange programs to share their experiences and successes.
7. *Kiribati*. In Kiribati, a customary law bans the catching of particular fish species during certain times and sets aside some areas reserved strictly for the use of the high chiefs.
8. *Korea*. Every two years, the Ministry of Environment designates Environmental Conservation Model Schools in cooperation with regional boards of education. In the model schools, teachers revise environment-related contents of the textbook and help students to learn about environmental conservation systematically. The schools organize field trips and conservation events of students in their off time. They also practice conservation activities at school, home and community. The Ministry also, in partnership with municipal offices and local offices of education, designates honor schools for environmental education to (1) nurture students’ values and attitudes toward environmental conservation, (2) facilitate sharing and disseminating of exemplary teaching modules, (3) establish a sound value system for environment and (4) practice environmental conservation in daily life. These honor schools emphasize both in school as well out-of-school activities.
9. *Lao*: The Government has in place “The Project for the Promotion of Reading” to provide mobile libraries to primary schools and communities and reading centers for secondary school across the country. The Project has, to date, distributed some 4,700 sets of mobile libraries. The Mobile Library is a box containing about 150 cartoon books, stories, pictures, and books on the environment.
10. *Malaysia*. In order to educate schoolchildren about the environment and its conservation, the Department of Wildlife and National Parks holds camping and nature education courses

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for school children on weekend and holidays. Working closely with the Ministry of Education, the Department provides the programs, places, instructors and facilities. The Ministry chooses the schools and students to participate in the program.

11. *Myanmar*. Every school student must plant three tree seedlings in the rainy season: the first tree to compensate for the previous use, the second one for present use and the third one for use by future generations.
12. *Pakistan*: A Pilot Project is underway at Sarhad Province to green religious and opinion leaders with intention that they develop environment friendly attitudes and behaviors and then include environmental themes in religious teaching and sermons.
13. *Papua New Guinea*. The development of close bonds between people and nature can be found in Papua New Guinea. For example, some clans are named after animal or plant, after which the named animals or plants are not used, or harmed.
14. *Philippines*: In an effort to further promote and institutionalize environmental education at the tertiary level, the Philippine Association of Tertiary Level Education Institutions in Environmental Protection and Management (PATLEPAM) has been established in 1996. As of 1998, the institutional membership of PATLEPAM has reached 309.
15. *Tonga*. The Ministry of Education coordinates an extra-curricular project called Plant Project for primary school students. The Project emphasizes plant species that are of cultural and traditional importance.

Source: Status Reports (1999)

40. Media are also becoming active in initiating and promoting environmental education. Some countries have developed the motto of achieving a state of “*well-informed report for a better-informed audience*” and have advocated the importance of environmental education. The mass media in the region have, in recent years, become active partners in initiating and promoting activities that support and enhance environmental education, awareness and understanding. As the outreach of the print and broadcast media continues to grow in the region, the various organs of the media are emerging as the principal sources of information on environment and development to most members of the public. There are many instances where the media are collaborating with government, academic and non-governmental organizations in advocating environmental reforms, in campaigning sustainable lifestyles, in exposing the effects of environmental damaging practices, and in raising the overall levels of awareness on the links between environment, development and technology. Environmental journalism has firmly established itself as a respectable specialization in the media and is performing a valuable role in environmental education.

41. Edu-tainment (education-*cum*-entertainment) of environmental message has been quite popular in non-formal education with many local (traditional) media being employed.

42. With the exception of a few networks at the sub-regional level, there is no network to collect, collate and disseminate information on environmental education and environmentally related problems and issues at the regional level.

43. In some countries, environmental education is taken as a one-off mission, or as a campaign and is not being followed on continuously or regularly. In some languages, there is no equivalent word for environmental education. Consequently, the primary purpose and intended meaning of environmental education is distorted. Still in other countries, programs are initiated as the fund becomes available. As

the fund ends, the focus and locus of the program also change. Because of these reasons, there is neither a consistency to, nor a continuity of, the environmental education program.

44. Non-formal environmental education is a major weakness in the region. There is a major need for coordinated efforts to address the environmental learning needs of the adult community.
45. Environmental education can be successfully imparted, provided consciousness is raised, and illiteracy eliminated. Electronic and print media should be made accessible to the large mass of the people, especially the poor. Above all, environmental capacity building should march hand in hand with the expansion of environmental education.
46. However, a number of problems do exist in the region. For example, in many countries in the region, most initiatives have remained embedded within pre-Earth Summit conceptions of environmental education. These tend to favor nature conservation, especially through the study of science and geography, rather than the multi-disciplinary bases of sustainable development and the holistic imperatives that are served by the emerging concept of education for a sustainable future. Consequently, most initiatives to promote environmental education in the Asia-Pacific have tended to come from Ministries of Environment, Agriculture or Natural Resources rather than Ministries of Education. While welcome, the efforts of such ministries tend to be directed to specific environmental issues rather than a whole-of-government commitment to sustainability. They also tend to concentrate upon information and awareness-raising campaigns directed at individual behavioral change rather than broader educational or sustainability goals. Indeed, sustainable development is not well understood as a concept outside of limited environmental circles in most countries and, certainly, is only rarely being pursued as a whole-of-government commitment. Several countries in the region also still lack national policies or guidelines for environmental education. The result of this set of problems has been a lack of coherence and long term planning for educational approaches to sustainable development. Indeed, even in those countries that do have environmental education policies, very few have been revised to incorporate the broad social, economic and political, as well as conservation aspects of sustainable development.
47. The general lack of interest in matters of sustainability by Ministries of Education has tended to marginalize environmental education from mainstream education policy. Most countries, therefore, lack a coherent plan for progression in environmental education from kindergarten to college level. As a result, it is often not a priority, especially where the curriculum is over-crowded. In addition, the low profile of environmental education and sustainable development in external examination subjects contributes to a lack of status for this area of learning. Therefore, it is not surprising to find that many teachers, students and parents do not perceive it as a curriculum priority. In some countries, the innovative teaching methods of environmental education conflict with the traditional culture of schooling. This problem is particularly acute in countries where the curriculum emphasizes the recall of content and external examination performance rather than

the development of thinking and problem solving skills. Such problems are intensified by a general lack of awareness and support for environmental education from many education policy makers, school administrators and academics in teacher education institutions. This makes the introduction of both in-service and pre-service teacher education for sustainability difficult and, unfortunately, when in-service courses are provided, they tend to be attended by teachers who are already committed to environmental education. As a result, the official as well as the 'hidden curricula' of schools are often not sympathetic to the social vision of education for a sustainable future. Indeed, while the official curriculum is often deficient in these matters, the 'hidden curriculum' is often an even greater barrier to sustainable development.

## **VII. Progressive Efforts in the Region**

48. The basic thrust of environmental education in the region stems from various regional conferences and meetings including the one organized by UNESCO in partnership with Griffith University, Australia in 1993. This meeting reviewed the common views of environmental education and emphasized that sustainable future should be a key focus of environmental education<sup>30</sup>.
49. Third Ministerial Conference on Environment and Development in Asia and the Pacific held under the auspices of ESCAP in 1995 endorsed a five year *Regional Action Programme* for environmentally sound and sustainable development in the Asia-Pacific region. The Plan emphasizes that it works "*further promote public awareness, strengthen environmental education... in the region*"<sup>31</sup>. Following this landmark conference, ESCAP prepared the "*Framework for the North-East Asian Subregional Programme of Environmental Cooperation (NEASPEC)*"<sup>32</sup>, erstwhile Framework and Strategy for Regional Cooperation in North-east Asia to strengthen technical and managerial capacities in the Northeast sub-region<sup>33</sup>.
50. UNESCO-APPEAL focuses on universalizing primary education, eradicating illiteracy and providing continuing education in the region, whereas UNESCO-ACEID is active in the area of environmental education, particularly in teacher education to improve the knowledge, skills and experiences of teacher educators and teachers with regard to including environmental education as part of the

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<sup>30</sup> UNESCO (1993). *Op. cit.*

<sup>31</sup> United Nations/ESCAP (1995). **Declaration and Regional Action Programme**. Ministerial Conference on Environment and Development in Asia and the Pacific, 27-28 November 1995. Bangkok: ESCAP. It can also be found in United Nations/ESCAP (1995). **State of the Environment in Asia and the Pacific, 1995**. ESCAP, United Nations and Asian Development Bank. ST/ESCAP/1585. Bangkok: ESCAP and Asian Development Bank.

<sup>32</sup> ESCAP (1996). **Framework and Strategy for Regional Cooperation**. Third Meeting of Senior Officials on Environmental Cooperation in North-East Asia, Ulaanbaatar 17-20 September 1996. It can also be found in ESCAP (1998). **Emerging Issues and Development at the Regional Level: Environment and Natural Resources Development**. Fifty-fourth Session, E/ESCAP/1093, 23 February 1998.

<sup>33</sup> Resource Management Associates (No date). **Regional Project on Technical Assistance for Environmental Cooperation in Northeast Asia**. Report prepared for the ESCAP with funding support from the Asian Development Bank.

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curriculum<sup>34</sup>. ACEID also organizes regional seminars to explore ways of integrating environmental education content and professional competency into the teacher education curriculum. In one of the seminars, it has recommended the development of prototype teacher education materials and their pilot-testing and region-wide implementation<sup>35</sup>.

51. UNEP has launched a network, called NETTLAP (Network for Environmental Training at Tertiary Level in the Asia-Pacific) in the region and this network has been seminal in “*enhancing the environmental expertise of decision makers, policy formulators and tertiary level trainers in the region through the establishment of a self-sustaining network of trained individuals in the region*” at the higher education level<sup>36</sup>. Recently UNEP has refocused its existing environmental education activities around the concept of global environmental citizenship<sup>37</sup>.
52. The UN Secretary-General, in the 6<sup>th</sup> Session of the Economic and Social Council Commission on Sustainable Development, highlighted the need to prepare a regional education strategy for the region<sup>38</sup>.
53. UNESCO, in partnership with the Center for Environmental Education (CEE), has produced a document entitled, *Environmental Education in Asia: Regional Report for the UNESCO Inter-Regional Workshop on Reorienting Environmental Education for Sustainable Development*<sup>39</sup> and has broadened the scope and concept of environmental education as education for sustainable development.
54. The IUCN-Commission on Education and Communication, in partnership with Center for Environmental Education (CEE) of India, has launched a network, *SASEANEE* (South and Southeast Asia Network for Environmental Education) for developing an effective regional network of environmental education experts. Likewise, WWF (World Wildlife Fund) has initiated another network, *South Asia Regional Cooperation Programme Framework*, as part of the WWF Global Priorities to promote environmental education and capacity building on managing natural resources<sup>40</sup>. South Asia Cooperative Environment Programme (SACEP)

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<sup>34</sup> UNESCO-ACEID and Griffith University (1994). *op. cit.*

<sup>35</sup> UNESCO (1998). *ACEID-News*. No. 43. 1993.

<sup>36</sup> UNEP (1998). **Environmental Education and Training: NETTLAP on the Web**. United Nations Environment Programme-Regional Office for Asia and the Pacific.

<sup>37</sup> Pradhan, Mahesh (1998). **Introducing Environmental Education Activities of UNEP in Asia and the Pacific**. A paper presented at the APEC Symposium on Environmental Education towards Sustainable Cities, Sendai, 20-21 September, 1998.

<sup>38</sup> United Nations (1998). **Capacity Building, Education, and Public Awareness, Science and Transfer of Environmentally Sound Technology** (Chapter 34-37 of Agenda 21). Report of the Secretary-General on the Sixth Session of the Economic and Social Council Commission on Sustainable Development, 20 April-1 May 1998.

<sup>39</sup> Center for Environmental Education (1995). **Environmental Education in Asia: Regional Report for the UNESCO Inter-Regional Workshop on Reorienting Environmental Education for Sustainable Development**. June 1995. Center for Environmental Education.

<sup>40</sup> CEE/IUCN (1998). **The SASEANEE Circular**. The Newsletter of the South and Southeast Asia Network for Environmental Education Vol. 6, No. 1 September 1998.

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has developed a sub-regional action plan on environmental training for the SACEP region<sup>41</sup>.

55. South Pacific Regional Environment Programme (SPREP) has prepared a draft *Action Strategy for Environmental Education and Training in the Pacific Region 1999-2003*<sup>42</sup>. This document was produced at a conference of 170 participants (from government environmental departments, education ministries, NGOs and academia) through a series of focussed working groups. This strategy was endorsed by the SPREP member governments (22 Pacific Island Countries as well as Australia, New Zealand and France). It has also underscored the importance of environmental education, training, and information systems in its *Action Plan for Managing the Environment of the South Pacific Region*<sup>43</sup>.
56. ASEAN (Association of South East Asian Nations) member countries have also enjoined their commitment and duties on promoting public awareness and environmental education and have prepared *Strategic Plan of Action on the Environment*<sup>44</sup>, *ASEAN State of the Environment*<sup>45</sup> and *ASEAN Environmental Education Action Plan (2000-2005)*<sup>46</sup>. Also ARNEE (ASEAN Regional Network on Environmental Education) has been set up in the ASEAN region.
57. With a view to nurture environmental education experts in the Asia-Pacific, the US-Japan Common Agenda has undertaken some planning activities including the establishment of a regional forum<sup>47</sup>.
58. For the promotion of the spirit and principles of the *Treaty on Environmental Education for Sustainable Societies and Global Responsibility*<sup>48</sup> endorsed by NGOs attending the Earth Summit in 1992, Asian-South Pacific Bureau of Adult Education (ASPBAE) developed an Asian-South Pacific framework for environmental education in 1996<sup>49</sup>.
59. Asia Environmental Council (AEC), an environmental council of NGOs in the Asia-Pacific, has been organizing a series of conferences called APNEC (Asia-

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<sup>41</sup> Wijayadasa, K. H. J. (1997). **Cooperation in Capacity Building for Environmental Training in South Asia**. SACEP Environmental Publications Series No.1. SACEP in collaboration with NORAD.

<sup>42</sup> SPREP (1998). **Action Strategy for Environmental Education and Training in the Pacific Region 1999-2003**. South Pacific Regional Environment Programme, PO Box 240, Apia, Samoa.

<sup>43</sup> SPREP (1997). **Action Plan for Managing the Environment of the South Pacific Region: 1997-2000**. Apia, Western Samoa.

<sup>44</sup> ASEAN (1994). **ASEAN Strategic Plan of Action on the Environment**. Jakarta: ASEAN Secretariat.

<sup>45</sup> ASEAN (1997). **First ASEAN State of the Environment Report**. Jakarta: ASEAN Secretariat.

<sup>46</sup> ASEAN, Hanns Seidel Foundation and UNEP(2001). **ASEAN Environmental Education Action Plan (2000-2005)**. Jakarta: ASEAN Secretariat.

<sup>47</sup> Ministry of Foreign Affairs (No date). **U.S.-Japan Common Agenda for Cooperation in Global Perspective**. A bilingual information brochure and homepage on the Common Agenda.

<sup>48</sup> ASPBAE (1992). **Treaty on Environmental Education for Sustainable Societies and Global Responsibility**. Rio de Janeiro, 9<sup>th</sup> June 1992. Also in Education for Life by ASPBAE, September 1992.

<sup>49</sup> ASPBAE (1996). **Evolving an Asian-South Pacific Framework for Adult and Community Environmental Education**. Prepared for the ASPBAE General Assembly, 1-8 December, Darwin, Australia.

Pacific NGO Environmental Conference) and has placed emphasis on the importance of environmental education for environmental management<sup>50</sup>. Also, forums such as ECO Asia (Environment Congress for Asia and the Pacific), and Asia-Pacific Economic Cooperation (APEC) Conference have underscored the importance of environmental education in creating sustainable society. Likewise, the works of donor agencies, and multi-lateral, bilateral and international organizations are also equally important in promoting environmental education in the Asia-Pacific.

### **VIII. Problems of Environmental Education**

60. The result of the analysis of the country reports indicate that the region is currently facing a multitude of problems, which are summarized below.

61. **Lack of trained teachers:** There is a great shortage of trained and competent teachers to teach integrated and composite courses such as environmental studies in the region. It is surprising to note that there are virtually no incentives being provided to motivate teachers to enhance their competency. As a result, teaching of environment is not up to the mark. In some countries, preparing lesson plans, or using innovative methods, are still non-existent, while in other countries, classes are run on many shifts by the same teacher, who is therefore too over-burdened and exhausted to improve the classroom instruction. There is also a lack of teacher training facilities - both in-service and pre-service - to prepare teachers to take up roles as environmental educators. Teacher training that focuses on both content and methodology is not often available to teachers. Policy initiatives that support such teacher preparation are often lacking.

62. **Problems related to curriculum and teaching:** Environmental education is a dynamic concept and how to fit this dynamic process into a static curriculum is a crucial issue. The existing curriculum is book knowledge-based and examination-oriented. In many countries, curricular components are not relevant to local conditions, nor are they constructed around scientific or ecological concepts. There is a lack of vertical (not linked to, and sequenced into, the higher level of education) and horizontal integration of curriculum components. Students learn about the environment in discrete manners and hence fail to see the interconnections that contribute to the overall complexity. In many countries, environmental education does not look outward to the community. The curriculum, in most cases, is centrally controlled and its development process is quite bureaucratic. Furthermore, the existing courses are tightly arranged and do not allow additional subjects to be incorporated into the curriculum. Unavailability, inaccessibility and irrelevancy of textbooks, instructional materials, manuals and guides are great obstacles to effective classroom instruction. There are no incentives for teachers to prepare teaching materials locally. They heavily depend on textbooks and sometime those textbooks are not relevant to local situations.

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<sup>50</sup> Awaji, Takehisa (1998). **Future Development of APNEC and AEC: International Environmental NGOs Experts in Asian-Pacific Region Towards the 21<sup>st</sup> Century**. Keynote address to the Fourth Asian NGO Environmental Conference (APNEC-4), Singapore, 26-27 November 1998.

Classroom instruction is geared towards examination and completing the course for the examination. The pedagogy is mostly “chalk-and-talk-based-method” without any practical application. Learning is based on rote learning and spoon-feeding. There is a gap between the classroom teaching and the outside world, and there are a few mechanisms for involving students outside the classroom activities. Few programs recognize new and innovative ways of teaching and learning. No concrete methods of evaluation and monitoring are adopted to improve the quality of teaching. Many courses are taught and many periods are taken by a single teacher in the same day. As a result, students do not have any time for extra-curricular activities and so is the case with the teachers. On the whole, the curriculum is not oriented towards sustainable society and does not provide opportunities for innovative ideas.

63. **Inadequate educational infrastructures:** In many countries, a lack of minimum infrastructure is very common in the education sector. School buildings are dilapidated and do not even have minimum facilities such as furniture, classroom, laboratories, library, resources, tools and equipment. Due to lack of space, classes are being run in many shifts.
64. **No national policy:** Due to stronger influence of dominant growth-centered development, political instability, poverty, illiteracy, disease, hunger and poor quality of education, environmental education has been marginalized. As a result, there is no national policy or legislation on environmental education in these countries. Also, environmental education suffers from a lack of funds and technical support.
65. **Inadequate governance:** The problems mentioned above have led to misappropriation and mismanagement of environmental education in the region. There is strong evidence of a lack of coordination between organizations as well as personnel. There is a tendency either to shift or avoid responsibility, thereby causing an inconsistency in the program. Environmental education has suffered in some countries due to the lack of a mother department. Sometimes, the situation is that “*every body’s responsibility is no body’s responsibility*”. Thus, there is an urgent need for improved governance for environmental education.
66. **Lack of institutional coordination:** Lack of coordination amongst responsible agencies is a common problem. Because of this, there is a duplication, or a competition between actors, thereby creating a dog-in-the-manger situation and then a situation of stand-off. When the situation becomes serious, blaming each other is a common phenomenon. Several ministries adopt individual policies and procedures to pursue their own mandate without any collective actions and vision. Due to lack of institutional coordination, the mechanism for personal coordination also does not exist. Usually, there is no consultation among themselves and if there is any agreement, it is loose, vague and morally not binding.
67. **Lack of Institutional Capacity:** In many countries, the governmental organizations do not have an adequate institutional mechanism to effectively manage the issues related to environment. Socio-cultural situations also are not

favorable for developing partnership between governments, NGOs, media and other service providers for collaborative works.

68. **Ambiguity of the Concept:** The concept of environmental education means many things to many people. It is thought that it is imported from the West. In some countries, it is taken as another academic course without any relevance or bearing on the real-life situation, while in other countries, it is still in its infancy.
69. **Unavailability of Data and Information:** There is a great dearth of data and information on environmental education. At the same time, the lack of ready and easy access to data and information on environmental trends, conditions, solutions and alternatives is hampering the activities of environmental educators and facilitators. An improvement in the free flow of environment related information would greatly enhance the quality and effectiveness of environmental education efforts. The dearth of information prevails in both formal as well as non-formal environmental education. For instance, educating people about the local environment will require information on local environmental issues. This information is not easily available in forms that the educators can understand.
70. **Lack of continuity of activities:** In many countries, as the project terminates, the activities also end. Because of this there is no follow up program. If there are any, then only ad hoc (or crash) programs are available. Due to lack of resources, there is a lack of commitment from the higher echelon of the national governments.

## **IX. Suggested Areas for Intervention**

71. As mentioned in Section V of the document, education is a powerful force that changes people's knowledge, attitudes and practices. The Copenhagen Summit<sup>51</sup>, in dealing with poverty, unemployment and social exclusion, emphasized the contribution which education policies could make in improving the quality of human life. It has been further asserted that sustainable society is possible;

*Only when humans, the natural environment and man-made environment are coordinated in the implementation of an environmental management plan. Successful coordination would necessitate an improvement in the quality of human life, which in turn would engender a modification in lifestyle, environmentally friendly behavior and environmental ethics. In order to achieve this, the EE Project would propose a framework of regional cooperation along with international cooperative incentives, where local communities, researchers, scholars and organizations would be encouraged to develop their capacity to manage themselves without superceding others in the system. It would help facilitate public participation and further investment. The Project hopes to establish pragmatic approaches to an effective environmental education so that it can promote the growth of eco-consciousness in the Asia-Pacific Region, thereby contributing to an Asia-*

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<sup>51</sup> United Nations (1996). **Report of the World Summit for Social Development**, Copenhagen, 6-12 March 1995.

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*Pacific perspective in environmental education. Also, the notion of environmental right as a basic human right can be promoted in the region<sup>52</sup>.*

72. The results received from the analysis of these reports suggest the following areas as frontiers for immediate intervention/actions.
- i. Educating and training environmental educators and facilitators.
  - ii. Curriculum and program development (both structures as well as processes).
  - iii. Policy development in environmental education.
  - iv. Development of teaching materials.
  - v. Undertaking research, particularly action research.
  - vi. Sensitization and awareness raising.
  - vii. Strengthening partnership for collaborative works.
  - viii. Governance for environmental education.

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<sup>52</sup> Abe and Bhandari, (1998). *op. cit.* pp. 306

## X. Recommended Actions

73. Landmark works such as the Stockholm Conference (1972), Tbilisi Conference (1977), Chapter 36 of Agenda 21 (1992), World Declaration on Education for All (1990), Thessaloniki Conference (1997), WWF's Global Priorities, IUCN-CEC's Strategy and Work Plan (1997), Final Report of the UNESCO-Asia-Pacific Regional Expert's Meeting (1993), UNESCO Inter-Regional Workshop (1995), UNESCO's *Learning: The Treasure Within* (1996) and other initiatives of ESCAP, UNEP, SPREP, SACEP and ASEAN are the bedrock of this document.
74. Having considered the above-mentioned issues, concerns and challenges, the Environmental Education Project has recommended a framework of action, called hereinafter **Agenda for Action** necessary to foster environmental education in the Asia-Pacific. These agenda of actions are presented in Box 5. The detailed actions for each agenda at regional, sub-regional and national levels are proposed in the following section. A matrix of agenda and actions proposed for regional, sub-regional and national levels are shown in Table 1.

### Box 5: Agenda for Action

- One:** Strengthen the capacity of stakeholders.  
**Two:** Develop partnership for collaborative works.  
**Three:** Review/improve the curriculum and program development.  
**Four:** Facilitate the improved governance for environmental education.  
**Five:** Mobilize external assistance for educational activities.

**Agenda One:** Strengthen the capacity of stakeholders.

**Rationale:** Transfer of knowledge, along with other essential processes such as acquiring awareness, attitudes, skills, ethics, analytical ability and capacity building are the keys to achieve an environmentally sound and sustainable society. Through education and training, people's desirable changes in knowledge, attitude and behaviors, can be obtained. Therefore, capacity building is considered to be the driving force for enhancing environmental education. The enabling capacity of local people is initially dependent upon their institutional capacity and capability, and active participation. In order to achieve this objective, the following operational objectives have been set up:

**Operational Objectives**

1. Enhance capacity building process of environmental educators, facilitators and organizations.
2. Support EE initiatives by community-based organizations and the local community.
3. Mobilize resources and promote EE resource centers to support environmental educators, facilitators and organizations.
4. Promote networking amongst, and training to, environmental educators and facilitators.

**Suggested Actions**

● **Regional Level**

- i. Support training and capacity building for school and community environmental education.
- ii. Coordinate/sponsor international exchange, training and visit programs.
- iii. Assist in the establishment and effective use of resource centers at different levels.
- iv. Facilitate strengthening/establishing regional forums.

● **Sub-regional Level**

- i. Encourage/support regional, sub-regional and national initiatives.
- ii. Facilitate the development of collaborative ventures on common themes.
- iii. Act as sub-regional contact point for data and information.
- iv. Assist in public awareness raising activities.

● **National Level**

- i. Provide more opportunities for appropriate (pre and in-service) training to teacher, trainers, practitioners, environmental activists, environmental facilitators and organizations.
- ii. Organize sensitization and awareness programs for different groups including private sectors, policy and decision-makers, community leaders, etc.

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- iii. Encourage/support the development, testing, production and dissemination of innovative educational materials suited to local contexts.
- iv. Promote advocacy for environmental rights.
- v. Encourage environmental education towards sustainable development.
- vi. Encourage environmentally friendly production and consumption.

**Outputs**

- i. More training, awareness raising and capacity building activities.
- ii. Establishment of resource centers.
- iii. Development and dissemination of educational materials.
- iv. Exchange programs initiated.

## **Agenda Two: Develop partnership for collaborative works.**

**Rationale:** Every country has its own specialties and strengths in the region. These specialties can be directly shared through networking, collaborative works and partnership. For this matter, partnership based on mutuality and reciprocity is vitally important in a diverse and wide region like the Asia-Pacific. A true partnership for environmental education is working together for a common goal. And it includes a wide range of activities such as networking of organizations and individuals, sharing of knowledge, experiences and perspectives, initiating collaborative works, etc. It also means taking the comparative advantage into consideration, strengthening cooperation and synergy between countries, and securing the optimum benefits from minimum resource utilization. In sum, it can be said that its purpose is to bring regional strengths together. The operational objectives of collaborative partnership in environmental education are as follows.

### **Operational Objectives**

1. Facilitate a consultative process at regional and sub-regional levels in collaboration with existing institutions and networks.
2. Encourage synergy between government, regional and sub-regional organizations, NGOs, media, business and industry and other service sectors.
3. Activate/strengthen effective networks such as database, initiatives, collaborative works, cooperative studies, etc.
4. Develop institutional mechanisms for sharing experiences and expertise.
5. Establish information network systems.
6. Develop a regional directory of environmental educators and facilitators.

### **Suggested Actions**

#### **● Regional Level**

- i. Support/strengthen existing regional communication networks/forums such as ARNEE, SASEANEE, NETTLAPP, etc.
- ii. Encourage the formation of country focal points to forge strong regional links.
- iii. Facilitate the regular organization of workshops, roundtable discussions and forums for collective consideration of environmental education activities.

#### **● Sub-regional Level**

- i. Establish linkages/collaboration with sub-regional environmental organizations such as SACEP, ASEAN, SPREP, NEASPEC, ICIMOD (International Center for Integrated Mountain Development), MRC (Mekong River Commission), etc.
- ii. Establish/maintain database, information network, website, electronic bulletin board, etc.
- iii. Facilitate/undertake sub-regional collaborative works and demonstration projects.

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- iv. Encourage inter-subregional process of exchanging information, experiences and expertise.

### ● National Level

- i. Develop/maintain active linkages with relevant organizations.
- ii. Involve policy makers and researchers in EE programs and activities.
- iii. Involve stakeholders including private sectors, NGOs, local communities in preparing and implementing collaborative projects.
- iv. Provide technical support to stakeholders in their capacity building, particularly in exploration of funds, project formulation, implementation, monitoring and evaluation.
- v. Provide institutional mechanisms for sharing experiences, expertise and successful lessons.
- vi. Disseminate successful stories, materials and lessons on environmental education.
- vii. Encourage the involvement of stakeholders at all levels of planning, implementing, monitoring and evaluation.
- viii. Formulate and conduct specific pilot/demonstration projects.

### Outputs

- i. Establishment/organizations of the regional/sub-regional/national workshops and forums.
- ii. Formation of country focal points.
- iii. Developing/strengthening environmental education networks.
- iv. Exchange of information, expertise, experiences and materials.
- v. Directory of the network of facilitators and educators in environmental education from throughout the region is shared with all members.
- vi. Networks of environmental educators, practitioners and facilitators established to share teaching and learning strategies, curriculum frameworks, successes and barriers in environmental education.
- vii. An annual recognition scheme for environmental educators and facilitators is conducted to acknowledge key individuals and groups in the Asia-Pacific region.
- viii. Stories of “successful practices” in environmental education are shared through appropriate forums, such as conference presentations, academic papers, stories in magazines, video and multimedia.

### **Agenda Three: Review the curriculum and program development.**

**Rationale:** Environment is a broad term that goes beyond nature studies and involves economic, political, social and cultural dimensions. That is the reason why it has to be addressed in a holistic framework. Environmental educators and facilitators should be able to facilitate the creation of a sustainable future in a dynamic and fast changing world. Environmental education should be part of the learning throughout life (or life-long learning). The ways of learning as well as content should be focussed in the curriculum and environmental education program. Environmental education organizations need to demonstrate the use of sustainable practices as an example in their everyday operations. It is for these reasons that we need to review and improve curriculum and program development periodically, both in structure (curriculum) as well as process (pedagogy), in all forms of education. The operational objectives have been set up as follows.

#### **Operational Objectives**

1. Establish, review and revise environmental education policy at the national and regional levels.
2. Revise, as required, curriculum development, examination and assessment strategies, teaching and learning approaches and evaluation in environmental education at the formal, informal and non-formal levels.
3. Develop a network of environmental educators, practitioners and facilitators who engage in ongoing discussions and professional development about environmental education (such as aims, objectives, teaching and learning strategies, successful practices, assessment of students and evaluation processes, etc.).
4. Provide training to curriculum development staff.
5. Use evaluation as a means to reflect on the objectives and progress of all environmental education programs.
6. Encourage the development of resource materials for environmental education and use of the local community as a resource for learning.
7. Recognize environmental educators, practitioners and facilitators for their excellence, success, contribution and innovation.

#### **Suggested Actions**

##### **● Regional Level**

- i. Strengthen the network of environmental educators, practitioners and facilitators to share teaching and learning strategies, curriculum framework, successes and barriers in environmental education.
- ii. Take stock of on-going environmental education initiatives at all levels and in relevant sectors.
- iii. Develop professional development plan for environmental educators and facilitators involved at all levels and sectors.
- iv. Establish recognition scheme for environmental educators and facilitators.

● **Sub-regional Level**

- i. Develop a professional development plan for environmental educators and facilitators involved at all levels.
- ii. Strengthen networking of environmental education organizations within the sub-region.

● **National Level**

- i. Develop a professional development plan for environmental educators and facilitators involved at all levels and sectors.
- ii. Develop local curriculum materials and resources.
- iii. Revise the curriculum frameworks, teaching and learning activities, as required.
- iv. Develop case studies of “successful practices” of environmental education in print forms, using a variety of languages.
- v. Establish professional development network for environmental educators and facilitators to explore innovative teaching and learning strategies, curriculum and evaluation with an emphasis on problem solving and community participation. For example, action research may be used as a means to develop this network.
- vi. Promote greening of educational institutions to ensure that their own internal and routine practices are environmentally friendly and sustainable.
- vii. Develop general guidelines to help environmental educators, practitioners and facilitators to use their local community as resource for learning.

**Output**

- i. Revision of curriculum frameworks, examination and assessment processes at all levels with flexibility to meet individual, community and national needs.
- ii. Evaluation processes established and evaluation tools developed at all levels.
- iii. Evaluation used as an essential part of environmental education program planning and implementation.
- iv. Use of the local community as a resource for teaching and learning in environmental education.
- v. Development of materials, resources and curriculum using appropriate teaching and learning strategies.
- vi. Environmental education policy developed at national and regional levels.
- vii. Production of resource materials for environmental educators, practitioners and facilitators on environmental education programs.

**Agenda Four: Facilitate the improved governance for environmental education.**

**Rationale:** Improved governance in the context of environmental education would encompass an effective organizational structures, proper coordination, sound management and periodical monitoring and review. Because of multi-disciplinary and composite nature of environmental education, effective governance is vitally important to deal with issues of environmental education at all levels of the educational system. Actors and processes from both private as well as public sectors, should be considered in dealing with those issues. And environmental education should be approached in a holistic manner. To achieve this goal, the following objectives have been set up.

**Operational Objectives**

1. Prepare a sound national/sub-national environmental education policy based on needs, capacity and requirements.
2. Adopt/develop appropriate processes to involve relevant organizations.
3. Create amenable structural mechanism that facilitates incorporation of environmental education issues in all channels of education.
4. Facilitate in preparing receptive, capable and committed environmental educators, practitioners and facilitators.

**Suggested Actions**

● **Regional Level**

- i. Assist/support countries in the formulation of national environmental education policy.
- ii. Assist countries in activities that ensure the continuity and consistency of environmental education programs.
- iii. Encourage implementation of activities mentioned in Agenda 1,2,3 & 5.
- iv. Assist in disseminating successful practices of environmental education.

● **Sub-regional Level**

- i. Provide training/workshops for formulating national policy.
- ii. Provide support to prepare national policy and legislation.
- iii. Support/strengthen effective networking systems.

● **National Level**

- i. Establish National Steering Committee for environmental education.
- ii. Formulate national policy on environmental education.
- iii. Encourage cooperation and interaction between stakeholders and relevant organizations at all levels of environmental education project planning and implementation.
- iv. Provide new training opportunities/incentives for environmental educators, practitioners and facilitators.

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- v. Encourage the integration and incorporation of environmental education activities in formal, non-formal and informal education.
- vi. Enhance institutional capacity and capability for environmental education.
- vii. Compile basic data and information on environmental education.
- viii. Encourage /support regular monitoring and evaluation of EE activities.

**Output**

- i. National EE policy documents prepared.
- ii. Human resources trained/developed for environmental education.
- iii. Improved governance for environmental education.

### **Agenda Five: Mobilize external assistance for educational activities.**

**Rationale:** Environmental education is a priority area in the region. National governments have shown their commitments to protect their environment. However, many countries in the region are not in a position to adopt this policy due to lack of fund and resources. The external support would trigger their efforts. It is, therefore, important to explore the opportunities to mobilize external assistance and resources for enhancing environmental education, thereby enabling them to protect their environment by themselves. The operational objectives of this objective are as follows:

#### **Operational Objectives**

1. Identify national and sub-national projects that could benefit from external support.
2. Explore possible sources of external funding and technical assistance.
3. Strengthen mechanism for securing external assistance and effective project management.
4. Develop mechanism for granting and receiving assistance and for closer south-south cooperation.

#### **Suggested Actions**

##### **● Regional Level**

- i. Develop and maintain database of donors and international agencies in the region.
- ii. Communicate with donor agencies for the growing importance and need of EE activities.
- iii. Establish a regional trust for environmental education training, research, scholarship and exchange programs.
- iv. Assist countries and sub-regional networks in preparing locally-owned proposals and grants application.

##### **● Sub-regional Level**

- i. Conduct environmental education assessment to identify projects that can be most appropriately conducted and implemented at sub-regional level.
- ii. Support the development and implementation of sub-regional strategies through coordinated funding and technical assistance.
- iii. Develop mechanisms to share experiences across the sub-region.

##### **● National Level**

- i. Conduct environmental education needs assessment to identify projects that can be most appropriately implemented at national level.
- ii. Focus on projects in the formal education sector in rearranging education for sustainable development.

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- iii. Focus on environmental education projects for capacity building in the non-formal sector.

**Output**

- i. Increased cooperation at the regional and sub-regional levels, especially south-south collaboration.
- ii. Environmental education needs assessment conducted at sub-regional and national levels.
- iii. Development and implementation of sub-regional strategic plans for environmental education.
- iv. Increased donor awareness of, and support for, environmental education.
- v. Effective database on environmental education activities of donors.
- vi. Well-funded trust for training, research and scholarship in environmental education.
- vii. Training in writing grant application, and project management and evaluation at the sub-regional and national levels.
- viii. Increased number of comprehensive projects on environmental education in the formal and non-formal sectors.