

“Environmental Education”–Education for Sustainability and Its Effectiveness in Creating Awareness: A Case Study of Guwahati City

Queen Sarma

(Krishnakanta Handique State Open University, Guwahati, India)

Abstract: The importance and significance of the environmental education as one of today’s accentuated assignment is unquestionable. The environment and the society area in a process of continuous change. The earth that supports all kinds of life is slowly becoming inhospitable for human beings. While we may not feel minute changes in global temperature, personally witness the disappearance of species, or understanding how deforestation affects individual livelihoods, the degradation of the environment is real and must be addressed if we are assure our survival. In this context, Environmental education is the process of recognizing values and clarifying concepts in order to develop skills and attitude necessary to understand and appreciate the inter-relatedness among humans, their culture and their bio-physical surroundings (IUCN 1970). It is the main tool which can contribute for the sustainable development. In formal education already Environmental education has been implemented as an compulsory subject in all level of education starting from school level to university level, but the effective ness of the program is still doubtful. So there is utmost necessary to do research to know whether these courses are beneficial to inculcate awareness towards the environmental issues. The present paper attempts to check the effectiveness of the environmental courses offered by various colleges and universities including ODL institutions in this region in terms of student enrollment, course curriculum standard, course contents, student support services, employment generation, and awareness creation.

Key words: environmental education; sustainability; ODL

1. Introduction

In 1987, the United Nations’ World Commission on Environment and Development issued the Brundtland report, Our Common Future. The report proposes an alternative to the present system: sustainable development, or “development that meets the needs of the present without compromising the ability of future generations to meet their own needs.” Agenda 21, a global agenda adopted by delegates at the 1992 Earth Summit in Rio de Janeiro, calls for a reorientation of environmental education to reflect the need for sustainable development. Sustainable development is a concept for living and working in the 21st century. However, we cannot rely only on a top down approach. Sustainable development is a process of social change that must be experienced by all members of society. In order to realize it, society as a whole–politics, industry and consumers–must be willing to both accept and implement a policy of transition to sustainable management practices. This is why education is a vital

Queen Sarma, Ph.D., Research Scholar, Krishnakanta Handique State Open University; research areas: environmental education , distance education and Science communication. E-mail: queensarma@gmail.com.

prerequisite for the worldwide promotion of sustainable development. Education for sustainable development comprises the subjects of environmental protection, the efficient utilization of natural resources, the maintenance of the ecosystem and responsible attitudes among members of society and the business community. Environmental education is thus an integral aspect for sustainable development. Environmental education refers not only to scientific problems such as contamination of water, air, soil, the detection, surveillance and monitoring of pollutants and their impact on human health and on all other species, but also to the socioeconomic and legal aspects of controlling the damage done to the environment which grows out of our dependence upon technology. Media is also playing a key role in creating environmental awareness among masses of people. Public actions and attitudes towards environmental protection are largely shaped and influenced by the media. The radio, television, newspapers are the instruments to manipulate public opinion and overall belief systems. It is still to be confirmed that the role of mass media is one of the most important factors underlying the knowledge of environmental problems: This can only be true on the conditions that first, mass media are accessible to large proportions of the population, second, are spending some time on environmental issues and third, people are interested in information on ecological issues provided by the media so that they view or listen to the corresponding programs as well as read newspaper articles or other written publications dealing with environmental issues.

2. Objectives

- To check the effectiveness of the course curriculum, content offered by various colleges and universities in this region.
- To find out the students and teachers satisfaction level regarding different areas of the program.
- To explore the various program organized by media houses and its effectiveness.

3. Methodology

- (1) Scheduled questionnaire
- (2) Personal interview
- (3) Document analysis of secondary sources
- (4) Observation method

4. Literature Review

Environmental Education (EE) has long been considered one of the most effective measures to achieve sustainable development. Since the publication of the Brundtland Report *Our Common Future* (WCED, 1987), the concept of sustainable development came into focus and has increasingly gained attention at international, national, local, public and private levels. Several organizations have been involved in research and development of measures and strategies to provide long-term ability for nature and human beings to survive and prosper together from that time to create sustainable environment. Although sustainable development touches all aspects of human life, in this article the discussion is restricted to the questions of education for sustainability (ES). It is recognized now a days that EE can help change the attitudes and behavior of people as consumers, producers and citizens to carry out their core ideas, including: “living within the limits”, “understanding the interconnections among environment, economy and society” and “equitable distribution of resources and opportunities” collective

responsibilities and duties. In 1975, UNESCO first recognized the importance of environmental education in the Belgrade Charter. In 1997 the Intergovernmental Conference on Environmental Education, held in Tbilisi, defined the following general objectives for environmental education: raise awareness and sensitivity on environmental problems; gain knowledge and basic understanding of the environment and associated problems; change attitudes, values and motivation to actively participate in environmental protection and improvement; acquisition and development of skills to identify and solve environmental problems; participation of all social groups and business players. The Rio conference in 1992 adopted sustainability as the fundamental Principle to support the development of mankind at all levels. Chapter 36 of Agenda 21 (UNCED, 1992) restated the importance of ES and the need for considering all social, economic and political aspects of sustainable development. The current and most consensual approach to sustainable development is mainly based on three dimensions: economic, ecological and social aspects of society and nature as depicted in Figure 1.

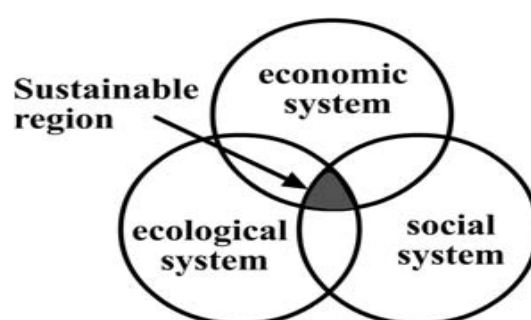


Figure 1 3 Dimensions of Sustainable Development

Some Other problems are little doubt that EE targeting all organizations and individuals is an indispensable component of society's efforts to realize better futures, the rationale for environmental education and its exact contribution to sustainable development is rarely presented in an explicit manner. Key questions such as what types of EE activities should be conducted in which way, how EE can impact on our life, and how it eventually contributes to measurable outcomes that support sustainable development remains unanswered. Starting action towards sustainability are directly related to the educational system. Most of the time the courses offered are limited in scope and do not reflect the interrelations between the various aspects of sustainable development. The subject of ES requires a strong commitment from society and between generations beyond any political and economic time scales (Crofton 2000; Jansen, 2003). In many countries of the Asian and the Pacific Region environmental topics have been included in education courses, through integrating environmental concerns in other subjects and through specific courses for the environment. Government, NGOs, educational institutions and media have undertaken some serious efforts to meet the growing environmental challenges by promoting environmental education, information and communication in their respective countries. Activities such as green bank, green press, eco-Clubs, eco-polices, eco-farming and eco-harvesting; are emerging in the region. Special economic incentives (such as subsidy, tax-exemption and other incentives) are provided to schools in some countries where environmental education courses are offered.

4.1 Significance of EE in Different Levels of Organization

4.1.1 Primary level EE

Environment education helps children to proceed from indefinite to definite ones. In this connection it may be said that the first perception and thoughts of children are vague as their first movement and the first attempt at

speech, in fact an infant is not able to distinguish between colors, but as it grows it learns to discriminate among different shades. Environmental education helps in sharpening the development of these observational skills and hastens the transition of ideas in children’s mind from indefiniteness to definiteness. It helps children to proceed from the concrete to the abstract. And finally EE helps the ordering of learning experiences from the empirical to the rational.

4.1.2 Higher EE program

EE at graduate and post graduate level has a great importance in changing the whole society. Because they are the main agent who can bring the total awareness or positive attitudes among public by research activities, awareness program, interactive program etc. In the same context, it also envisages to contribute to the balanced use of science and technology not only to solve the problems of environmental deterioration where they have already appeared but also to design appropriate preventive measures during the course of development activities.

4.1.3 EE through media and NGOS

Television, print news, radio broadcast, and the Internet are enlisted to help promote a “green” ethic and raise environmental awareness. Different NGOs also play a important role in delivering EE and generating pulse of positive response among people. In the rural areas where illiteracy level is high folk media is the best agent to bring changes in attitudes.

Depending upon the objectives, characteristics and restrictions of learners the learning process can be categorized in some different groups. Starting from the primary schools the course, content and curriculum varies according to the needs. The various levels of learning are as depicted in the model in Figures 2-4.

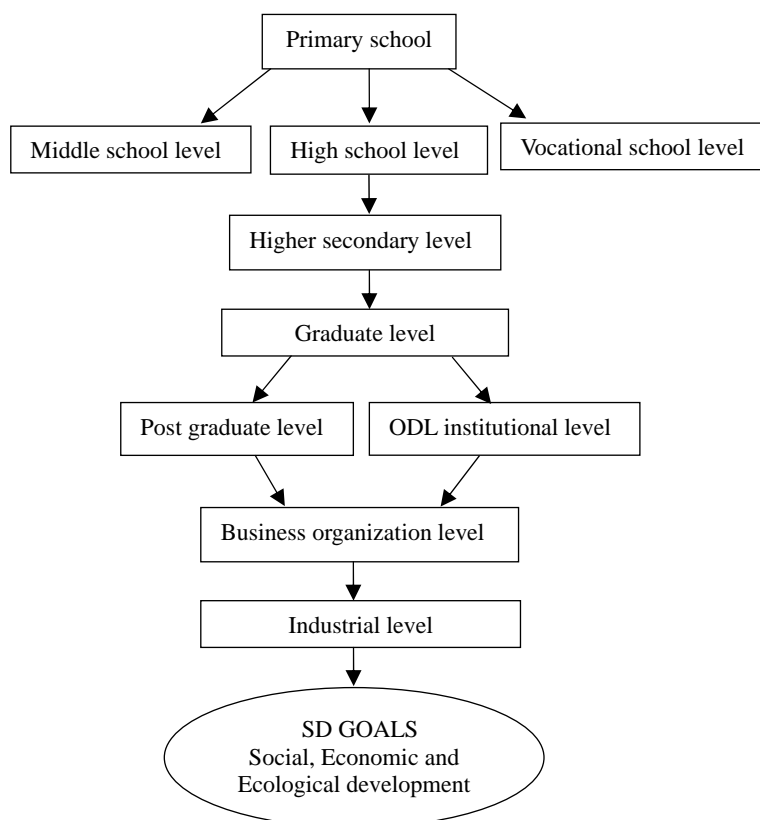


Figure 2 Proposed Model of Learning EE in Different Levels

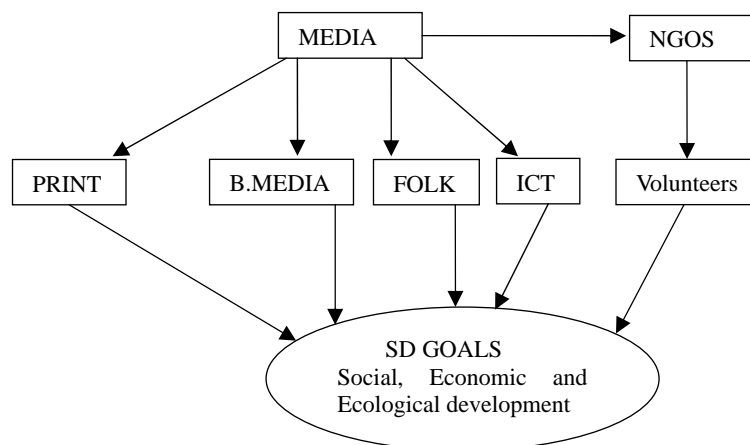


Figure 3 Non Formal EE in Different Levels

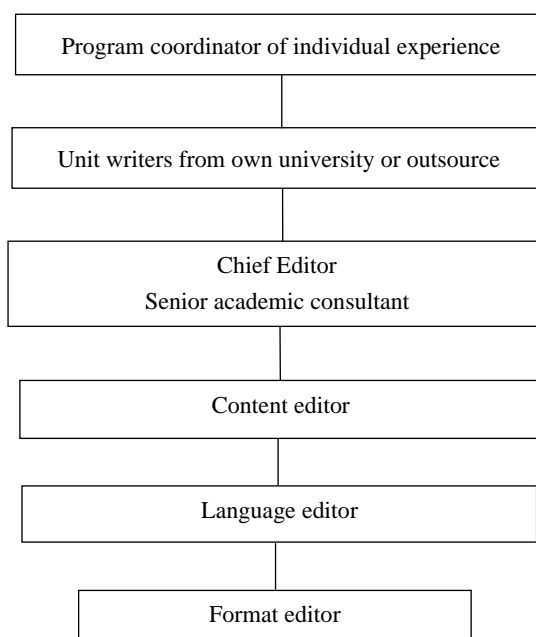


Figure 4 In House Model Faculty Model of KKHSOU

5. Research Results

5.1 Curriculum Structure, Content and Effectiveness

The curriculum structure of Env. Studies in the graduate level and also in the post graduate level. The ODL institutions also plays a great role in delivering knowledge The environmental studies and disaster management course of the Krishna kanta Handiqi State Open University, Assam is taken as a ODL institution for identify the curriculum and content. The curriculum is mainly divided into eight chapters. These can be divide into mainly–concept of environment, Natural Resources, Ecosystem, Biodiversity and its conservation, Environmental pollution, Concept of Disasters, Disaster management. The chapters are made learner centric and so the language is very simple and understandable. Here, in KKHSOU the following model is used for the EE course development. It is implemented from 2010 November as a compulsory subject for the graduate level and so data regarding students’ satisfaction, difficulties, awareness level could not be able to check.

**“Environmental Education”–Education for Sustainability and Its Effectiveness in Creating Awareness:
A Case Study of Guwahati City**

Table 1 An Overview of Course Structure of M. Sc Environmental Science Course Gauhati University

Course code	Course title	Total marks	Credits
Semester–I			
ES-101	Fundamentals of Environmental Sciences	75	5
ES-102	Environmental Chemistry	75	6
ES-103	Environmental Biology	75	6
ES-104	Environmental Earth Science	75	6
ES-105	Practical-I and Field Study 100 Practical	85	8
	Field Study (local)	15	1
Semester–II			
ES-201	Statistical Methods for Environmental Data Analysis	75	5
ES-202	Environmental Pollution	75	6
ES-203	Ecosystem Dynamics	75	6
ES-203	Environmental Hazards	75	6
ES-204	Practical-II and Field Study 100 Practical	85	8
ES-205	Field Study	15	1
Semester–III			
ES-301	Environmental Remote Sensing and GIS	75	5
ES-302	Analytical Methods for Environmental Monitoring	75	6
ES-303	Environmental Health and Ecotoxicology	75	6
ES-304	Eco-hydrology and Watershed Management	75	6
ES-305	Practical-III and Dissertation Seminar	100	
	Practical	85	8
	Dissertation Seminar	15	1
Semester–IV			
ES-401	Energy and Environment	75	
ES-402	Environmental Impact Assessment	75	
ES-403	Environmental Law and Management	75	
ES-404	404 Special Paper (any one of the following papers)	75	
	(a) Environmental Pollution–Control and Mitigation		
	(b) Natural Hazards in Northeast India		
ES-405	Project	100	
	Dissertation	75	8
	Viva	25	
	Total	1600	128

The course structure and contents shows it is one of the very high standard curriculums among different central national and international universities where all the important aspects of the environment is added with wise flavor which can contribute to research, professional activities and creating a positive attitude towards environment and sustainable resource use. The survey conducted among students gives some result as Figure 5.

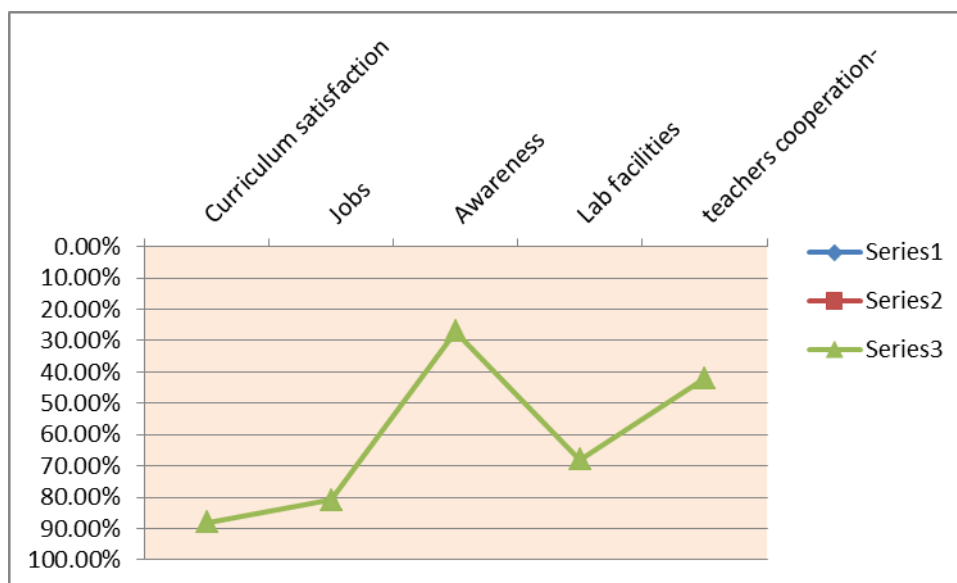


Figure 5 Students' Opinions In Different Areas.

Note: Sample student-40, Sample teachers-10 including guest lecturers.

The Figure 5 depicts the level of satisfaction in some areas related to the program. Among the sample students 88% are satisfied with the course content, structure and information. 81% of the students are employed in reputed organizations in different fields. But the level of satisfaction regarding awareness generation was very poor only 27%. Most of the students preferred live activities, awareness campaigns and interactive programs which was totally lacking in the department. 68% were satisfied with lab facilities, internet. 42% were satisfied with teacher's cooperation.

Figure 6 depicted the percentage of teachers and their opinions on different areas of the program. 85% of the teachers were satisfied with the course structure. But they were also confused whether the course can help in creating awareness or not and only 18% responded. Regarding sustainable resource management only 27% were satisfied. 21% teachers agreed with the course delivery modes, activities. 56% teachers were satisfied with the research activities, employment opportunities of the students.

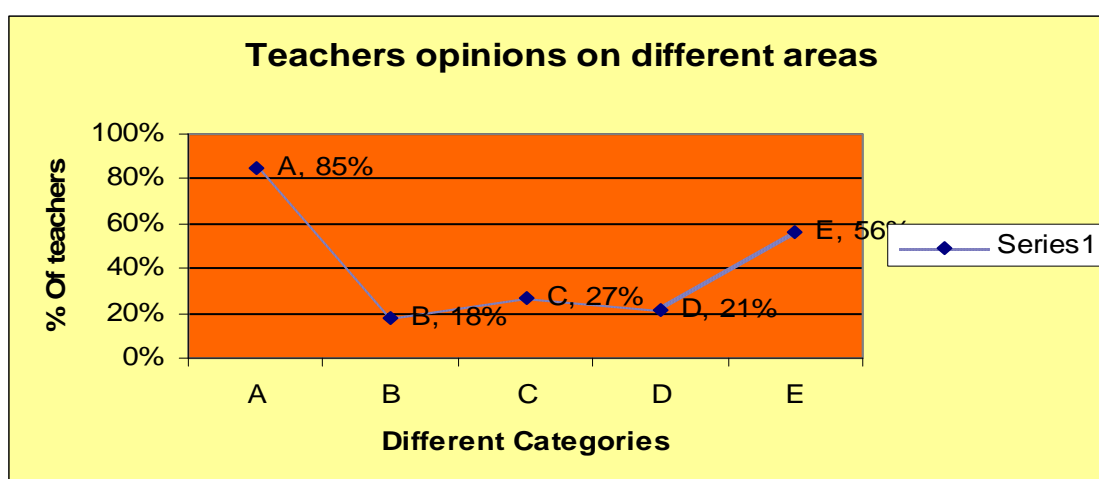


Figure 6 Teacher's Opinions in Different Areas

5.2 Course Curriculum of General Environmental Studies for College Students

The UGC syllabus of the degree course of Environmental Studies is divided into seven chapters and one field report. The chapters are namely Concept of the subject, Natural resources, Ecosystems, Biodiversity and its conservation, Environmental pollution, Social Issues and the environment, Human population and the environment. In all syllabus the sustainable development concept is included. Besides, all the important aspect of the subject has been incorporated. But still it is doubtful if the course can create environmental awareness or hampering the learners as a compulsory subject.

5.3 Role of Regional Media

2 newspapers namely The Assam Tribune and Assamese Pratidin are the most popular in Assam, especially in Guwahati. The monthly analysis of the Tribune shows the publication of almost daily article on the last row of the first page. The topics cover different areas of the environmental issues with significance to Northeastern states. These are written in very attractive way to create public attention. This is one of the very positive side of the paper that it tries to motivate people and helps in developing a sincere attitude to the nature. The Assamese paper Pratidin also gives a significant importance to the regional, national environmental issues. Renowned environmental activists, researchers present their views in their valuable articles. These also indirectly help the people to think about the different issues. The regional T.V channels like Newslive, DY365, N.ET.V. also telecast different environmental interactive issues, documentary films, meaningful advertises which show the sustainable resource management and how people can help save the natural resources. The radio channels, specially the very newly launched community radio station of KKHSOU is trying to broadcast different community based environmental educational programs for reaching the unreached people of this region. Besides some Guwahati based environmental NGOs and institutions are also trying their level best to generate environmental awareness among people by organizing different seminars, conferences, teacher training program, different school level competitions etc. But the actual level of public awareness is still doubtful.

5.4 Constrains in the Program

(1) Environment as a problem (to be avoided, to be solved) requires the development of Skills for critical investigation into the realities of our milieu and for the enlighten diagnosis of problems. It strives to make people realize that environmental problems are socio environmental issues. The development of skills in this field could strengthen the feeling that something can be done, that each one can contribute, a feeling that may in turn trigger the desire to take action.

(2) An environmental education that is limited to set of interlinked and complimentary dimensions is incomplete and nourishes a biased vision of what is “being-in-the-world”.

(3) Environmental education is so wide-ranging and demands in-depth changes; environmental education is indeed difficult to carry out. It calls for the involvement of the whole educational community: schools, museums, parks, municipalities, community organizations, firms, etc. It is for each actor to identify their own educational “niche” in EE, depending on the particular context of their action, the target group and the resources available to them.

(4) The main current challenge is the prevalence of the development ideology (Rist, 1996) promoted in the proposal of “education for sustainable development”. Here education is perceived as a tool in the service of the long-term conservation of the environment, the latter being regarded as a pool of resources to be utilized for a sustained economic growth, which is itself regarded as the pre-condition for “human development” (Sauvé, Berryman and Brunelle, 2000).

(5) The ultimate challenge is the lack of community participation, teachers’ ignorance and avoiding attitude, Government negligence, proper government policy and lack of punishment for breaking of Law.

6. Recommendations

(1) A review of the strategies for creating environmental awareness in the past could get a straight in to the approaches necessary in the future.

(2) It might be useful to modernize inbuilt religious concepts relevant to environment and conservation, such as those inherent in VEDAS, Bible, Koran and message of Buddha.

(3) Environmental education is a long process beginning at the infant level which should be very effective in the early ages of life to create a positive attitude towards environment from the very childhood.

(4) Appropriate teacher training program and materials for their use must be started without delay in order to implement environmental education program in schools.

(5) All sections of human society must be exposed to some form and measure of environmental education for arousing their awareness, sensitivity and perception of environmental problems.

(6) Periodical seminars, workshops, conferences should be organized in the universities, academic institutions.

(7) Documentaries, folk media can help in a very effective way if it is properly produced.

(8) Regional and international cooperation in and information exchange on EE should be fostered by UN agencies like UNESCO, UNEP, SAP.

(9) Government should take the proper policies, action plans in these areas and implementation of hard law is utmost necessary to make a clean and sustainable green environment.

7. Conclusion

The pursuit of sustainable development and environmental conservation policies, objectives and targets requires the public to be sufficiently sensitized about the multiple dimensions of environment and development. Awareness and understanding of environmental issues provide the basis and rationale for commitment and meaningful action towards environmentally sound and sustainable development. From the above research study it is seen that though the environmental courses are getting national and international standards but it is still doubtful whether the course can create an positive perception towards the environment or not? So proper evaluation is utmost important in every sector whether this course is really beneficial or completely vague???

The environmental educators and communicators of the region need, therefore, to be vigilant and active to ensure that government, industry and other key players in the sustainable development arena remain mindful of their international and national commitments to environmental conservation.

References:

- Cammar R. (1996). “Environmental awareness workshop for the media and artists”, Mangochi, 18-19 December, 1995, Ministry of Research & Environmental Affairs.
- Govt. of India, NCSTC. Ministry of Environment and Forest: Our Environment–Our Future Report.
- Machira S. (1994). “Education and public information”, NEAP Task Force No. 17 Report, Ministry of Research & Environmental Affairs.
- Kaushik and Kaushik (2004). *Perspectives in Environmental Studies*, New Age International (p) Limited.

**“Environmental Education”–Education for Sustainability and Its Effectiveness in Creating Awareness:
A Case Study of Guwahati City**

- Sauvé L., Berryman T. and Brunelle R. (2002). *Environmental Education in the Context of Education for the 21st Century: Prospects and Possibilities: Proceedings of the International Conference on Environmental Education*, Larissa, Greece, 6-8 October, 2000, pp. 42-63.
- Rao and Reddy (2009). *Environmental Education*, Commonwealth Publishers.
- Singh Mahip (2008). *Environmental Education*, D.P.S. Publishing House.
- Tolba Kamal Mostafa (1982). *Development without Destruction: Evolving Environment Perceptions*, Tycooly International Publishing Ltd., Dublin Ireland.
- UNESCO Report on “Folk Arts in Environment Education and Awareness”, 1996.
- Traditional India: Structure and Changes* American Folklore Society, Philadelphia 1959.
- Wang Georgette and Wimal Dissanayake (1982). “The study of indigenous communication system in development: phased out or phasing in”, *Media Asia*, Vol. 9, No. 1, pp. 3-8.
- Zimmer Hunrich (1946). *Myths, and Symbols in Indian Art and Civilization*, Joseph Canbell (ed.), Washington.