Environmental Education—A Discipline?

By SM Massoom Masoom

What is environmental education? Is it another subject or paper or discipline? Another question, which you may like to ask here is “What is the need for this?” In this paper as we move further we will try to engage in some thought on these questions as well as different issues encircling this.

World peace and harmony is not possible without environmental education. Why I am saying this is because the human race is a product of the interaction between man and his environment, which can be broadly categorized into ‘natural’ environment and ‘socio-cultural’ or ‘man-made’ environment. This interaction, however, has not been very smooth in the past and even today it has given rise to ‘environmental problems’. Now, we must give some thought to the question of what are environmental problems.

Environmental problems are those instances in which people’s behaviour affects their physical environment in such a way as to place their health or that of their environment, of their fellow beings, of their health, the built environment or natural systems in jeopardy. This is the case, for example, when pollution occurs, when natural resources are exhausted and when natural features are damaged. Environmental problems are physical as well as social problems. There are lots of issues all over the world such as issues of construction and over development, over population, pollution, deforestation, soil erosion, destruction of vegetation, drainage and incidental use of fuel resources as if today is the last day of the world without giving even a single thought for the future generation or days to come. This leads to series of problems for all of us. So an understanding to these problems for all of us becomes the need of the hour since it is so intrinsically linked to human beings. An understanding of the environment also depends upon the context of social norms and values. The main objectives of incorporating environmental education into the school curriculum can therefore be identified as the following:

- To make children aware of the nature of the relationship between humanity and the environment on which it depends
- To impart knowledge and skills to understand and solve environment and development related issues
- To enable children to acquire the attitudes and motivations leading to sound discussions and civic actions for the improvement and protection of the environment and its quality

Now let us think about the entire human race in the world and its daily routine work. You get a picture of fishing boats and fishermen, of cowherds and milk processing plants, of paddy fields and rubber estates, of village blacksmiths and steel mills, of handlooms and nuclear reactors and so on. How and where do these people live? People live in tiny hamlets, in villages; in towns and cities. Some build their homes with bamboo and mud; others with cement and steel. Some cook with small twigs on a three stone hearth or with coconut husks on a mud stove, some with electricity and gas in modern kitchens. Naturally the demand of all these activities — whether it has to do with livelihood or shelter or simply living — is great on the natural resources. As far as the present world is concerned, industry produces a demand for goods and services and for manpower and the environment gives rise to not only diseases but also in the form of droughts, floods, etc. So there was a sense of bonding between man and environment. Industrial society, societies, for example, had established substantial control over natural processes but were and still are subject to nature’s will. The delicate balance of the Himalayan range is disturbed. As human civilization advanced, the life of man became more complex. Agricultural societies, for example, had established substantial control over natural processes but were and still are subject to nature’s wrath in the form of droughts, floods, etc. So there was a sense of bonding between man and environment, industrial society, however, rejected the view of man as part of a community of beings. It asserts that man is separate from nature with every right to exploit natural resources to further his own well-being. Advances in science and technology helped human beings to possess extensive powers to harness nature and to explore, understand and exploit various natural phenomena. For comfort, protection and prosperity as well as for enjoyment, human-beings experimented with newer resources as if today is the last day of the world without giving even a single thought for the future generation or days to come. This leads to series of problems for all of us. So an understanding to these problems for all of us becomes the need of the hour since it is so intrinsically linked to human beings. An understanding of the environment also depends upon the context of social norms and values.

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Environmental Education:

Environmental education is the systematic study of the natural and man-made world. It has emerged as a major discipline in recent years, reflecting our growing concern about the impact of human activity on the natural world. The environment may be conceptualized as a network of interconnected processes and phenomena. These include the formation of rocks, the climate systems, the cycling important elements, and the interaction between organisms and their environment. The question that arises here is: is it a discipline or a composite of many disciplines? Or could it be the medium for the teaching-learning process of existing disciplines? The habitat is where any animal species finds conditions that permit it to thrive and learning is a vital faculty of all animal species. Animals learn about the features of their own habitats so where they may expect to find food or meet social companions or encounter enemies.

For our ancestors, knowledge began with the exploration of their habitat. But as human beings control over the environment has increased, and as people have begun to mould the world more and more to suit their needs, this component of knowledge has diminished so much that today formal education has become largely alienated from the habitat of the student. As education proceeds at an unprecedented pace, we are beginning to realise the importance of taking good care of our habitat. Humankind must, therefore, make an attempt to comprehend its roots, to re-establish links with its habitat, and to understand and take good care of it. In substance and spirit, the theme of ‘Habitat and Learning’ is equally crucial for children. These environmental concerns are best realised by infusing the components of environmental education as part of different disciplines while ensuring that adequate time is earmarked for pertinent activities.

Environmental education is education through, about and for the environment. It begins from the understanding that it may help people to know what hazardous environmental pollution, population explosion and resource depletion could mean for our future. In short, it is about the development of an environmental ethic.

The Basic Education started by Mahatma Gandhi can be regarded as one of the fundamental steps taken in the history of modern education in India. It relates education in environmental issues in schools would help to create an educated citizenry capable of making the decisions that will decide the future of the next generation.

Environmental education is education through, about and for the environment. Its scope is therefore very wide. It begins from using environment as a medium of learning, and includes all that Kalidasa, Wordsworth and others have said in appreciation of the environment. It also encompasses our attempts to rationalise their existence and to predict how they will alter in the future.

The balance of nature is very delicate which might be tampered only to a limited extent but not beyond that. It is high time we realise that the environment should not be disturbed beyond a limit. The balance in nature is a delicate one and even a slight disturbance is enough to cause a disturbance in the whole set up. There are many examples like tsunamis, unseasonal floods, snow in the desert of Bikaner (Rajasthan) and so on which are directly or indirectly linked to the disturbances caused by the human race to the environments they have been central to the area of study called environmental education. But what exactly is environmental education?

Environmental education is of importance not only because it informs us about the world in which we live but also because it enables us to address more effectively many of the pressing issues that confront the modern world. For this reason, environmental education is increasingly seen as a vital tool in establishing the ground rules by which the environment could be more effectively managed in the future. Environmental education has the task of addressing an extremely wide ranging and bewildering array of content. It is a dynamic, ever changing content, characterized by highly complex inter-relations, priority problems, causes, impacts and solutions. The knowledge base of environmental education is made all the more difficult to comprehend because the human race often simply cannot understand environmental issues or their potential effects on the environment in a relative or permanent way. It is a highly value laden content, and one person’s solution may be another’s catastrophe. It is a content that incorporates aesthetic, spiritual, social, political and economic dimensions alongside (not separate from) the purely scientific dimension. Furthermore, it is a content that does not and should not focus solely on environmental disasters and negative issues. Environmental education is not simply about ‘saving the whale’ or indeed ‘saving the world’. It is equally about the development of an appreciation of the wonders and beauty of the world and of a sense of wanting to save it. In short, it is about the development of an environmental ethic.

Physical and biological environment. As a follow-up of these recommendations, the National Policy on Education was enacted in 1968 and the NCERT (National Council of Educational Research and Training) framework entitled “Curriculum for the Ten Year School — A Framework” in 1975. Environmental education was included as one of the curricular areas in this framework. As we can see in India many of the commissions and policies advocate the need for environmental education for all the sections of society. They also advocated that environmental education should be a part of primary education and that it can inculcate positive values and attitudes in the early phase of life of a child. Research also supports this, by asking the question of when should environmental education begin; in the third grade, first grade, or in kindergarden. It says that environmental education based on life experiences should begin during the very early years of life. Such experiences play a critical role in shaping lifelong attitudes, values, and patterns of behavior towards natural environments. (Thibury, 1994; Wilson, 1994).
Environmental education is both an area of learning and as well as an approach to learning, it is an approach through which a child is actively involved in the process of learning. In this process he/she systematically explores his/her surroundings. As the child explores and learns about different aspects of his/her environment he/she also develops certain mental skills. These skills are skills of observation, recognition, recording, data collection, data interpretation, generalizing, concluding and drawing inferences. Thus the child could develop a scientific temper and may behave like a mini scientist. These mental processes of information gathering, processing and use are not limited only to the scientific aspect of the environment. The same processes are used for exploration of all other components of the environment including occupation, agricultural products, social institutions, transport, market and many more components of the social environment.

If you help the child to develop the above mentioned mental processes it will make the child aware of the environmental resources and their problems. Once a child is aware of environmental problems and has skills for analysing these problems, the child can also understand the close relationship between man and the environment. Consequently, his/her problem solving and decision making abilities are also developed. So then, what should be the thrust of environmental education at the primary level?

Environmental Education at primary level: -

Environmental education at the primary level should have the following salient features:

- It should basically have a child-centred approach involving interaction by children. The activities should be interesting, relevant, based on daily life experiences of the child.
- The age, mental level, aptitude, interest and abilities of the child should be the main criteria for selecting the activities.
- It should enhance the natural curiosity of the child.
- It should help the child in developing attitudes and qualities such as self-confidence, spirit of inquiry, intuitive and courage to ask questions.
- It should encourage the child to think of solutions to problems in his/her day-to-day life.
- It should develop the desired skills in children.
- It should help a child to develop logical thinking.
- It should help a child to take active interest and participate in solving some simple problems in a limited way.
- It should help a child in developing open mindedness and perseverance.
- It should enable the child to adopt an environment friendly lifestyle.

Environmental education is one of the most necessary parts of the education system now days. It talks about everything in totality, all disciplines, all sections of society and it also advocates education for the environment and from the environment.

So at this point of this paper it might be fair to say that you got the answer to some of the questions but not all the questions which arise in your mind. Are you thinking about the ‘how’ part of environmental education now? Now, I will try to elaborate on the ‘how’ part of it.

The how and now: -

A variety of teaching methodologies may be used for effectively integrating environmental dimensions into the existing curriculum with minimal demands. No matter what the situation, the teaching learning experience can be enhanced by teachers. The challenge is to use imagination and innovation in selecting from the many activities and approaches that can motivate students and take them from awareness to action. For example, using games, demonstrations, performing arts, classroom displays, arts and craft, creative writing, exhibitions, creative expression etc. Activities constructed for life situations become a meaningful means for the engagement of learners. Rainfall, for instance, exhibits intricate variations over space and time. Data on such variations is available and can be used to promote many interesting activities in Physics and Mathematics.

In Physics, simple experiments may be devised to visualise patterns of flow of fluids over uneven terrain, as well as to demonstrate how the ascent of air leads to cooling and precipitation and descent to the opposite effects. In Mathematics, a careful analysis of data for a longer period, say 50 years, on decline in rainfall provides excellent possibilities for projects related to data representation, visualization and interpretation. Likewise effluents from sewage treatment plants can form meaningful material for a variety of projects in chemistry. Besides, schools could work with panchayats, municipalities and city corporations to document biodiversity resources and associated knowledge. Schools can take up projects in Biology addressing specific issues of interest, such as the occurrence and utilization of medicinal plants or the protection of rare and endangered fish in a body of water. People’s representations of the environment and its specifics (animals, forests, rivers, plants etc.) through various forms of art, music, dance and craft illustrate their understanding of biodiversity.

Such an understanding is also linked to the life of members of Scheduled Caste and Scheduled Tribe communities as they often depend on natural biodiversity resources to sustain their livelihoods. Recording such knowledge is part of the mandate of preparing people’s biodiversity registers, and students can fruitfully be engaged in projects on the preparation of such registers. Projects assessing the nutritional role of wild plants, which provide important nutritional supplements in the diets of tribal communities, can be worthwhile components of health education. Likewise preparation of maps of the immediate environment, documentation of environmental history, and analysis of political issues related to the environment may be made part of projects in Geography, History and Political Science. Conflicts over water at the local, state, national and international levels offer a rich source for designing a variety of activities and projects connecting these descriptions of biodiversity.

Yearly requirements spell out for each class in hierarchical progression would allow more respect for children’s pace of learning. Schemes such as the Minimum Levels of Learning (MLL) reinforced not only the rigid adherence to year-end outcomes, but also allowed for these to be further narrowed to lesions. Describing the characteristics and concerns of the curriculum and their problems. Once a child is aware of environmental problems and has skills for analysing these problems, the child can also understand the close relationship between man and the environment. Consequently, his/her problem solving and decision making abilities are also developed. So then, what should be the thrust of environmental education at the primary level?

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<th>WATER AND THE ENVIRONMENT</th>
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<tr>
<td>Where does water come from?</td>
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<td>How are seas, oceans and rivers formed?</td>
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<td>What are our local water resources?</td>
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<td>Why do wells dry up?</td>
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<td>How do hand pumps work?</td>
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<td>Are big dams more beneficial than small dams?</td>
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Can we use the child's environment as a tool for learning about the environment?

Children orient themselves in this world. Continuously they try to accommodate themselves among the many living and non-living things, forces and powers, mishaps and successes, natural phenomena and unexpected events, illness and joy and grief. They are surrounded by multitudes, and they want to make sense of it all by figuring out relationships and explanations. They adjust themselves and their behaviour accordingly. They try to conquer the world by understanding it in all its multiplicity and complexity.

The environment is the children’s own: they live in it, they play in it, they belong to it, they are familiar with it and they learn in it. This familiarity may give the false impression that they know all about it. They do not, of course, and they have to be prodded to learn more from it, and more about it.

You will not find ‘ready lessons’, simply because it would be impossible for an outsider to make these up. Every school's environment is different from all others' and therefore unique. Explore your school environment, which you share with your children, and make your own activity plans according to the possibilities and opportunities offered by this environment. Help the children to approach their environment with a new scientific look so they learn to view it as a whole, in all its complexity.

Amidst numerous, growing and complex environmental problems the need for the preparation of world problem solvers is as great as ever (Wisconsin DPI, 1994). Environmental educators have globally accepted this role of preparing students to become critical thinkers, informed decision makers and able communicators – a role that exceeds far beyond presenting knowledge about the environment, positive attitudes towards the environment, competency in citizen action skills, and a sense of empowerment (Athman & Monroe).

Now we can make a connection that environmental education will decide the future of the earth and we need to heavily push this aspect in the education system. Only providing knowledge about the environment or about environmental education will not serve the purpose. We have to follow ‘education for environment and from the environment’ policy to make the future generation knowledgeable, appreciative and loving towards the environment.

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