CHAPTER - II

REVIEW OF RELATED LITERATURE

The present chapter deals with review or related literature. An attempt was made to give a brief review of the available research studies that have already been conducted in the areas related to the problem of the proposed study conducted in Abroad and India. Pertaining to various different dependent and independent variables the studies are presented under four different sections, Studies conducted in Abroad, India, Northeast and Comparative Studies.

2.1 Studies Conducted in Abroad

Attempts were made to review the research studies conducted Abroad under the following four sub-sections: (i) Environmental Education, (ii) Environmental Ethics, Culture and Value, (iii) Environmental Attitudes, Awareness and Knowledge and (iv) Environmental Practices and Behaviours.

2.1.1 Environmental Education

Byrant and Hungerford (1979) found that kindergarten children are capable of forming concepts concerning environmental subjects.

Tewksbury and Harris (1982) study on the methodologies used in environmental education and it was found that 91% of the teachers used discussion method, 74% used audio visual aids, 64% outdoor studies, 60% with small group projects, nearly 40% teachers used materials guides and 29% guest lecturers computer assisted instruction comes lowest with 2% teachers using it.

Roger (1998) in his study the perception of environmental education amongst primary and secondary teachers in Nairobi, Kenya revealed that the existing
obstacles to environmental education in Kenya needs to provide better environmental education and also found that teachers in primary and secondary schools have high awareness for environmental education.

Rosalyn (2000) in her study on environmental education in the United States, the results indicated that most schools have few requirements related to environmental education and majority of environmental education schools is not institutionalized.

Vaughan et al. (2003) study on the effect of environmental education on school children, their parents and community members and the study revealed that parents learned from children and both groups transmitted course information to neighbours.

Bartosh (2003) conducted a study on environmental education improving students achievement and the findings revealed that: (i) Schools that undertake systematic environmental education programs consistently have higher test scores on the state standardized tests over comparable non-environmental education schools. (ii) School with environmental programs, teachers tend to use natural areas more; have more environmental education professional development and training; have more support from parents, community and administration and see more value in environmental education.

Salequzzaman and Davis (2003) in their study of environmental education and environmental management in Bangladesh revealed that: (i) Environmental education and development of local expertise is needed for massive changes in behaviour with respect to the environment. (ii) Graduates from the environmental disciplines should have a significant role in the environmentally sustainable of Bangladesh.
Oqueri (2004) conducted a study on The need for environmental education in secondary educational level in Nigeria: Problems and Challenges. The study revealed that: (i) Inadequate knowledge and awareness of environment in students is as a result of not having environmental education as a subject. (ii) Teacher have poor knowledge of environmental issues and challenges because they don’t offer environmental education as a course to be graduated from like mathematics, biology etc. (iii) Old secondary schools in the urban have more advantage in terms of staff and facilities than their counterparts in semi-urban and rural areas. (iv) Federal schools and few special private stand better chances of meeting all educational objectives. (v) Inadequate funding of education could be among the reasons for the failure of the system. (vi) Most secondary school have enough literature but have poorly equipped laboratories. (vii) Including environmental education in the school syllabus would help to create the opportunity for the students adequate knowledge and awareness of environmental issues. (viii) All the respondent are of the opinion that including environmental education in the school syllabus would help to develop education as to explore the new jet era challenges to not only the students but the nation in general as well as involve directly or indirectly in deciding measures to balance such as challenges. (ix) All the respondent reported some of the problems and challenges the educational system in the country is facing; inadequate fund, inadequate manpower, lack of will and commitment from the top officers who are seen as be all and end all, politics, favouritism etc.

Powers (2004) in his study on teacher preparation for environmental education revealed that university faculty incorporate environmental education theory and practice into their methods courses.
Tlhagale (2004) on environmental education as a strategy towards sustainable living for rural communities and found that: (i) Environmental education as an integrative concept is still not included in most of the syllabi of schools, especially in rural areas of South Africa, such as the Mogwase – Saulspoort area. (ii) Lack of resources is also a problem that is being experienced by schools in the study area and this makes it different for information on how the integration of environmental education into all subjects should be handled is still lacking.

Mutasa et al. (2008) in their study teaching environmental education using the shone folktale found that: (i) Folktale is a very effective means in teaching environmental education since it instructs while entertaining to enable learners to see all the concepts of the environment. (ii) Through participation in the folktales, learners are also able to bring out the possible environmental risks, crises and challenges surroundings and environmental issues; and they can learn the importance of the application of environmental impact assessment.

Konisky (2008) found that majority of the public express general concern about the environment. The public on average thinks that environmental education was poorest at the global level. However, the public desired to see the action taken towards local and national pollution issues. Jorenen et al. (2008) revealed that nature school cannot be very strong when each pupil typically visits a natural school once or twice during their entire compulsory education.

Ajboye and Silo (2008) revealed that there was an effectiveness of the activities in promoting environmental education. Pupils who are members of the civic clubs obtained a higher environmental knowledge than who were not members of the clubs. Gender has no effect on the environmental education which relates to the
knowledge of the pupils and the pupils understanding of environmental problems indicated that they are aware of environmental problems.

Eza (2010) revealed that there is a need of more effort in teacher education to prepare themselves for their role in educating the students about the environment. Metin et al. (2011) conducted a study on the primary pre-service teachers awareness of environmental problems found that pre-service teacher have knowledge about air, water, soil pollution, garbage problem and green house effect. Besides knowing that they have been damaging and protecting environmental activities on environment,, they were not inclined to give up their damaging behaviour.

Kimaryo (2011) conducted a study on integrating environmental education in primary school in Tanzania found that teacher’s teaching practices in integrating environmental education varied from one subject to another. Although most of the teachers said that they used participatory methods, lesson observations showed that they limited themselves to question and answer and group discussion. However, the teachers faced a number of barriers in the teaching of environmental education, some of which include lack of teaching and learning resources, time and large class size.

Budvytyte (2011) conducted a study in Lithuania on environmental education at secondary school system and the results showed that: (i) Environmental education has been gradually integrated into Lithuania’s national curriculum and teaching practices during the recent years but it is not fully applied. (ii) Environmental Education in Lithuania has the potential to influence pupils to behave pro-environmentally.

Cheng et al. (2013) investigating elementary school students’ technology acceptance by applying digital game-based learning to environmental education, the results showed that digital game-based learning system is suitable for both genders at
all levels of experience. The 4\textsuperscript{th} grade students perceive ease of use, perceived usefulness, attitudes toward use and intention to use reveal a high degree of positive environmental education and significant correlation.

2.1.2 Environmental Ethics, Culture and Value

Valliere and Manning (1994) found that most of the environmental ethics remained the same but there are statistically significant relationship between some environmental ethics and visitor attitudes about wilderness management.

Mayers (2003) found that ecological ethics were strongly preferred to the non-ecological ethics and the need to protect the environment was strong for human well being. Jolly et al. (2004) revealed that the environmental officers reported the highest level of environmental values and all the respondent participated more regularly in environmental action at home than at work. It was found that there was a similar environmental concerns and problem awareness.

Shepherd (2007) found that most teaching and assessment in higher education focus on cognitive skills of knowledge and understanding rather than effective outcomes of values, attitudes and behaviours

2.1.3 Environmental Attitudes, Awareness and Knowledge

Hamann (1973) undertook a study on pupils environmental knowledge and attitude towards environment indicated that there is no effective achievement in the pupils attitudes even through a planned curricular effort.

Hartung (1974) conducted a study on the relationship between cognitive achievement in environmental knowledge and attitude towards environment found that the relationship between achievement and attitudes from negative to positive
correlations. Fortner (1978) indicated that the attitude towards marine issues were moderately positive.

Muttaqi and Roy (1984) undertook a study to develop environmental knowledge and attitude among the secondary school students of some selected schools of Bangladesh. The sample included all the students of grades VI, VII and VIII of five selected schools. A pre-test post-test design was used to determine the changes in the knowledge and attitudes of the students. The teaching of twelve biology units developed for the experiment, four in each of the three grades, formed the experimental treatment for the students. Three instruments were developed and validated for measuring the knowledge on environment for the students of Grade VI, VII, and VIII one for each grade. Each of the instrument contained 50 multiple choice items on different aspects of environment. For measuring the attitudes towards environments, a Likert Scale was developed and validated. 45 items were prepared and used in all the 3 grades.

Jaus (1984) in his study the development and retention of environmental attitudes in elementary school children revealed that: (i) the experimental group had significantly improved attitudes. (ii) The same group had significantly more positive attitudes toward the environment when compared with the control group. When tested again fifth graders experimental group remained significantly more positive toward the environment than the fifth grade control group.

Roth and Perez (1989) study on twelfth grade student knowledge and attitudes toward the environment in the Dominican Republic found that: (i) Students scores averages in environmental knowledge and attitudes and (ii) Male students had more environmental knowledge and attitudes than female.
Arcury (1990) in his study on environmental attitudes and environmental knowledge indicated that: (i) Environmental knowledge found to be consistently and positively related to environmental attitudes, although the relationship is not especially strong. (ii) Low level of environmental knowledge has disturbing the implications for environmental policy.

Harvey (1990) study the relationship between children’s experiences with vegetation on school grounds and their environmental attitudes and found that both past and present experiences make a small but significant contribution to the children’s development of botanical knowledge and environmental dispositions.

Enright et al. (1992) conducted a study on environmental knowledge, awareness and concern among 11th grade students and they found that student score low on environmental knowledge but displayed higher scores on awareness and concern. 56% of the students reported that they would like additional environmental education to be offered in school.

Scott and Willits (1994) conducted a study on environmental attitudes and behaviour and found that the new paradigm was predictive of environmental behaviour and the linkages were not strong.

Benton (1994) conducted a study on environmental knowledge and attitudes of undergraduates business students indicated that business students were not less environmentally knowledgeable, but they did demonstrate less concern for the environment, less willingness to act in environmentally friendly ways, and reported behaviour that was less environmentally oriented. Men evidenced greater knowledge than women, but women evidenced greater concerned.
Laroche et al. (1996) revealed that French Canadians were found to have a significantly lower level of environmental knowledge than their Ontario counterparts and no cultural interactions were found. Evans et al. (1996) in their study the direct influence of environmental education in school on parents’ attitudes towards the environment found that: (i) School children appear to be better informed on major environmental issues than their parents. (ii) Environmental Education programmes received by children indirectly influenced their parents in recycling paper, plastics and tin cans. (iii) Parents recycled materials more after the children’s programme than before it.

Ivy et al. (1998) survey environmental knowledge, attitudes and behaviour of students in Singapore revealed that: (i) Students gained most of their environmental knowledge from out of school sources rather than from general education at school. (ii) Majority of the students indicated that they gathered most of their environmental information from the printed media and electronic media. (iii) Less students indicated that general education at school was their main source of environmental information.

Bonnet and Williams (1998) in their study on environmental education and primary children’s attitudes towards nature and the environment and the findings indicated that while the attitude of children of this age towards nature and the environment are generally very positive, they can involve a number of limitations, dichotomies and ambivalences which it will be important for their education. Angus (1998) indicated that there has been a little positive environmental attitudes and responsible behaviours in university students as compared to people generally.

Worsley and Skrzypiec (1998) in his study on environmental attitudes of senior secondary school students in South Australia revealed that: (i) Generally students
from both rural and urban regions were quite concerned, yet pessimistic about environmental issues. (ii) Adolescent women were less optimistic and less supportive of science solutions for environmental problems than adolescent men and (iii) Students with lower socio economic status tended to be more supportive of environmental exploitation and science solution than others.

Skelly and Zajicek (1998) in their study on the effect of an interdisciplinary garden program on the environmental attitudes of elementary school students revealed that: (i) Students participating in the project green garden had more positive environmental attitudes scores than those students who did not participate. (ii) Second grade students in the experimental and control groups had more positive environmental attitudes that fourth grade students. (iii) It was found significant correlation between the number of outdoor related activities students had experienced and their environmental attitudes.

Mansaray et al. (1998) study on the environmental knowledge and attitudes of some Nigerian secondary school teachers and revealed that most of the teachers have never heard of environmental education and have never attended any workshop or seminar on teaching the subject.

Kuhlmeier et al. (1999) conducted a study on Environmental Knowledge, Attitudes, and Behaviour in Dutch Secondary Education. The major findings of the study revealed that: (i) 75% of the 9th grade students had a positive attitude toward the environment, and 35% were prepared to sacrifices for the environment. (ii) Students was fragmentary and often incorrect about environmental problems and many students was inadequate with responsible towards environmental behaviour. (iii) The relation between environmental knowledge, attitudes and behaviour proved to be very weak. (iv) Environmentally responsible behaviour was more strongly
connected with willingness to make sacrifices than with attitude toward the environment.

Bradley et al. (1999) conducted a study on Relationship Between Environmental Knowledge and Environmental Attitude of High School Students. The study revealed that: (i) After exposure, there were significant differences among the students in both environmental knowledge gain and environmental attitudes. (ii) After completed the environmental science students environmental knowledge increased scores by 22%. (iii) Significant difference correlation on knowledge and attitude was found between pre – test and post – test scores. (iv) It was found in both cases that, students having higher knowledge scores had more favourable environmental attitudes compared with students with lower knowledge scores.

The children’s attitudes toward the environment for pre-school children by Musser and Diamond (1999) found that children’s attitudes were not correlated with verbal ability, but with the degree to which children participated in environmentally relevant activities at home.

Mahbub Sarkar (2001) indicated that overall students from both the urban and rural areas expressed favourable environmental attitudes with girls having a significantly higher level of favourable environmental attitudes than boys, in particular rural girls had the highest level of environmental attitudes comparing among others.

Pooley (2000) in her study on environmental education and attitudes revealed that for environmental educators interested in changing environmental attitudes, emotions and beliefs, rather than knowledge need to be targeted as sources of information on which to base their environmental programs.
Blake (2001) on the contextual effects of environmental attitudes and behaviour found that spatial variation in the nature of environmental problems has a significant effect on perceptions and behaviour. Whereas, protest behaviour is more likely in areas dominated by resource extraction, willingness to incur economic costs in the interest of environmental protection is lower.

Monica and Susan (2001) conducted a study on young people and the environment predicting ecological behaviour and found that young people are not negatively disposed toward the environment, they have limited knowledge about the issues. Perceived personal responsibility toward the environment was shown to be the strongest predictor of ecological behaviour, followed by action skills for boys and knowledge levels for girls.

Baysan (2001) revealed that environmental attitudes were more strongly associated with differences in nationality than with educational levels and occupations. German tourists have positive environmental attitudes than Russian and Turkish tourists.

Makki et al. (2003) in their study on Labanese secondary school students’ environmental knowledge and attitudes found that participants had favourable attitudes toward the environment but lacked in their environmental knowledge. Environmental knowledge was significantly related to parental education level, and to participants’ environmental attitudes, beliefs, affect and behavioural commitments.

Levaga (2004) found that high school instructors possess knowledge and attitudes necessary for implementing the environmental curriculum. Thathong (2005) found that Thai teachers had an appropriate environmental knowledge and awareness towards the environment. Komane (2005) found that the learners in grade 11 is
higher than that of the learners of grade 9 but their environmental attitudes was positively same. Spiropoulonet al. (2005) revealed that there are a number of environmental topics in both theory and practical exercises, the way they appear does not help students to develop positive attitudes towards the environment.

Tuneer et al. (2005) conducted a study on environmental attitudes of young people in Turkey and the results showed that school type and gender had significant effect on the corrective dependent variables. Mean scores on each dimension were significantly different for students in public and private schools.

Fairweather et al. (2005) found that there was low level of awareness among visitors in the presence of some eco-labels in New Zealand. Abraham (2005) conducted a study on environmental attitudes and pro-environmental behaviour among secondary school children indicated that: (i) Boys posses better attitude than girls. (ii) Urban subject posses better attitudes than rural subjects. (iii) There is no significant difference between boys and girls in their pro-environmental behaviour.

Komane (2005) in his study on the assessment of environmental awareness of the secondary school learners in the Mobapane District and thus indicated that the level of environmental awareness of the learners in grade 11 is higher than that of the learners in grade 9 and the learners could not provide the explanations on sustainable development and environmental education. Their attitudes towards the environment is positive. However, they lack knowledge regarding environmental problems and are not actively involved in environmental projects or with environmental organizations.

Chapman and Sharma (2006) conducted a study on environmental attitudes and behaviour of primary and secondary students in Asian cities: An overview strategy for implementing and eco-schools programme. The study revealed that: (i) There
was high level of theoretical environmental education present in the student’s courses. (ii) The majority of the Asian students appear to lack the environmental consciousness and attitude needed to protect their environment. (iii) The students were not aware of the critical stage of the current environmental problems that their respective countries face, and the impact these problems may have on them in the future.

Farmer et al. (2007) conducted a study on elementary school environmental education field trip: long term effects on ecological and environmental knowledge and attitudes development and found that even one year after the experience, many students remembered what they had seen and heard, and developed a perceived pro-environmental attitudes.

Schmidt (2007) conducted a study on the role of environmental awareness on college students. The major findings of the study indicated that: (i) There is significant difference in pro-environmental attitudes and behaviours between students enrolled in the course and not enrolled. (ii) After taking environmental issues, students reported higher levels of environmental awareness than students who had not taken class, while also reporting more environmentally conscious behaviour. (iii) Students not enrolled in the course displayed overall lower levels of environmental awareness.

Gokmen (2008) revealed that students in problem-based learning with a local perspective group had significantly more positive environmental attitudes in general environmental attitudes and general attitude toward solutions dimensions than traditionally designed environmental education group. Traditionally designed environmental education group had significantly more positive attitude than problem
based learning with a non-local perspective group in students awareness on individual responsibility determined after the treatment.

Kalantari et al. (2007) studied on the investigating factor affecting environmental behaviour of urban residents. The study revealed that: (i) There was no significant different between men and women in terms of environmental attitudes, preparedness to act and feeling of stress. (ii) Women and men opinion were different in respect of environmental legislation. (iii) Women emphasized that current environmental legislations are sufficient for environmental protection; environmental problems could be solved if the laws were enforced completely. (iv) Most of the men believed that these legislations were not adequate and government should pass more laws to make ordinary people and business to protect the environment. (v) The study also showed that there was significant difference between men and women in respect of environmental behaviour. Women were generally more concerned than men.

Kenedy et al. (2009) found that lack of environmental knowledge is a significant hurdle in their attempt to environmental practice. Ogunbiyi and Abijoye (2009) found that value education strategies have positively affected pre-service teachers knowledge of environmental concepts and attitudes to the environment.

Taskin (2009) in his study on environmental attitudes of Turkish senior high school students in the context of post-materialism and the new environmental paradigm found that the results of ANOVA and t-test show that: (i) Environmental attitudes of students vary depending on school type, gender, parents education levels, parents political view, profession and household income. (ii) Students at public high schools female, lower middle class student, students with well educated parents in white collar professions and students with liberal parents have more pro-
environmental attitudes than the others. (iii) Students from vocational schools, almost all of which are based on single sex education, have scored the lowest on both surveys.

Salam et al. (2009) in his study on environmental education and its effect on the knowledge and attitudes of preparatory school students, results of the study revealed that: (i) 77% of the students had poor level of environmental knowledge and that 23% had fair level of environmental knowledge. (ii) 80% of the students were found to have negative attitude toward the environment and the remained 20% were indifferent. Knowledge and attitudes were positively correlated to their socio-economic levels. (iii) 69% of the students had a satisfactory level of knowledge and 88% had positive attitudes towards the environment.

Aminrad et al. (2010) found that environmental awareness and attitude about environmental issues is moderate and high, respectively, whereas, majority of the students had adequate awareness and attitude about environmental issues. It was also found that the environmental awareness and attitude of the students in this study showed that with the increase of age and level of study regardless of gender differences have shown significant differences.

Gokhan (2010) found that the students who have been educated by multiple intelligences strategy have been found out to have more environmental knowledge and positive attitude to the environment than those who have been educated by the traditional methods.

Ibrahim and Babayemi (2010) conducted a study on knowledge and attitude of a group of Nigerian undergraduates towards environmentalism and the results indicated that low level of environmentalism knowledge. Significant difference were
recorded across gender and field of study sub groups as regards knowledge of environmentalism and religion sub groups as regard towards environmentalism.

Tan and Teck Lau (2010) indicated that both male and female students have the same environmental attitudes towards their environment and towards the green products.

Yurt et al. (2010) conducted a study with a purpose to determine early childhood teacher candidates environmental attitudes in Turkey and it was found that no significant difference in terms of gender and location between total scale scores of the pre-service teachers. Environmental attitude of pre-service teachers did not differ depending on gender and location. Marques et al. (2010) found that eco-centric attitudes influence the preference for environmental interpretation activities.

Ozturk (2010) conducted a study on pre-school children’s attitudes towards selected environmental issues revealed that: (i) Children’s attitudes towards environmental issues in terms of consumption patterns, environmental protection, reusing-recycling and living habits did not differ. (ii) Pre-school children had mostly anthropocentric attitudes towards environmental issues, in terms of consumption patterns, environmental protection, recycling-reusing and living habits.

Oguz (2010) found that a majority of the students are aware of the fact that education is needed to raise awareness issues though less students seem to develop environmentally responsible behaviour in their daily lives. However, most of the students are aware of the negative impacts of environmental problems on living organisms.

Harun et al (2011) in their study on environmental knowledge and attitude among students in Sabah found that students in Sabah particularly from Form 4 level have high level of environmental knowledge except for several items which measure
the current environmental issues in Malaysia such as carbon dioxide and climate change. Their attitudes are influenced by the level of knowledge that they have concerning the environment.

Kose et al. (2011) in his investigation of undergraduate students environmental attitudes found that: (i) Undergraduate students had positive attitudes toward the environment as regard to their gender and faculty types. (ii) Female students were more sensitive toward environment than male students.

Farrokhian (2012) studied on assessment of elementary school teachers attitude towards major factors of environmental education in developing countries revealed that teachers with higher education level showed significant variation in environmental attitudes than teachers with lower education.

Genc et al. (2012) the investigation of eight grade students’ attitude toward forest revealed that: (i) Significant difference has been observed between students attitudes towards forest and distance of their home from a forest. (ii) Significant difference has been observed between students attitudes towards forest and frequency of forest visit. (iii) No significant difference has been observed in students attitude towards forest in terms of gender.

Yousuf and Bhutta (2012) conducted a study on secondary school students attitude towards environmental issues in Karachi Pakistan, the results of the study revealed that there was no significant difference between male and female students attitude towards environmental issues. The study provide significant insights into male and female students attitude towards environmental issues towards discipline in both government and private secondary schools.

Eilam and Trop (2012) conducted a study on environmental attitudes and environmental behaviour and the study revealed that: (i) Environmental school are
very successful in creating direct influence on parents’ environmental behaviour and in creating indirect influence through intergenerational attempts to influence behaviour. (ii) Schools’ environmental programs are not a major source of influence on parents’ environmental attitudes. (iii) Environmental schools are successful in influencing students’ environmental behaviour and environmental attitudes. (iv) Influences on attitudes are more effectively achieved through formative experiences that are related to personal, interpersonal and a person’s closest circle. (v) Influences on behaviour are more effectively achieved through formal formative influences and media. (vi) Adults are more susceptible to influences on their behaviour than to influences on their attitudes. (vii) Environmental school in Israel are more effective in directly influencing parents’ behaviour than in directly influencing their attitudes.

Aminrad et al. (2013) conducted a study on the relationship between awareness, knowledge and attitudes towards environmental education among secondary school students in Malaysia and the results showed a weak relationship between awareness and knowledge in environmental issues while there was high relationship observed between awareness and attitudes among respondents. Moreover, there was a negligible relationship between knowledge and attitude among students about environment.

Rydzewski (2013) study the implementation of sustainable development vs. Environmental attitude in international comparative studies and found that this influence is slightly stronger for pro-environmental behaviour.

Karahuseyinoglu (2013) conducted a study on university students athlete’s attitudes towards environment and found that: (i) Female students environmental attitudes score are higher than male students. (ii) The highest score belongs to
footballers and the lowest score average belongs to wrestlers in environmental attitudes.

Lateh and Muniandy (2013) in their study on pre-service teachers attitude towards teaching environmental education in Malaysian primary school revealed that: (i) Pre-service teachers have a positive attitude towards teaching environmental education in classrooms. (ii) There is a significant relationship between attitude and gender among pre-service teachers and teacher training institute. (iii) Pre-service have a positive attitude towards teaching environmental education in classrooms.

2.1.4 Environmental Practices and Behaviours

Magness et al. (1997) revealed that significant differences were found on the knowledge, attitudes and behaviour of the students. Olawepo and Jekayinfa (1997) revealed that most of the teachers had positive attitudes and practices towards the environment. Walker (1999) found that there is a significant difference in day-to-day encounters, it has the potential to promote greater awareness and behavioural responses.

Asunta (2003) found that students environmental knowledge and environmental behaviour was to have gained mainly not from school but also from numerable other sources like television and radio. However, both Finnish and German boys gained more environmental information from television than girls. Environmental opinions of girls in both countries were more favourable to the environment than those of boys.

Jurczak et al. (2003) evaluate the impact of a school waste education programme upon students, parents and teachers environmental knowledge, attitudes and behaviour and the findings revealed that: (i) The programme improved student knowledge and awareness of municipal waste. (ii) Improvement in knowledge
weakly corrected with age, enjoyment of the programme and self-reported learning. (iii) Three quarters of the students shared their learning with their parents and a third attempted to improve waste practices in their homes. (iv) Majority of parents reported that the programme was valuable and confirmed frequent family discussions often leading to a change in household attitudes and waste practices. (v) Teachers also evaluated the programme positively, recommending its implementation as an ideal solution to the national waste problems.

Olgilvie (2004) found that through the implementation of a series of environmental education awareness programmes on the primary school sector, environmental behaviour can be positively influenced and was successful in influencing learners environmental behaviour.

Evans et al. (2007) found that experienced adults educational levels and political values are related to their environmental attitudes and behaviours whereas parental attitudes and behaviours were not correlated with their children attitudes and behaviours.

Smith E (2009) a study focusing on environmental attitudes, knowledge and behaviour of elementary children and found that most of the children already had positive attitudes toward the environment. While, their attitudes decreased minimally after the program, they still remain very positive. The children did well on the knowledge test. Their environmental knowledge increased after the growing up green program. The program did not appear to have a substantive impact on their environmental behaviour adoption, the children already participate in some behaviours like recycling and conserving energy before the program and continued these behaviours after the program too.
Erdogan (2009) study on fifth grade student’s environmental literacy and the factors affecting students’ environmentally responsible behaviour revealed that students had moderate level of environmental literacy and responsible behaviour.

Schlz (2009) study on environmentally responsible attitudes and behaviour among Elon University students, the study indicated that: (i) Positive growth in acceptance of environmental initiatives among Elon students. (ii) All interviewees believe that environmental degradation is indeed a concern and people should start taking responsibility to decrease the negative impacts. (iii) These students personally contribute to the cause of environmental degradation.

Digby and Barrett (2010) study on the impact of non-formal and informal learning on adult environmental knowledge, attitudes and behaviours and the findings indicated that; (i) For age, education, and income there was a weak positive relationship with environmental knowledge, attitudes and behaviour. (ii) Male receiving higher environmental knowledge than female. (iii) Non-formal learning participation appears to be a moderate contributor to both environmental knowledge and behaviour. (iv) Informal learning participation appears to be slight contributor to environmental attitudes and behaviours.

Ting Tong et al. (2011) study on environmental knowledge, attitudes and behaviour among university students in China indicated that students possessed low levels of environmental knowledge but had positive environmental attitudes and were willing to commit to environment friendly behaviours. Students growing up in developed versus less developed settings had significantly different levels of general environmental awareness despite their shared exposure to institutionalized environmental education.
Levine and Strube (2012) conducted a study on environmental attitudes, knowledge and behaviours among college students indicated that: (i) Men were found to be more knowledgeable than women about environmental issues and (ii) Older students had more favourable implicit and explicit environmental attitudes.

Ermolaeva (2011) conducted a study on environmental practices among the USA and Russian students indicated that; (i) Most of the US students put high priority on environmental education while most of Russian students prioritize stricter environmental law regulation and (ii) most American students are sure that they can personally influence decision making while most of Russian students are not positive about it.

Miiderrisoglu and Altanlar (2011) study on attitudes and behaviours of undergraduate students towards environmental issues and found that students highly support the environmental attitudes and highly participate only in consumerism behaviours.

2.2 Studies Conducted in India

Attempts were also made to review the research studies conducted in India under the following four sub-sections: (i) Environmental Education, (ii) Environmental Ethics, Culture and Value, (iii) Environmental Attitudes, Awareness and Knowledge and (iv) Environmental Practices and Behaviours.

2.2.1 Environmental Education

Rane (1989) evaluated the environmental study approaches of Parisar Asha in municipal schools in Greater Bombay. The study was on environmental study approach (EVS) in the case of students of classes I, and II, and was found that the teachers of standard I played a satisfactory role in implementing the EVS approach.
Whereas, the teachers of standard II had a favourable opinion about the EVS approach and they made efforts to use this new approach in their classrooms.

Gopalakrishnan and Sarojini (1992) studied on the Environmental Education Program in some selected Primary School in Mokochung town. The findings of the study revealed that teachers reaction towards Environmental Education Programme were positive. However, the study highlighted that the teachers faced considerable difficulties in teaching environmental studies at the primary stage in Mokochung town. The major findings of the study revealed that 91.7% of the students took keen interest in Environmental Education but the teacher faced constraint and difficulties for successful performance due to shortage of materials.

Sahoo (1992) revealed that flora and fauna constitute the biotic environment, whereas, the atmosphere, hydrosphere and lithosphere constitute the abiotic environment. Social, economic, political, cultural, aesthetic, historical, geographical, psychological, religious and academic are man-made environments and because of man’s domination over the environment has created complexities in the relationship between man and his environment.

Sharma and Sharma (2005) highlights that the Environmental Education should be implemented and expanded at all levels which result into the Sustainable Development of the environment and biodiversity especially in Madhya Pradesh that has enormous biodiversity potential.

Zakpala (2007) in his study of theory and practice in environmental education of teacher trainees, the results indicated: (i) Environmental and social studies tutors mostly employed discussion and lecture methods for teaching the subject due to financial constraints, inadequate means of transport and large class size. (ii) Male respondents and graduates of boarding senior secondary school had higher
environmental knowledge than females and respondents from day senior secondary school respectively, while females, prefects and graduates of single sex senior secondary school exhibited more positive environmental attitudes than males, non-prefects and graduates of mixed senior secondary school. (iii) Respondents also showed a positive attitude toward environmental education

Anshu (2012) found that 85% teachers have expressed that there is scope of improvement in existing teaching learning process of subject. 68% of EVS teachers from SSC board had received training as compared to 100% teachers from CBSE and IB. Average teaching time for the subject was 2 hours/week.

Mahesh and Sharma (2012) conducted a study on environmental education in secondary schools in Pune City and found that: (i) 85% teachers have expressed that there is scope in improvement in existing teaching learning process of the subject. (ii) 68% of EVS teachers from SSC Board had received training as compared to 100% teachers from CBSE and IB. (iii) Average teaching time for the subject was 2 hours per week.

2.2.2 Environmental Ethics, Culture and Value

Kotwani (2011) in his study environmental ethics of pupil-teachers found that: (i) Environmental ethics of pupil-teachers is high. (ii) Female pupil-teachers have more environmental ethics than male pupil teacher. (iii) Pupil-teacher studying from aided institutes have more environmental ethics than those from non-aided institutes. (iv) Pupil-teachers from rural and urban areas do not differ in their environmental ethics.

Ravichandran and Saravanakumar (2012) in his study on environmental value of secondary teachers and their problems due to implementation of
environmental education found that secondary teachers are in positive direction but there are many problems faced by the secondary teachers in their teaching process.

Mathivanan and Pazhavivelu (2013) a study on environmental ethics and participation in environmental activities among higher secondary students and the major findings indicated that the higher secondary students have high environmental ethics and higher level of participation in environmental activities.

Hunt (2013) conducted a study on environmental ethics of teacher students and thus revealed that: (i) Teacher education students had average environmental ethics. (ii) Male and female had average environmental ethics. (iii) Urban teacher education students had better environmental ethics than rural teacher education students. (iv) Science teacher education had better environmental ethics than arts teacher education students. (v) Government and private college teacher education students had same environmental ethics. (vi) Teacher education students with and without teaching experience had same environmental ethics. (vii) B.Ed teacher education students had better environmental ethics than M.Ed teacher education students.

2.2.3 Environmental Attitudes, Awareness and Knowledge

Jolata (1972) indicated that high intelligent youth were having high awareness of environmental pollution. Urban students scored better on environmental pollution awareness as compared to rural group, urban students had read so many books and journals which created an insight for healthy environment and awareness for environmental pollution. Sex differences were significant in awareness of environmental pollution, it may be due to the facts that girls are more aware about the cleanliness of environment as compared to boys.
Manuel and Pushpita (1978) reported studies on environmental and non-formal science conducted on secondary schools. The study revealed that the children studying in different educational settings displayed almost the same level of environmental knowledge.

Singh (1981) studied on environmental awareness among the secondary school students studying in Gujarat, revealed that: (i) There was a significant differences boys and girls, urban and sub-urban and non classified urban, costal and non-costal group of students in their environmental awareness. There was a significant differences on socio-economic among high and low, middle and low and non-classified and low groups of students. (iii) No significant difference was found between non-science and non-classified groups of students.

Rajput et al. (1982) studied on comparison of environmental awareness among children on non-formal education centers of Madhya Pradesh and Maharashtra. The major findings of the study revealed that there is a significance differences in environmental awareness between the two groups of children studying in different geographical regions of the country. Suggestions were also made in the conclusion of the study, that differences in the awareness scores may not necessarily be due to varied emphasis laid on the teaching at primary level subjects which incorporate in them environmental content. The study also found that children of both groups are lacking in the application of their knowledge of their environment.

Pareek et al. (1986) conducted a study on Environmental Awareness among Secondary School students to assess the existing environmental awareness and identified the lessons needed of Secondary School students from Tehsils of Jaipur – Jaipur local city. The findings revealed that 40% of the students show poor environmental awareness and the remaining 60% are well versed with their
surroundings and have appreciably well to excellent knowledge about the various environmental issues. Comparative studies were also made between urban and rural girls secondary students in the study. The study shows that there is significant differences between urban and rural students and those urban secondary students have shown to have a higher cognitive level of environmental awareness. Whereas, there is no significance difference between boys and girls studying in Secondary Schools, both are equal in their cognitive level of Environmental awareness.

Prasad (1987) conducted a study on environmental awareness of the women of South Indian Village and revealed that, the environmental awareness was directly related to caste system and educational status, and the environmental awareness was less among the scheduled caste and uneducated groups.

Rajput (1988) found that the environmental awareness for the experimental and the control groups at pre-test and post test level indicated that out of 14 comparison groups in seven schools, nine groups had no significant difference, and the remaining five groups had significant difference in the environmental awareness.

Ubaidullah (1988) study on population education knowledge and attitudes of National adult education programme participants found that the type of house, institution facilities available at the village and family literacy index is not significantly associated with knowledge and attitudes, towards and practices of population education.

Singh (1989) performed an experimental study on developing awareness among illiterates’ adults and the major findings of the study revealed that all the workers employed hygienic methods after their exposure to the awareness development programme.
Shahnawaj (1990) studied on Environmental Awareness and Environmental Attitude of Secondary and Higher Secondary School Teachers and Students towards the environment. The major findings of the study revealed that: (i) 95% teachers and 94% students possessed positive Environmental Attitudes. (ii) There is no significance difference between the environmental trained teachers and the untrained teachers in their attitudes. (iii) There is no significance difference between teachers and students and that teacher possesses more environmental awareness than the students. (iv) There is no significance difference between trained and untrained teachers in their environmental awareness. (v) Female students possessed significantly more awareness of the environmental than male students.

Praharaj (1991) conducted a study on Environmental Knowledge, Environmental Attitude, and Perception Regarding Environmental Education Among Pre-Service and In-Service Secondary School Teachers. The major findings of the study revealed that: (i) The level of environmental knowledge was found low among pre-service teachers, but conceptual knowledge was found to be moderate. (ii) Among the in-service teachers, the environmental knowledge was found to be moderate whereas the factual knowledge about the environment was found to be low. (iii) Both the pre-service and in-service secondary school teachers differed significantly in their level of environmental knowledge. The in-service teachers has a higher level of favourable attitude than the in-service secondary school teachers. (iv) The study further revealed that moderate correlation existed between environmental attitudes. (v) Teachers perceived the environmental education could be a core part of social science and general science and science subjects in the secondary schools as well as mass media have a potential role in imparting environmental education.
Gakhat et al. (1993) made a study on environmental awareness among the urban and rural senior secondary school students in relation to intelligence indicated that high intelligence youth is having high awareness of environmental pollution. Urban students scored better on environmental pollution awareness scale as compared to rural group and that girls are more aware about the cleanliness of environment as compared to boys.

Pradhan (1995) compared the Environmental Awareness of 124 B.Ed students studying in two-teacher education institutions and revealed significant variation in environmental awareness of urban and rural teacher trainees, the master’s degree holders and the bachelor’s degree holders and subject background of trainees.

Usha (1998) conducted a study on Environmental Education in B.Ed Course. Attempt was made to use instructional designs to teach the Environmental Education to B.Ed trainees. The study revealed that after teaching the subject Environmental Education for four months, the first semester examination was held. Associated activities related with Environmental Education were planned in such a way that they were being carried out for the entire course extending to the second semester also. The findings revealed that, there is a positive significance differences in attitude of the post-course scores. There is a positive significant relationship between attitude scores and achievement scores in Environmental Education of Arts and Science trainees.

Gakhar and Karla (1998) conducted a study on environmental awareness among the urban and rural senior secondary school students revealed that there was a positive significant correlation between intelligence and environmental awareness of urban senior secondary school students, whereas in rural senior secondary schools students shows a positive significant correlation between variables of intelligence
and environmental awareness. Both rural and urban students have no differences on environmental awareness. Girls showed high environmental awareness as compared to boys and the students in urban areas found to be more aware about the environmental awareness as compared to students in rural areas.

Patel (1999) in his study on primary teachers in Dang District of Gujarat found that the level of environmental awareness of these teachers was high. Male teachers, experiences teachers and graduate teachers had higher environmental awareness than female with less experienced and primary teacher training.

Pradhan (2001) conducted a study on Environmental Awareness among Secondary School Teachers. The major findings of the study indicated that: (i) the level of environmental awareness among teachers working in secondary schools was low regarding environmental problems. (ii) There is a significant difference in Environmental Awareness between social science, language and science teachers. (iii) There is a significant difference between the mean scores of science and social science teachers. The mean scores of environmental awareness of science teachers were found significantly higher than the social science teachers. Further, the study revealed that the science teachers had significantly higher environmental awareness than the language teachers. Significant difference was not found between social science teachers and language teachers in their Environmental Awareness. (iv) The study also revealed that the significant differences was found between the mean scores of teacher teaching on urban schools and teacher teaching in rural school. It was concluded that there exists rural-urban variation in Environmental Awareness and the teachers working in urban school are more aware about the environment and its related problems. (v) The study showed that, there is no significant difference between the mean scores of male secondary teachers and female secondary teachers.
The study revealed that gender is not a factor affecting Environmental Awareness among teachers and that both male and female secondary teachers have equal Environmental Awareness.

James (2003) studied on creating environmental awareness among primary school children through field trip. The revealed that the first hand experiences through field trip and the innovative follow-up works were found to be highly effective in boys and girls. The impact of field trip experiences in acquiring awareness of environmental problems is found to be same among boys and girls and there is no significance difference among Tamil medium and Malayalam medium children in the development of environmental awareness.

Shobeiri et al. (2006) studied on the influence of gender and type of school on environmental attitude of teachers in Iran and India. It was found that the Indian and Iranian exhibit average level of environmental attitude.

Nayak (2010) revealed that the student teachers are aware of the problem of climate change their level of knowledge and attitude towards climate change are inadequate.

Choudary (2010) conducted a study on attitude towards awareness of environmental education among B.Ed college students in Chennai city and this study investigated the relationship of awareness and attitude of environmental among B.Ed college students. The major findings revealed that: (i) Girls have high level of awareness towards environmental education than the boys. (ii) Tamil medium students have high level of awareness and attitude towards environmental education than the English medium students. (iii) Students those who were economically categorized in high level, their attitude of environmental education is better than the other categorized students.
Katoch and Kumari (2010) conducted a study on environmental awareness and attitude of teachers of Himachal Pradesh. The major findings of the study was that: (i) There is significant difference in the total awareness of the two groups of teachers, female teachers awareness towards environment is more than the male teachers. (ii) Female teachers appear to be more concerned about the protection and enrichment of environment than male teachers. (iii) The urban school teachers appear to be more concerned about the protection and conservation of environment than rural teachers. (iv) But in general it was found that the higher the educational level the more concerned one should be towards environment.

Astalin (2011) found that science streams student and CBSE students had more environmental awareness in comparison to arts streams and UP board students. Male students had also more environmental awareness in comparison to female students.

Malhotra (2012) found that post-graduate students are having better understanding and awareness regarding environmental awareness than female science post-graduate students and the male post-graduate arts students were also having better environmental awareness than the female post-graduate arts students, whereas post-graduate science students are having higher awareness score than the post-graduate arts students.

Sra (2012) compare environmental awareness and attitudes of the colleges students towards environment after studying environmental education and found that: (i) Students showed more environmental awareness after studying environmental education subject at under-graduate level. (ii) Environmental attitudes of students have become more favourable towards the environment after studying environmental education subject. (iii) Environmental awareness and
attitude toward environment are correlated to each other. The students who have higher environmental awareness have more favourable attitude towards environment.

Malhotra (2012) conducted a study on Environmental Attitudes among the post graduates of Kurukshetra University and the study revealed that: (i) Male post-graduate science students were having better understanding and awareness than female science post-graduate students and the male. (ii) Male post-graduate arts students were also having better environmental attitudes than the female post-graduate arts students. (iii) post-graduate science students were having higher awareness score than the post-graduate arts students.

Thote (2013) study the attitude of students towards environmental awareness and the study indicated that the students are not having enough awareness and skills for identifying and solving problems. No positive relationship was found between achievement in environmental education and environmental awareness ability.

2.2.4 Environmental Practices and Behaviours

Lahiri (2011) assessing the environmental attitudes among pupil teachers in relation to responsible environmental behaviour and the result shows low correlation between environmental attitudes and environmental behaviour of pupil teacher.

2.3 Northeast

Menla (1984) studied on the Environmental Education Program in some selected Primary School in Mokochung town. The findings of the study revealed that teachers reaction towards Environmental Education Programme were positive. However, the study highlighted that the teachers faced considerable difficulties in teaching environmental studies at the primary stage in Mokochung town. The major
findings of the study revealed that 91.7% of the students took keen interest in Environmental Education but the teacher faced constraint and difficulties for successful performance due to shortage of materials.

Synrem (1996) conducted a study on Environmental Knowledge, Environmental Attitude, and Perception Regarding Environmental Education Among Pre-Service and In-Service Secondary School Teachers. The major findings of the study revealed that: (i) The level of environmental knowledge was found low among pre-service teachers, but conceptual knowledge was found to be moderate. (ii) Among the in-service teachers, the environmental knowledge was found to be moderate whereas the factual knowledge about the environment was found to be low. (iii) Both the pre-service and in-service secondary school teachers differed significantly in their level of environmental knowledge. The in-service teachers has a higher level of favourable attitude than the in-service secondary school teachers. (iv) The study further revealed that moderate correlation existed between environmental attitudes. (v) Teachers perceived the environmental education could be a core part of social science and general science and science subjects in the secondary schools as well as mass media have a potential role in imparting environmental education.

Synrem (1998) conducted a study on environmental awareness and attitude towards environmental education among the college student in greater Shillong. The major findings of the study revealed that: (i) The level of environmental awareness of the students based on sex, streams studying both in deficit and adhoc colleges were very good. (ii) The level of environmental awareness of the commerce student and the student studying in private college were also good. (iii) There was no significant difference on the basis of streams, gender and type of colleges in their attitude towards environmental education. (iv) There was no significant difference
between gender and types of colleges on their level of environmental awareness. (v) There is no significant difference between stream viz. Science, arts, and commerce. (vi) There was a significant relationship between environmental awareness and attitude towards environmental education among the college students in greater Shillong.

Lyndem and Singh (2000) conducted a study on environmental attitudes among adult literates in Byrnihat, Ribhoi District, Meghalaya. Indicated that people of Byrnihat are aware about environmental degradation, conservation of natural resources, problems occurring due to water and air pollution.

### 2.4 Comparative Studies

Indira (1992) conducted a study on awareness and attitudes of the twelve level students of Hyderabad and Ranga Reddy Districts on population issues and the major findings revealed that: (i) Students in the age group 15-16 years showed better performance. (ii) The OC category students were superior in their performance followed by BCs and SCs category students. (iii) In the past ten years school had influenced the awareness and attitude of the respondent. (iv) Girl students performed better than boy students. (v) Students whose optional groups were mathematics, economics and commerce performed better.

Baysan (2001) studied on the perceptions of the environmental impacts of tourism: a comparative study of the attitudes of German, Russian and Turkish tourists in Kemer, Antalya reported that environmental attitudes were more strongly associated with differences in nationality, than with educational levels and occupations. German tourists were more positive towards environmental attitudes than Russian and Turkish tourists.
Larijani and Yeshoshara (2008) studied on an empirical study of environmental attitude among higher primary school teachers of India and Iran and it was found that Iranian teachers had more positive attitude than Indian teachers towards environment.

Kostova and Atasoy (2008) study on comparative evaluation of the environmental culture of 8th grade students in Bulgaria and Turkey revealed that: (i) The students textbooks in Bulgaria and Turkey explain an adequate set of environmental terms, but that is not enough to insure proper development of environmental culture. (ii) Students have acquired half of the standard requirements for environmental culture. (iii) Students that had passed and entrance exam in biology were better motivated in learning, obtained higher scores and showed higher level of environmental culture. (iv) Research on environmental culture of eight grade students from the two countries provides the possibility to find out misunderstanding and shortcomings and to correct them before they have become mistaken knowledge. (v) The current study have identified students shortcomings and misunderstandings and will be helpful in improving education in science and ecology in the upper classes of secondary school and for improving environmental education of students in elementary school.

Duan and Fortner (2010) on a cross cultural study on environmental risk perception and educational strategies: implication for environmental education in China revealed that the Chinese respondent were more concerned about environmental risk and they perceived the environmental issues to be more harmful to health, to the environment, and to socio economical development of the nation than the American respondents. Both groups desired transparent communications in
decision processes and would support educational strategies that foster behaviour change for reduction of environmental risk.

2.5 Conclusion

From the above review conducted in Abroad, India, Northeast and Comparative Studies, it was found that most of the studies have been conducted in the area of Environmental Education, Attitudes, Awareness, Knowledge, Behaviours but very few studies have been conducted on Environmental Ethics, Culture, Value and Practices. These literature reported that studies were conducted on kindergarten, primary, secondary, higher secondary, B.Ed, University students, the parents – students, pre-service and in-service environmental attitudes, awareness. Indeed, different educationist, thinkers and researchers perceived environmental education through different glasses the review of related literature worth mentioning are those that revealed the positive impact of environmental education on the development of human values in relation to attitudes, ethics and practices, like that of Benton (1994), Laroche et al. (1996), Evans et al. (1996), Ivy et al. (1998), Bonnet and Williams (1998), Worsley and Skrzypiec (1998), Skelly and Zajicek (1998), Mansaray et al. (1998), Kuhlemeier et al. (1999), Bradley et al. (1999), Musser and Diamond (1999), Mahbub Sarkar (2001), Pooley (2000), Blake (2001), Monica and Susan (2001), Baysan (2001), Makki et al. (2003), Levaga (2004), Komane (2005), Spiropoulou et al. (2005), Tuneer et al. (2005), Fairweather et al. (2005), Abraham (2005), Komane (2005), Chapman and Sharma (2006), Farmer et al. (2007), Gokmen (2008), Kalantari et al. (2007), Kenedy et al. (2009), Ogunbiyi and Abijoye (2009), Taskin (2009), Salam et al. (2009), Aminrad et al. (2010), Gokhan (2010), Ibrahim and Babayemi (2010), Tan and Teck Lau (2010), Yurt et al. (2010), Marques et al. (2010), Ozturk (2010), Oguz (2010), Harun et al (2011),
Kose et al. (2011), Farrokhian (2012), Genc et al. (2012), Yousuf and Bhutta (2012), Eilam and Trop (2012), Aminrad et al. (2013), Rydzewski (2013), Karahuseyinoglu (2013) Lateh and Muniandy (2013), Magness et al. (1997), Olawepo and Jekayinfa (1997), Walker (1999), Asunta (2003), Jurczak et al. (2003), Olgilvie (2004), et al. (2007), Smith E (2009), Erdogan (2009), Schlz (2009), Digby and Barrett (2010), Ting Tong et al. (2011), Levine and Strube (2012) Ermolaeva (2011), Miiderrisoglu and Altanlar (2011). Though, about four researches were conducted in the north-eastern part of India, the study on Environmental Attitudes, Ethics and Practices among Jaintia Students could not be identified. Therefore, taking into consideration, the gravity of environmental disaster in this part of Meghalaya as a research problem, the researcher felt a need to conduct a study in order to arrive at a solution which may not only contribute to the present stock of knowledge, but may lead the individual and the societal group of Jaintia Hills District, Meghalaya to clarify the environmental concepts of their actions and recognize values in order to develop skills and attitude necessary for managing the environment for a better tomorrow. It may also entail code of practices and ethics for bring quality to the environment.