

Education, raising of public awareness and training are linked to virtually all areas in Agenda 21, and even more closely to the ones on meeting basic needs, capacity-building, data and information, science, and the role of major groups. This chapter sets out broad proposals, while specific suggestions related to sectoral issues are contained in other chapters. The Declaration and Recommendations of the Tbilisi Intergovernmental Conference on Environmental Education¹ organized by UNESCO and UNEP and held in 1977, have provided the fundamental principles for the proposals in this document.

A Reorienting education towards sustainable development

Basis for action Education, including formal education, public awareness and training should be recognized as a process by which human beings and societies can reach their fullest potential. Education is critical for promoting sustainable development and improving the capacity of the people to address environment and development issues. While basic education provides the underpinning for any environmental and development education, the latter needs to be incorporated as an essential part of learning. Both formal and non-formal education are indispensable to changing people's attitudes so that they have the capacity to assess and address their sustainable development concerns. It is also critical for achieving environmental and ethical awareness, values and attitudes, skills and behaviour consistent with sustainable development and for effective public participation in decision-making. To be effective, environment and development education should deal with the dynamics of both the physical biological and socio-economic environment and human (which may include spiritual) development, should be integrated in all disciplines, and should employ formal and non-formal methods and effective means of communication.

Objectives Recognizing that countries, regional and international organizations will develop their own priorities and schedules for implementation in accordance with their needs, policies and programmes, the following objectives are proposed:

- a To endorse the recommendations arising from the World Conference on Education for All: Meeting Basic Learning Needs² (Jomtien, Thailand, 5-9 March 1990) and to strive to ensure universal access to basic education, and to achieve primary education for at least 80 per cent of girls and 80 per cent of boys of primary school age through formal schooling or non-formal education and to reduce the adult illiteracy rate to at least half of its 1990 level. Efforts should focus on reducing the high illiteracy levels and redressing the lack of basic education among women and should bring their literacy levels into line with those of men;
- b To achieve environmental and development awareness in all sectors of society on a world-wide scale as soon as possible;
- c To strive to achieve the accessibility of

environmental and development education, linked to social education, from primary school age through adulthood to all groups of people;

- d To promote integration of environment and development concepts, including demography, in all educational programmes, in particular the analysis of the causes of major environment and development issues in a local context, drawing on the best available scientific evidence and other appropriate sources of knowledge, and giving special emphasis to the further training of decision makers at all levels.

Activities Recognizing that countries and regional and international organizations will develop their own priorities and schedules for implementation in accordance with their needs, policies and programmes, the following activities are proposed:

- a All countries are encouraged to endorse the recommendations of the Jomtien Conference and strive to ensure its Framework for Action. This would encompass the preparation of national strategies and actions for meeting basic learning needs, universalizing access and promoting equity, broadening the means and scope of education, developing a supporting policy context, mobilizing resources and strengthening international cooperation to redress existing economic, social and gender disparities which interfere with these aims. Non-governmental organizations can make an important contribution in designing and implementing educational programmes and should be recognized;
- b Governments should strive to update or prepare strategies aimed at integrating environment and development as a cross-cutting issue into education at all

In the developed countries a level of public awareness has been achieved with recycling basic products. A much wider understanding is necessary in both developed and developing countries.



It is possible to confront the environmental problems of desertification, pollution, scarcity of fresh water, extinction of species, and poverty if they are recognized and dealt with within the framework of planning for sustainable development on both national and international levels. It is unrealistic and impractical to view the environmental problem only within a narrow, national context. This necessitates cooperation among all nations, particularly in the transfer of environmentally sound technology recognising the requirements of each society and its particular phase of development. The Kingdom has recognised this concept in its ambitious programme of donation and assistance, during the last twenty years, for more than sixty developing nations and offers an example to industrial nations of what can be done to achieve sustainable development and a better habitat for all of us on this planet.

**Sultan Bin Abdul Aziz Al-Saud
Second Deputy Premier
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levels within the next three years. This should be done in cooperation with all sectors of society. The strategies should set out policies and activities, and identify needs, cost, means and schedules for their implementation, evaluation and review. A thorough review of curricula should be undertaken to ensure a multidisciplinary approach, with environment and development issues and their socio-cultural and demographic aspects and linkages. Due respect should be given to community-defined needs and diverse knowledge systems, including science, cultural and social sensitivities;

c Countries are encouraged to set up national advisory environmental education coordinating bodies or round tables representative of various environmental, developmental, educational, gender and other interests, including non-governmental organizations, to encourage partnerships, help mobilize resources, and provide a source of information and focal point for international ties. These bodies would help mobilize and facilitate different population groups and communities to assess their own needs and to develop the necessary skills to create and implement their own environment and development initiatives;

d Educational authorities, with the appropriate assistance from community groups or non-governmental organizations, are recommended to assist or set up pre-service and in-service training programmes for all teachers, administrators, and educational planners, as well as non-formal educators in all sectors, addressing the nature and methods of environmental and development education and making use of relevant experience of non-governmental organizations;

e Relevant authorities should ensure that every school is assisted in designing environmental activity work plans, with the participation of students and staff. Schools should involve schoolchildren in local and regional studies on environmental health, including safe drinking water, sanitation and food and ecosystems and in relevant activities, linking these studies with services and research in national parks, wildlife reserves, ecological heritage sites etc.;

f Educational authorities should promote proven educational methods and the development of innovative teaching methods for educational settings. They should also recognize appropriate traditional education systems in local communities;

g Within two years the United Nations system should undertake a comprehensive review of its educational programmes, encompassing training and public awareness, to reassess priorities and reallocate resources. The UNESCO/UNEP International Environmental Education Programme should, in cooperation with the appropriate bodies of the United Nations system, Governments, non-governmental organizations and others, establish a programme within two years to integrate the decisions of the Conference into the existing United Nations framework adapted to the needs of educators at different levels and circumstances. Regional organizations and national authorities should be encouraged to elaborate similar parallel programmes and opportunities by conducting an analysis of how to mobilize different sectors of the population in order to assess and address their environmental and development education needs;

h There is a need to strengthen, within five years, information exchange by enhancing technologies and capacities necessary to promote environment and development education and public awareness. Countries should cooperate with each other and with the various social sectors and population groups to prepare educational tools that include regional environment and development issues and initiatives, using learning materials and resources suited to their own requirements;

i Countries could support university and other

tertiary activities and networks for environmental and development education. Cross-disciplinary courses could be made available to all students. Existing regional networks and activities and national university actions which promote research and common teaching approaches on sustainable development should be built upon, and new partnerships and bridges created with the business and other independent sectors, as well as with all countries for technology, know-how, and knowledge exchange;

j Countries, assisted by international organizations, non-governmental organizations and other sectors, could strengthen or establish national or regional centres of excellence in interdisciplinary research and education in environmental and developmental sciences, law and the management of specific environmental problems. Such centres could be universities or existing networks in each country or region, promoting cooperative research and information sharing and dissemination. At the global level these functions should be performed by appropriate institutions;

k Countries should facilitate and promote non-formal education activities at the local, regional and national levels by cooperating with and supporting the efforts of non-formal educators and other community-based organizations. The appropriate bodies of the United Nations system in cooperation with non-governmental organizations should encourage the development of an international network for the achievement of global educational aims. At the national and local levels, public and scholastic forums should discuss environmental and development issues, and suggest sustainable alternatives to policy makers;

l Educational authorities, with appropriate assistance of non-governmental organizations, including women's and indigenous peoples' organizations, should promote all kinds of adult education programmes for continuing education in environment and development, basing activities around elementary secondary schools and local problems. These authorities and industry should encourage business, industrial and agricultural schools to include such topics in their curricula. The corporate sector could include sustainable development in their education and training programmes. Programmes at a post-graduate level should include specific courses aiming at the further training of decision makers;

m Governments and educational authorities should foster opportunities for women in non-traditional fields and eliminate gender stereotyping in curricula. This could be done by improving enrolment opportunities, including females in advanced programmes as students and instructors, reforming entrance and teacher staffing policies and providing incentives for establishing child-care facilities, as appropriate. Priority should be given to education of young females and to programmes promoting literacy among women;

n Governments should affirm the rights of indigenous peoples, by legislation if necessary, to use their experience and understanding of sustainable development to play a part in education and training;

o The United Nations could maintain a monitoring and evaluative role regarding decisions of the United Nations Conference on Environment and Development on education and awareness, through the relevant United Nations agencies. With Governments and non-governmental organizations, as appropriate, it should present and disseminate decisions in a variety of forms, and should ensure the continuous implementation and review of the educational implications of Conference decisions, in particular through relevant events and conferences.

Means of implementation \$8 – \$9 billion, including about \$3.5 – \$4.5 billion from the international community on grant or concessional terms.

The Gaia Boat arrives at the Rio Conference. This children's boat sailed from Denmark to illustrate the level at which children wished to be involved and the importance of their future role.



In the light of country specific situations, more support for education, training and public awareness activities related to environment and development could be provided, in appropriate cases, through measures such as the following:

- a Giving higher priority to those sectors in budget allocations, protecting them from structural cutting requirements;
- b Shifting allocations within existing education budgets in favour of primary education, with focus on environment and development;
- c Promoting conditions where a larger share of the cost is borne by local communities, with rich communities assisting poorer ones;
- d Obtaining additional funds from private donors concentrating on the poorest countries, and those with rates of literacy below 40 per cent;
- e Encouraging debt for education swaps;
- f Lifting restrictions on private schooling and increasing the flow of funds from and to non-governmental organizations, including small-scale grass-roots organizations;
- g Promoting the effective use of existing facilities, for example, multiple school shifts, fuller development of open universities and other long-distance teaching;
- h Facilitating low-cost or no-cost use of mass media for the purposes of education;
- i Encouraging twinning of universities in developed and developing countries.

B Increasing public awareness

Basis for action There is still a considerable lack of awareness of the interrelated nature of all human activities and the environment, due to inaccurate or insufficient information. Developing countries in particular lack relevant technologies and expertise. There is a need to increase public sensitivity to environment and development problems and involvement in their solutions and foster a sense of personal environmental responsibility and greater motivation and commitment towards sustainable development.

Objective The objective is to promote broad public awareness as an essential part of a global education effort to strengthen attitudes, values and actions which are compatible with sustainable development. It is important to stress the principle of devolving authority, accountability and resources to the most appropriate level with preference given to local responsibility and control over awareness-building activities.

Activities Recognizing that countries, regional and international organizations will develop their own priorities and schedules for implementation in accordance with their needs, policies and programmes, the following activities are proposed:

- a Countries should strengthen existing advisory bodies or establish new ones for public environment and development information, and should coordinate activities with, among others, the United Nations, non-governmental organizations and important media. They should encourage public participation in discussions of environmental policies and assessments. Governments should also facilitate and support national to local networking of information through existing networks;
- b The United Nations system should improve its outreach in the course of a review of its education and public awareness activities to promote greater involvement and coordination of all parts of the system, especially its information bodies and regional and country operations. Systematic surveys of the impact of awareness programmes should be conducted, recognizing the needs and contributions of specific community groups;
- c Countries and regional organizations should be encouraged, as appropriate, to provide public environmental and development information services for raising the awareness of all groups, the private sector and particularly decision makers;
- d Countries should stimulate educational establishments in all sectors, especially the tertiary sector, to contribute more to awareness building. Educational materials of all kinds and for all audiences should be based on the best available scientific information, including the natural, behavioural and social sciences, and taking into account aesthetic and ethical dimensions;
- e Countries and the United Nations system should promote a cooperative relationship with the media, popular theatre groups, and entertainment and advertising industries by initiating discussions to mobilize their experience in shaping public behaviour and consumption patterns and making wide use of their methods. Such cooperation would also increase the active public participation in the debate on the environment. UNICEF should make child-oriented material available to media as an educational tool, ensuring close cooperation between the out-of-school public information sector and the school curriculum, for the primary level. UNESCO, UNEP and universities should enrich pre-service curricula for journalists on environment and development topics;
- f Countries, in cooperation with the scientific community, should establish ways of employing modern communication technologies for effective public outreach. National and local educational authorities and relevant United Nations agencies should expand, as appropriate, the use of audio-visual methods, especially in rural areas in mobile units, by producing television and radio programmes for developing countries, involving local participation, employing interactive multimedia methods and integrating advanced methods with folk media;
- g Countries should promote, as appropriate, environmentally sound leisure and tourism activities, building on The Hague Declaration of Tourism (1989) and the current programmes of the World Tourism Organization and UNEP, making suitable use of museums, heritage sites, zoos, botanical gardens, national parks, and other protected areas;
- h Countries should encourage non-governmental organizations to increase their involvement in environmental and development problems, through joint awareness initiatives and improved interchange with other constituencies in society;
- i Countries and the United Nations system should increase their interaction with and include, as appropriate, indigenous people in the management,

For the first time in history nations of the world met to discuss the twin problems of environment and development. The link between them is vital. Furthermore, we do not have the option of first solving the problems of today and then those of tomorrow. We have to find ways to integrated solutions. UNCED 1992 gave the international community a necessary opportunity for reflection and action. My sincere wishes for the success of the ideals of the Conference are shared by the Swedish people.
King Carl XVI Gustaf
Sweden

planning and development of their local environment and should promote dissemination of traditional and socially learned knowledge through means based on local customs, especially in rural areas, integrating these efforts with the electronic media, whenever appropriate;

j UNICEF, UNESCO, UNDP and non-governmental organizations should develop support programmes to involve young people and children in environment and development issues, such as children's and youth hearings, building on decisions of the World Summit for Children;

k Countries, the United Nations and non-governmental organizations should encourage mobilization of both men and women in awareness campaigns, stressing the role of the family in environmental activities, women's contribution to transmission of knowledge and social values and the development of human resources;

l Public awareness should be heightened regarding the impacts of violence in society.

Finance and cost evaluation \$1.2 billion, including about \$110 million from the international community on grant or concessional terms.

C Promoting training

Basis for action Training is one of the most important tools to develop human resources and facilitate the transition to a more sustainable world. It should have a job-specific focus, aimed at filling gaps in knowledge and skill that would help individuals find employment and be involved in environmental and development work. At the same time, training programmes should promote a greater awareness of environment and development issues as a two-way learning process.

Objectives

- a** To establish or strengthen vocational training programmes that meet the needs of environment and development with ensured access to training opportunities, regardless of social status, age, gender, race or religion;
- b** To promote a flexible and adaptable workforce of various ages equipped to meet growing environment and development problems and changes arising from the transition to a sustainable society;
- c** To strengthen national capacities, particularly in scientific education and training, to enable Governments, employers and workers to meet their environmental and development objectives and to facilitate the transfer and assimilation of new environmentally sound, socially acceptable and appropriate technology and know-how;
- d** To ensure that environmental and human ecological considerations are integrated at all managerial levels and in all functional management areas, such as marketing, production and finance.

Activities Countries with the support of the United Nations system should identify workforce training needs and assess measures to be taken to meet those needs. A review of progress in this area could be undertaken by the United Nations system in 1995.

National professional associations are encouraged to develop and review their codes of ethics and conduct to strengthen environmental connections and commitment. The training and personal development components of programmes sponsored by professional bodies should ensure incorporation of skills and information on the implementation of sustainable development at all points of policy- and decision-making.

Countries and educational institutions should integrate environmental and developmental issues into

existing training curricula and promote the exchange of their methodologies and evaluations.

Countries should encourage all sectors of society, such as industry, universities, government officials and employees, non-governmental organizations and community organizations, to include an environmental management component in all relevant training activities, with emphasis on meeting immediate skill requirements through short-term formal and in-plant vocational and management training. Environmental management training capacities should be strengthened, and specialized "training of trainers" programmes should be established to support training at the national and enterprise levels. New training approaches for existing environmentally sound practices should be developed that create employment opportunities and make maximum use of local resource-based methods.

Countries should strengthen or establish practical training programmes for graduates from vocational schools, high schools and universities, in all countries, to enable them to meet labour market requirements and to achieve sustainable livelihoods. Training and retraining programmes should be established to meet structural adjustments which have an impact on employment and skill qualifications.

Governments are encouraged to consult with people in isolated situations, whether geographically, culturally or socially, to ascertain their needs for training to enable them to contribute more fully to developing sustainable work practices and lifestyles.

Governments, industry, trade unions, and consumers should promote an understanding of the interrelationship between good environment and good business practices.

Countries should develop a service of locally trained and recruited environmental technicians able to provide local people and communities, particularly in deprived urban and rural areas, with the services they require, starting from primary environmental care.

Countries should enhance the ability to gain access to, analyse and effectively use information and knowledge available on environment and development. Existing or established special training programmes should be strengthened to support information needs of special groups. The impact of these programmes on productivity, health, safety and employment should be evaluated. National and regional environmental labour-market information systems should be developed that would supply, on a continuing basis, data on environmental job and training opportunities. Environment and development training resource-guides should be prepared and updated, with information on training programmes, curricula, methodologies and evaluation results at the local, national, regional and international levels.

Aid agencies should strengthen the training component in all development projects, emphasizing a multidisciplinary approach, promoting awareness and providing the necessary skills for transition to a sustainable society. The environmental management guidelines of UNDP for operational activities of the United Nations system may contribute to this end.

Existing networks of employers' and workers' organizations, industry associations and non-governmental organizations should facilitate the exchange of experience concerning training and awareness programmes.

Governments, in cooperation with relevant international organizations, should develop and implement strategies to deal with national, regional and local environmental threats and emergencies, emphasizing urgent practical training and awareness programmes for increasing public preparedness.

The United Nations system, as appropriate, should

extend its training programmes, particularly its environmental training and support activities for employers' and workers' organizations.

Finance and cost evaluation \$5 billion, including about \$2 billion from the international community on grant or concessional terms.

1 Intergovernmental Conference on Environmental Education: Final Report (Paris, UNESCO, 1978), chap. III.

2 Final Report of the World Conference on Education for All: Meeting Basic Learning Needs, Jomtien, Thailand, 5-9 March 1990, Inter-Agency Commission (UNDP, UNESCO, UNICEF, World Bank) for the World Conference on Education for All, New York, 1990.