

SUSTAIN ENVIRONMENT SUSTAIN LIVES

Dimple Saluja

Department of Extension and communication, Faculty of Family and Community Sciences
The Maharaja Sayajirao University of Baroda, Fategunj, Vadodara (INDIA)

E-mail : dkshatriya@rediffmail.com

Received October 7, 2007

Accepted April 18, 2008

ABSTRACT

In the first century of the new millennium, the quest for environmental improvement will not only be framed in terms of expanding science and new technologies, but also will benefit from the wisdom and values espoused by indigenous peoples of the world. Teachers and education systems can respond more vigorously to this global challenges with new methodologies, information technologies and partnerships on national and international levels. To meet the challenges of the 21st century, countries must greatly reinforce their co-operation in science and technology as well technology transfer. Sustainable development is development that meets the needs of the present without compromising the ability of the future generation to meet their own needs. The role of education for human sustainable development is to contribute to making all this possible. Education and training appears as determinant factors for increasing creativity and rationality, problem solving capabilities and competitiveness needed to foster the increasingly complex cultural, social and technological decisions involved in sustainable development. Interactive information and communication networks have to be designed to facilitate the exchange of information on environmental education through the Internet, linking teachers, students and policymakers globally. There is a need to develop, regularly update and disseminate videotapes or CD-ROMS that features successful efforts in environmental education. Students and teachers should be aware of the availability and utility of these system. Educational change cannot follow purely from mandates, whether state or central, although such efforts can be effective as catalysts. Instead, change will emerge from grassroots initiatives, as the history of environmental education clearly demonstrates. Increasingly, the demand for education about the environment is being articulated by NGOs and civil society organizations. A balance between "top-down" and "bottom-up" approaches will be necessary for environmental education to realize its full potentials. Grassroots activities will continue to drive progress through bottom up approach that has characterized the field to date. Government can assist, however by continuing and improving its coordinating role, through, innovation and research. There is need to explore potential roles, priorities and next steps for the major stakeholders. The purpose here is to focus attention on the critical needs of environmental education, as they are seen today, and suggest strategies for the future for moving forward.

Key Words : Sustainable Development , Educational training, Use of Technology and Information , Governmental organisation, Non government organisation, Outreach activities.

INTRODUCTION

In the first century of the new millennium, the quest for environmental

improvement will not be framed in terms of expanding science and new technologies, but also will benefit from the wisdom and values

espoused by indigenous peoples of the world. Teachers and educational systems can respond more vigorously to this global challenge with new methodologies, information technologies, and partnerships on national and international levels.

To meet the challenges of the 21st Century, countries must greatly reinforce their co-operation in science and technology as well technology transfer. This means mobilizing the full resources of existing international mechanisms, so that every region can promote science and technology –led development in such a way as to ensure their common prosperity.¹

Though difference in the level of science and technology exist globally, every region has its sources of excellence varying according to scientific discipline and technological area. As international co-operation deepens, these sources of excellence will increasingly be called upon to play a lead role in transfer and co-ordination.

Intensified two-way technology transfer between developed and developing countries is an important precondition for attaining sustainable development and safer environment. In this regard creation of global networks will facilitate better utilization of research and development and technology capabilities. Networks in information technology should be set up, especially in technology transfer, dissemination of environment information and distance learning. Private and public networks comprising people and organization dealing with environment education should be promoted and the relevant policy implications explored.

The guiding principle and pedagogical ideal of environmental education is the environmentally responsible consumer, industrial producer employee, citizen, policy maker, traveler, athlete tourist and farmers. Every farmer who is aware of nature and lives in harmony with it. Whoever learns about

ecology develops problems oriented and action-oriented capabilities and insights.^{2,3}

Sustainable Development

The concept of Sustainable Development (SD), which was later popularized by the Brundtland Report, had its origins in the World Conservation Strategy (WCS) prepared by IUCN with the financial help of UNEP and world wildlife Fund, and published in 1980. It says, “Conservation is the management of human use of the biosphere so that it may yield the greatest sustainable benefits to present generations, while maintaining its potential to meet the needs and aspirations of future generations”. Sustainable Development is development that can continue indefinitely into the future, for which life-support systems are needed. Hence it was felt that it is essential to conserve the biosphere.

The goal of sustainable development is to improve living standards and the quality of peoples lives, both now and for future generation.⁴

The WCS recognized the fact that SD should be “People centered”, i.e. the benefits of conservation should be felt by local people, and should hence involve the local population.

Sustainable Development was formally defined for the first time in the Brundtland Report, Published in 1987. “Sustainable development is development that meets the needs of the present without compromising the ability of the future generations to meet their own needs. ”

This definition encompasses :

- i. The concept of “needs”, in particular the essential needs of the world’s poor, to which overriding priority should be given (also called the poverty focus), and
- ii. The idea of limitation imposed by the state of technology and social organization on the ability of the environment to meet present and future needs (the future focus).

Although the concept of sustainable Development is gaining wider recognition inclusion in development and policy matters, and suitable policy action are yet to take shape.

Sustainable Development in general aims to create chains of mutual social, economic and environment benefits at local, intermediate and global levels. Benefits of sustainable Development at local level should include the provision of basic needs such as food, water, shelter and health. According to Agenda 21, Chapter, urgent and decisive action is needed to conserve and maintain genes, species and ecosystems. With a view to the sustainable management and use of biological resources the participation and support of local communities are elements essential to the success of such an approach.

Sustainable forestry will increasingly rely on growth in the use of non-wood forest products along with timber, fuel wood and other wood products. Such growth will probably continue to depend largely on market forces and natural opportunities coupled with basic requirements of rural communities and their ability to innovate.

METHODOLOGY

Most of the research work has done on the basis of primary data. Although secondary data work has also been performed.

RESULTS AND DISCUSSION

There are many definitions of sustainable Development, including this landmark one which first appeared in 1987: "Development that meets the needs of the present without compromising the ability of future generation to meet their own needs".

Sustainable Development Suggests that meeting the needs of the future depends on how well we balance social, economic, and environmental objectives – or needs – when making decisions today.

Many of these objectives may seem to conflict with each other in the short term. For example, industrial growth might conflict with preserving natural resources. Yet, in the long

term, responsible use of natural resources now will help ensure that there are resources available for sustained industrial growth far into the future.

Towards sustainable development

The consensus reached at the 1992 United Nations Conference on Environment and Development (UNCED) made clear that, just as there can be no future if the natural environment – the material base of life – is destroyed, so there can be no future for humanity if it is diminished by poverty, illness, ignorance or tyranny. It is equally clear that construction of a sustainable future depends on a delicate balance among competitive needs, which is not based on the precepts of any universal ethic but on trade-offs negotiated at national and international levels by active and knowledgeable citizens, and political and economic decision-makers.

The role of education for human sustainable development is to contribute to making all this possible. Education and training appear as determinant factors for increasing creativity and rationality, problem-solving capabilities and competitiveness needed to foster the increasingly complex cultural, social and technological decisions involved in Sustainable Development. Re-shaping education to meet these ends means decision-makers have to face at least two major challenges:

1. Devising institutional education strategies and programmes, taking into account all the educational actors and the communication channels available:
2. Increasing the quality and usefulness of the various educational and training processes, aimed primarily at citizens, economic partners and young people.

Strengthening worldwide co-operation in education should help each country devise the most effective ways and means of enabling its people to contribute of the present generation without denying decent life for generations to come.

The traditional economic approach emphasizes growth as a condition to development through physical and financial capital accumulation. Sustainable Development, on the other hand, stresses the achievement of continuous well-being by searching for an optimal balance in the formation and use of different resources and capital types – human capital, physical infrastructures and tools, natural resources, financial means, technology and decision systems. They are all factors of development.

Societies have to learn how to achieve this balance which supposes

1. Giving citizens the means – freedom, education and employment – to be effectively involved in decision-making concerning their future, and the means by which conflicting interests are peacefully resolved through negotiations between interested parties.
2. A culture of modernity that gives credence to change and looks at science as the basis of explaining reality ; that encourages people to express renewed solidarity towards others and concern about the environment.

Use of Technology and information

Existing essential tools for formal, non-formal, environmental and sustainable development education should be enhanced, including multimedia, computer and telecommunications technologies and an information clearing house.

Society is being transformed by information and communication technologies, yet the application of this technology in the classroom is lagging. Success in advancing environmental education programs nationally and globally will depend to a large degree on the extent to which advanced communication systems such as the internet are used to make information available to teachers, students and the public.

Nation wide, more number of people are having access to the internet. Globally, the rate at which the internet is being accessed is

advancing at lightning speed. The internet and the associated world wide web are highly efficient and cost-effective systems for linking teachers, policy-makers, students, and parents interested in advancing environmental education. In parallel with the growth of the internet, the demand for information by way of interactive, multimedia technologies have advanced rapidly in recent years and are projected to continue to grow even faster in the years ahead. In the United States alone, the number of homes containing multimedia personal computers is increasing rapidly. A multitude of products are available commercially and are being used in schools, homes, and workplaces. These include a variety of interactive multimedia products such as CD-ROMs, which allow students to learn about the environment through text, audio, and video image. Educational tools such as these are designed to hold students interest and encourage creativity while conveying information. Computer-aided environmental education that takes advantage of new interactive multimedia approaches will grow dramatically in the coming decade.

Information and communication technologies offer major opportunities for improvement, and these technologies are the key to ensuring a well-trained, highly motivated workforce. Studies have demonstrated that students are capable of learning at substantially higher levels than they are achieving at present. Given the attractiveness of interactive multimedia to students, progress towards sustainability will depend in part on the extent to which modern technologies are employed in disseminating curricula and related education resources. Access to technology is clearly a limiting factor in advancing this field nationally and globally.

Interactive information and communications networks have to be designed to facilitate the exchange of information on environmental education through the internet, linking teachers, students, and policymakers globally.

Presently, thousands of organizations

have established Internet World Wide Web “home pages” that allow computer users to access information about a wide range of programs and activities. A home page permits an individual to identify information products and access them instantly. It also facilitates two-way communication and cooperative activities, allowing teachers to organize and exchange a wide range of information.

There is a need to develop, regularly update, and disseminate videotapes or CD-ROMs that feature successful efforts in environmental education, such as partnerships, leaders who have played important roles, curriculum materials, and other information resources. Programs in environmental education are expanding rapidly nationally and internationally, and vast quantities of materials and information on educational successes, within and outside the classroom, are being developed. Teachers need easy access to information that will aid them in teaching. Likewise, at the university level, information on environmental education is increasingly in demand.

The advances are so rapid that an annually updated resource, in the form of a “who’s who” or national “spotlight” would be useful for teachers, students, parents, community leaders, government officials, industry managers, and individuals in nonprofit organizations addressing environmental education.

Information clearinghouses have to be established as primary point of contact for incorporating and disseminating the vast array of information resources on environmental education available through print and electronic media.

Information related to environmental education is available in a variety of formats hard copy curricula to multimedia CD-ROMs to “distance learning” activities. With the increased use of emerging technologies, information clearinghouse can provide nationwide access through electronic routes such as e-mail and conferencing, as well as

traditional communication modes such as a free telephone numbers, fax, and mail. A coordinated clearinghouse system is essential in order to provide a comprehensive, user-friendly service. Such a system should encourage critical evaluations so that future needs for information in the field may be identified.

It is possible to make greater use of geographic information systems and other databases related to the environment and sustainability in educational curricula.

Geographic information systems (GIS) are essential tools for monitoring natural resources, environmental quality, and modifications of local, regional, national, and global ecosystems. The Central government, states, and private organizations maintain tremendous quantities of data on natural resources and environmental quality. Information is increasingly becoming accessible to users worldwide by way of advanced telecommunications technology. Urban planners, urban development authorities, and others are making use of GIS increasingly in their work.

Students and teachers should be aware of the availability and utility of these systems. Appropriate education courses should familiarize students with the type of databases that exist, the methods for accessing them, and the ways they can be used to monitor environmental change and guide decisions about resource use and environmental protection.

Required initiatives - Potential roles

There is need to explore potentials roles, priorities and next steps for the major stakeholders. The purpose here is to focus attention on the critical needs of environmental education, as they are seen today and suggest strategies for the future of moving forward

(a) Role of teacher : Teacher should be at the forefront in pursuing the actions on environmental education, whether acting as individuals infusing environmental perspectives into their classes or collectively fostering environmental education their educational institutions, professional societies, state

infrastructures, and local or national advocacy groups.

As individuals, teachers are responsible for pursuing opportunities for professional training to incorporate the principles of sustainability in their courses. They can initiate innovations – or inform themselves about the efforts of others – to bring the corporate sector and the people at large into the educational experience. They can participate in workshops and seminars that help in finding appropriate uses for advanced information and communication technologies for teaching about sustainability. They can initiate or replicate successful attempts to make the classroom serve as a model of sustainability for the community.

For all of these activities, teachers and faculty can seek assistance from institutions of higher education, professional societies, the business community, non governmental organizations, and state and central departments. In turn, they have the formidable responsibility of ensuring that their educational offerings on sustainability consistently meet the highest standards and serve students, parents, and the community.

(b) Role of individuals : Individuals of all ages can participate in and build on many of the initiatives through self-awareness, education, and information exchanges with friends, family, and colleagues. Success in environmental education depends greatly on individual initiative.

Individual roles include empowerment through increasing knowledge, skills, and changing attitudes. Roles as consumers are especially important to environment in terms of individual action, but equally crucial is collective action through partnering with schools as parents, alumnae, and as members of community and civic organizations.

Commitment to lifelong learning is a way for individuals to gain the knowledge necessary to make informed decisions in their personal and professional lives. They can enroll in adult education classes at their local community college or accompany their children. There are literally hundreds of actions individuals can take

to learn (self-education) and help in achieving sustainable development.

(c) Role of youths : The tools needed to breathe life into efforts on environmental education include vitality. Enthusiasm the courage to tolerate change, and a healthy sense of adventure. In short youth are a very important part of the process.

Leaders, from business government, non governmental organizations, and academic institutions can forge new initiatives to educate citizens about sustainable lifestyles. These initiatives can involve young people in this process from the beginning to insure their ownership and partnership as new policies, practices, and activities are developed.

Bringing together youths and leaders of the adult community is essential to generating partnerships and trust.

(d) Role of NGOs : Nongovernmental organizations (NGOs) play a critical role in advancing environmental education through research, publications, training, funding and outreach activities for the public. Although some NGOs focus their efforts at the national level, others can be most effective and influential in the local communities.

The next steps for NGOs include helping teachers define standards and identify ways to support existing standards in science, mathematics, and geography education. In addition, they can develop materials for lifelong learning in cooperation with non-formal and formal education sectors. NGOs are in a position to set the stage and lead the way for collaborative alliances and initiatives, based on the lessons they have learned in delivering effective and long-lasting programs.

Local community-based organizations can also play an important role in maximizing the strengths of the numerous stakeholders they serve. They can tap into the cultural viewpoints and norms, business and industry expertise, and the vibrancy of religious communities.

(e) Role of the Government : Environmental education requires active involvement of the state governments. States

need to build a formal structure, such as an advisory council and a state coordinator for environmental education, which would enable them to play a leadership role in advancing environmental education. One option is to take legislative steps to further the initiatives; which implies a responsibility for ensuring that the resulting programs are adequately funded. States can also enlist the private sector's assistance in supporting these activities.

In addition, states can provide technical assistance, adoption of promotion of curriculum standards, assistance with professional development to enhance teachers preparation for teaching sustainability, adoption of teacher certification standards, support of multicultural training for teachers, and assistance with community visioning processes. Many states already are working actively to develop statewide plans for sustainability that include encouraging local planning.

The central government should work closely with state and local governments and the private sector to catalyze and coordinate national and international activities. The Union Ministries of Agriculture, Energy, Environment and Forests, Human Resource Development, Central pollution Control Board, and others have programmes addressing the environment and various aspects of sustainable development. An important role for these departments can be in helping the nation articulate its near- and long-term educational needs.

The central government should ensure that funds are carefully targeted toward high-priority national need and that there are no duplicate efforts.

The central government can also serve as a source of information a various aspects of environmental education. Using tele-communications technologies, central departments can provide the public with easy access to a wealth of information. The central government's role in advancing environmental education will undoubtedly evolve in the years

ahead. Regardless of new directions, the polices and programs of departments will strongly influence the capacity of the nation to maintain and improve its standard of living while protecting resources for future generations.

CONCLUSION

One key to sustainable future is the realization that we are citizen of one earth dependent on common resources and on one another. Recognition that political boundaries or geographical lines of demarcation do not limit major environmental challenges is merely the beginning. A leap forward in present curriculum planning must occur if today's youth are prepared to contribute to sustainable development

REFERENCES

1. Alan Rofers, Peter Taylor, Participatory Curriculum Development in Agriculture Education.FAO, ROME, (1998).
2. Disinger, J.F., Tensions In Environment Education: Yeaterday, Today And Tomorrow. In Essential Reading IN Enviromental Education, edited by H.ungerford, W.Bluhm, T. Volk, and Ramsey J., Champaign, IL : Stipes Publishing Company, (1998).
3. Hammod, W.F., Edcationg for Action: A Framework for Thinking about the place of Action In Environmentl Education. Green Teacher, 50, 6-14, (1997).
4. Hugerford H., Litherland R., Peyton R., Ramsey J. and Volk T., Investigating and Evaluating Environmental Issues and Actiond : Skill Development Modules. Champaign, IL: Stripes Publising (1992).
5. Randall Baker, Institutional Innovation and Environmental Management : An administrative trap Revisited, Public Adminstration and Development, 9, (1989).