CHAPTER - V
SUMMARY AND CONCLUSION

We all know that human beings have basic needs, such as food, shelter, clothing, health, education, etc. But the life support systems have to operate without being over-burdened either by our withdrawal of natural resources or our discharges of waste and pollution. Neither should we forget the cultural and emotional aspects of human life. Sustainability requires that society and nature should be viewed holistically. Some people see sustainable development as a journey or an ongoing process within the limits of ecological frameworks. The long-term aim of this journey is to have as good a life as possible without hurting or harming other fellow humans or living beings. However, damaging environmental impact, the depletion of natural resources and a decreased biodiversity are all incompatible with sustainability. This trends have to be reversed in order to reach the goal of sustainability. Environmental Education for sustainable development can be understood as denoting initiatives and efforts that are driven by a shared ideal of improving the world we live in now and for the future. As such, the overarching goal of environmental education is to foster deeper and more meaningful participation in the environment. Apart from the obvious ones of helping strengthen environmental management and conservation, one of the important act is to bring about awareness of the need that the country develops in less wasteful ways than is the current paradigm. As well as in appreciating environmental values that are needed to be inculcated during the early years of development as roots of environmental ethics. This paper, through a case of Jaintia Hills district of Meghalaya is an attempt to reflect the kind of environmental challenges India faces and the wide and rich variety
of efforts that can come through EE. It also tried to analyze what has worked and why, or for that matter even what has not worked and why. It has also affirmed that Environmental Education is an integral and important strategy for the development of children and youths and even adults outside the classrooms.

The problem of environmental degradation is not limited to any particular country or region but it is global. In fact, the concern for environmental problems has never been as high as it is now. It is a high time to engage students in a dynamic process about the environmental realities of today’s world. Attitudes and Ethics towards the use of environmental resources must change our practices in the environment, we must re-educate ourselves to treat the environment with greater caution and control. It is this realization that gives ‘environmental attitude’ ‘environmental ethics’ ‘environmental practices ’ a place of prime importance in Environmental Degradation. These last few years, Jaintia Hills have seen an unprecedented growth in the number of coal mining, cement plants, automobiles, engineering projects, architectural pollution etc, these has been responsible for the growth of garbage and toxic waste which continue to pollute and endanger the eco-system. It is evident that every effort must be made to save this land from an irreversible disaster. Seeing the environmental degradation in Jaintia Hills District now is a high time for the individuals and citizens to wake up and think about our Mother Earth because for us ‘to be alive is to be a part of our environment and to be separated from it means ‘death’. Integrating Environmental Education into the curriculum support students in developing attitudes of care and responsibility; developing a good citizenship. Presently, it is being observed that most of the students in Jaintia Hills District are unaware about their surroundings. Environmental education, environmental ethics and sustainable development make
us realise that our cognitive, intellectual understanding of environmental issues is not enough, but we also need to develop a more affective understanding of environmental issues. *Environmental attitude and Environmental ethics imbibed through ‘environmental education’ ‘develops’ a person, to ‘command’ him/her as a ‘force’ from within to ‘make decisions’ and take ‘action’ in practical manner on the different aspects of the environment. Hence, Environmental Education for Sustainable Development should indoctrinate students, individuals, organizations for a life-long learning and sustainable life. Sustainable development pervades every aspect of life to maintain and improve environmental quality of life for future generations. Environmental Education should be positively developed in the students at this stage because students have different view points on environmental ethics, knowledge, attitudes and practice toward the environment. Environmental Ethics for Students are particularly important because it will ultimately be affected ‘by and will’ need to provide ‘solutions’ to environmental problems arising from present-day actions. Curriculum or syllabus of Environmental Education of Meghalaya should be able to establish a sound relationship between students and the environment, for a quality life toward a sustainable development. Because ‘students or youth’ of ‘today’ will be the one who ‘will take the responsibilities for fixing the tomorrow’s environment’. It is thus, justified that they are the ones who will be persuaded to adopt and pay the costs of future environmental policies.

5.1 Justification of the Study

Environmental Education is a learning process which helps to increase the knowledge and awareness of the people about their environment. It is high time that people should realize and recognize the urgent need for environmental education but sadly only few have clear ideas about what needs to be done and very few have clear
concept about either the actual experience or the knowledge about the courses that need to be taught in Environmental Education. The chief objectives of environmental education are to help the individual and social groups to acquire awareness, knowledge, attitude, skills, evaluation and participation. Environment has a holistic nature consisting of its physical, biological, social, cultural, economic, political which are interrelated with and interdependent on each other. The present relationship is the result of thousands of years if interaction between man and his biophysical surroundings. It is the right time to engage in a dynamic process to educate students of Jaintia Hills District Meghalaya about the socio-economic and environmental realities of today’s world. Most of the students are still unaware on the environmental issues, students are the future, pillars and the architects of our society. Therefore, it is essential to inculcate in them the environmental education for sustainable environment. Review had been made on different context and examined the different studies at different levels on environmental awareness, environmental knowledge, environmental attitudes, environmental ethics and environmental practices. And it was found that much research has been conducted on environmental education but yet minimum or perhaps no studies has been conducted on the three variables, i.e, environmental attitudes, environmental ethics and environmental practices from the cultural perspective point of view.

As culture carries a whole set of attitudes, ethics, practices and perspectives of one’s relationship with others including environment, the researcher proposed to know about today’s students, and the influence of their culture on their adherence to environmental variables like environmental attitudes, environment ethics and environmental practices. Further, no studies of this concern has also been done in Meghalaya. Meghalaya being a matri-lineal State predominated by three major tribal
communities, namely Khasi, Jaintia and Garos, have people with similar and
dissimilar cultural attitudes, ethics and practices. So in order to know more about the
culture and Environmental Education as antecedents and environmental attitudes,
environmental ethics and environmental practices as the consequences, the following
research questions are posed with special reference to Jaintia students of Jaintia Hills
District:
(i). Are the students aware about the environmental attitudes, environmental ethics
and environmental practices?
(ii). Are they responsible enough to adhere to positive environmental attitudes, ethics
and practices in order to sustain our environment?
(iii). What are the existing environmental attitudes, ethics and practices of the
particular group of students of Meghalaya?
(iv). To what extent does the existing cultural attitudes, ethics and practices affects
the environmental attitudes, ethics and practices of these students of Meghalaya?
(v). Are there any differences in the environmental attitudes, ethics and practices of
the students of the State across the institution with different types of management,
level of education and/or gender?

Based on the review of available related literature and on the research
questions, the investigator felt a need to study the environmental attitudes,
environmental ethics and environmental practices of the students from a cultural
perspective with an objective towards preventing environmental problems as well as
conserving and preserving the environmental heritage of Jaintia Hills District of
Meghalaya in particular and the globe in general so that Rene Dubos’ dictum
“Think Globally and Act Locally” will be achieved to a certain extend with this
humble attempt.
5.2 Statement of the Problem

Based on the need and justification of the study given, the statement of the problem was entitled as: “Environmental Attitudes, Ethics and Practices Among Jaintia Students in Jaintia Hills District, Meghalaya”.

5.3 Operational Definition of the Terms Used

**Environmental Attitudes:**

Environmental Attitudes are the strong feelings, ideas, motives and perceptions of concern for the Environment and for actively participating and preventing the deterioration of the environment. In the present study, the term environmental attitudes refers to the degree of positive or negative environmental attitudes of the Jaintia students.

**Environmental Ethics:**

Environmental Ethics is the study of moral phenomenon concerning the human environment relationship that addresses the ethical responsibilities of human beings for the natural environment. It also deals with the rights of other living creatures that inhabit the earth. In the present study, the term environmental ethics refers to the degree of positive or negative environmental ethics of the Jaintia students.

**Environmental Practices:**

Environmental Practices refer to the methods or actions of an individual towards the environment which are related to the preservation and conservation of his or her environment. The environmental practices in relation with environment could be learned through realizing the importance of nature’s conservation and by changing the practices of daily life. In the present study, the term environmental
practices refers to the degree of positive or negative environmental practices of the Jaintia students.

**Students:**

In the present study, students means the Jaintia students between the age group of 16-24 years of Higher Secondary and Colleges of Jaintia Hills Districts, Meghalaya identifying them as Pnar (Jaintia).

**Culture:**

Culture is an all comprehensive term. It defines the mode of behaviour and thinking particular to a group under the influence of their history and tradition. It is the knowledge, beliefs, behaviour, outlook, attitudes, values, goals, traditions and practices shared by a group of people that cannot be attributed to genetics. In the present study, the researcher will administer the test on the Jaintia students of Jaintia Hills District in Meghalaya from a Jaintia cultural perspective.

**5.4 Delimitation of the Study**

The study was delimited to the Jaintia students of higher secondary and colleges of Jaintia Hills District, Meghalaya. The Jaintia Students was identified on the basis of their Caste Certificates wherein they are known as Pnar (Jaintia).

**5.5 Objectives**

The proposed study intended to achieve the following objectives:

1. To study the Environmental Attitudes (EA), Environmental Ethics (EEth) and Environmental Practices (EP) among the Jaintia students in Jaintia Hills District.
2. To compare the Environmental Attitudes (EA), Environmental Ethics (EEth) and Environmental Practices (EP) of the male and female Jaintia students of Jaintia Hills District.
3. To compare the Environmental Attitudes (EA), Environmental Ethics (EEth) and Environmental Practices (EP) between the Jaintia students of private institutions and government institutions of Jaintia Hills District.

4. To compare Environmental Attitudes (EA), Environmental Ethics (EEth) and Environmental Practices (EP) between the Jaintia students of higher secondary and colleges of Jaintia Hills District.

5. To compare the Environmental Attitudes (EA), Environmental Ethics (EEth) and Environmental Practices (EP) between the Jaintia Students of higher secondary and colleges of Jaintia Hills District across streams.

5.6 Hypotheses

The following hypotheses of the study were formulated as follows:

5. There is no significant difference in the Environmental Attitudes (EA), Environmental Ethics (EEth) and Environmental Practices (EP) of the male and female Jaintia students in Jaintia Hills District.

6. There is no significant difference in Environmental Attitudes (EA), Environmental Ethics (EEth) and Environmental Practices (EP) between the Jaintia students of the private institutions and government institutions of Jaintia Hills District.

7. There is no significant difference in Environmental Attitudes (EA), Environmental Ethics (EEth) and Environmental Practices (EP) between the Jaintia students of higher secondary and colleges of Jaintia Hills District.

8. The is no significant difference in Environmental Attitudes (EA), Environmental Ethics (EEth) and Environmental Practices (EP) between the Jaintia students of higher secondary and colleges of Jaintia Hills District across streams.
From about 150 identified reviews 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. And though, only about four identified 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.

5.7 The methodology chapter of the present study deals with the selection of the sample, the tools used, the data collection procedure and the statistical techniques. The tools used were Taj Environmental Attitude Scale (TEAS), Taj Environmental
Ethics Scale (TEES), which were adapted by the researchers and Environmental Practices Scale (EPS) was constructed. The population of the present study consisted 27 Institutions of 6 Blocks of Jaintia Hills District, Meghalaya of which 1 Block is urban and 5 Blocks were rural. Amongst the 27 institutions, 22 Higher Secondary Institutions and 5 were either Government colleges or Non-Government colleges with a total population of 7689 Students. The sample was collected from 27 institutions of which 22 are Higher Secondary Schools and 5 are Colleges found in Jaintia Hills District. Adopting stratified cluster sampling technique; categorizing through certificates [Issues by Jaintia Hills Autonomous District Council (JHADC)], sex, type of institutions, areas, streams as the basis for stratification. From the total population (i.e 7689) only 30% Jaintia students (i.e 2290) was taken as sample of the present study. Therefore, the sample of the present study consists of 1219 Jaintia students of colleges (551 Male and 668 Female) and 1071 Jaintia students of Higher Secondary (431 Male and 640 Female).

The descriptive method was employed in order to examine the difference in chosen variable like Environmental Attitudes (EA), Environmental Ethics (EEth) and Environmental Practices (EP) of two main groups of Jaintia students as per educational levels (i.e Higher Secondary and Colleges) with the help of simple randomized design t-test. The variables was further studied across the type of institutions (i.e Higher Secondary and Colleges), across the type of management (i.e Government and Non-Government), across gender and across streams.

5.8 Data Collection

Focus Group Discussions (FGDs) was organised in few selected institutions in Jaintia Hills District, Meghalaya with prior written permissions from the authority. Participants were the investigator, teachers of the institutions and the
student’s population of the institutions and Civil Society members. The FGDs invent to have formal talks about the benefits of Environmental Education in relation with the chosen variables of the study followed on with the discussions of environmental problems in Jaintia Hills from cultural perspective. On the basis of the qualitative assessment of the reports of FGDs, Taj Environmental Attitudes Scale (TEAS) and Environmental Ethics Scale (EES) by Haseen Taj were adapted and Environmental Practices Scale (EPS) was constructed by the researcher. The three research tools were administered on 2290 sample and consecutively was gathered from the Jaintia students in Jaintia Hills District, Meghalaya on the same day of administration.

5.9 Statistical Technique

Keeping in view the objectives of the study, data collected from the sample was analyzed by using t-test.

5.10 Analysis of Data

The data collected through the Adapted Environmental Attitudes Scale, Adapted Environmental Ethics Scale and Environmental Practices Scale developed by the investigator was analysed and reported.

5.11 Major Findings

The finding of the present study were as follows:

1. The study reveals that EA of Jaintia students are more favourable towards the environment than EP, whereas less attached to EEth.

2. EA of female appeared to be more positive than male. However, both male and female show the same EEth and EP.

3. Results indicates that both private and government institutions having same level of EA and EEth. Whereas, positive EP were high in government institutions than private institutions.
4. The findings urged that colleges show more positive EA and EEth respectively as compared to higher secondary. However, equal EP shown between colleges and higher secondary.

5. Both arts and commerce streams show equal EA, EEth and EP.

6. It was found that arts and science streams possessing same favourable EA, EEth and EP.

7. The findings revealed that commerce and science streams have positively same EA and EEth. But, commerce stream appeared to be more concerned about EP than science stream.

8. The study revealed that arts stream of colleges have positive EA and EP than arts stream of higher secondary, however, arts streams of colleges and higher secondary have similar EEth.

9. Colleges’ positive EA of commerce stream are more than that of higher secondary commerce stream. However, commerce streams of colleges and higher secondary possessing similar EEth and EP.

10. Colleges’ of science stream show favourable EA than higher secondary science stream. However, science streams of colleges and higher secondary having alike EEth and EP.

11. The researcher observed that most of the students were well equipped with environmental education subject and has good knowledge about the concept but coming to acting out environmental friendly activities in the surroundings is quite an unsporting character as because in the FDG it was informed by the teachers that Environmental Education practical works are followed next to never. This implies that knowledge gained are practically not applied.
12. to Environmental Education followed under MBOSE syllabus lack locale specificity and relevance and does not promote a holistic understanding of own village/district environment.

13. Institutions declare off period during Environmental Education subject class.

14. It was revealed that larger ecosystem are explained in the classrooms without connections to and in relation to the local district ecological system. Additionally, it was discussed that sustainability of the programme depends on its acceptance by teachers and their ability to deliver the course effectively. But, teacher training for environmental education hardly occur.

5.12 Educational Implications

The present study reflected the importance of environmental attitudes, ethics and practices among the Jaintia students through environmental education. The present study has some educational implication towards its related area:

- It is a high time to make Environmental Education subject as one of the compulsory subject starting from primary to university levels of education for all the streams with holistic approach and locale specificity.

- Jaintia students were significantly higher in their Environmental Attitudes followed by Environmental Practices and Ethics. Therefore, teachers must be well trained in this particular subject.

- Teachers in Government institution and Private institution should be encouraged to take interest on environmental education subject in order to be well furnishing of the theoretical and practical contents included in the syllabus.
• Both Higher Secondary Schools and Colleges teachers and students should be able to indicate the environmental problems at their own surroundings, the reasons, the effect and solution of the problems.

• Environmental Education for Jaintia students should be general and easy concepts, including various local environmental issues should be given preference in the syllabus that will increase the interests of the students Environmental Attitudes, Ethics and Practices towards sustainable development.

• Special environmental programmes such as seminars, symposiums, workshops, campaign related to Environmental Attitudes, Ethics and Practices must be encouraged to organise in Jaintia Hills District Higher Secondary Schools and Colleges.

• To achieve the environmental objectives of MDGs Environmental Education subject should alarm the haphazard environmental issues in Jaintia Hills District.

• Environmental Attitudes, Ethics and Practices of the Jaintia students with same cultural background and geographical areas must encouraged to be more positive towards the environment.

• Curriculum of Environmental Education under MBOSE and NEHU should be more practical oriented of students and they should be able to draw conclusion and connection between larger ecosystems with their locale environment. They should be able to “Think Globally and Act Locally”.
5.13 Suggestions for further research

The present study endow with positive suggestions for further research. It can will be supportive if other research can conduct in future, the following are some of the suggestions:

- The present study covers the higher secondary schools and colleges students of Jaintia Hills District, Meghalaya among the Jaintia students. Similar studies can also be done on civil society members, businessperson, coal miners, employees of cement plant, besides, it can also be conducted on primary, secondary and university level of various institutions in Meghalaya.
- The present study consists only on the Jaintia students of higher secondary and colleges in which the similar studies can be made on the environmental attitudes, ethics and practices of parents and teachers in Meghalaya.
- The present studies is limited to sex, across management and across stream falls under same cultural practices and geographical area. Therefore, alike studies can be conducted across culture among the different tribes of people in Meghalaya.
- Attempts can also be made to study on trained and untrained teachers across institutions.
- A study on environmental attitudes, ethics and practices can be carried out at different district levels.
- A study can also be conducted on the same variables on the employees of Forest and agriculture office.
- An investigation on relationship between attitudes, ethics and practices on environment can be conducted at various levels of institutions.
• Comparative studies can also be conducted on the different Schools Boards students on the same variables in Meghalaya.

• Attempts can also be made to conduct a study on the field trip experience of the students in Meghalaya on environmental education.

• Environmental variables on attitudes, ethics and practices can further be used for the coal miners in Meghalaya

5.14 Conclusion

Thus, it can be concluded that EA of Jaintia students was stronger as compared to EP and EEth being the lowest in the score. Female showed positive EA than male but showed no difference in EEth and EP. Government institutions had positive EP than private institutions but showed same EA and EEth. Colleges EA and EEth were significantly higher than that of higher secondary but proved to have same EP. Arts verses commerce streams and arts verses science streams showed the same level of EA, EEth and EP. Commerce verses science streams having equal EA and EEth but commerce streams EP was positive than science stream. Arts stream of colleges appeared more favourable EA and EP respectively than higher secondary but having same level of EEth. EA of commerce stream of colleges found to be significantly higher as compared higher secondary but they were having same EP. Colleges science stream found to be having more positive EA than higher secondary science stream whereas they were having no difference in EEth and EP. The present study is an attempt to examining the infusion of EA, EEth and EP vide environmental education and its goal, objective, aims, methods, approaches among the Jaintia students of colleges and higher secondary. Environmental education aims to promote changes that meets the needs of the present without compromising the ability of future generations to meet their own needs (Brundtland,1987).
Environmental Education an integral part of formal education can do a lot to develop a storehouse of knowledge about the environment that helps to make a better place for tomorrow. In practice, Environmental Education should deal with the harmonious interaction between the biophysical environment and man himself, his societies and culture.

The studies aim to ensure that schools present within the communities are training a ‘citizens’ that will be ‘prepared youths’ for a challenging environment with changing world. It can take the help of schools, local self-governments (municipalities/panchayats) and voluntary civic organizations to ‘creatively formulate formal and non-formal learning platforms’ which would prepare citizens for a ‘sustainable future’. The most important step is to initiate a serious long-term planning process that begins with envisioning sustainable practices appropriate for local conditions. Local governments and civic groups can reach out to academic communities for assistance. Municipalities and local community organizations should serve as ‘catalysts’ for initiating partnerships and helping build consensus to infuse the principles of sustainable development into the educational curricula of local schools. In additions, civic groups in particular should seek out opportunities to interact with students in the classrooms, to teach them how important environmental education is at the present day context.
Figure 5.1 Stock of Coal
Figure 5.2 “Oopps!!!! This is Rat Hole”

Figure 5.3 Delicate Ladder of Rat Hole Mining
Figure 5.4 Mining site just next to road
Figure 5.5 Heap of coal near paddy field

Figure 5.6 Waste in Cement Factories
Figure 5.7 Dusty Cement Factories

Figure 5.8 Water Recycle Process in Cement Factories
Figure 5.9 Cement Factories Machineries
Figure 5.10 Placards of Cement Factories
Figure 5.11 Action Speaks
Figure 5.12 Machine inside Cement Factories
Figure 5.13 Dusty Jaintia Hills Road
Figure 5.14 Coal and Cement Transportation & Traffic Jam
Figure 5.15 Deforestation

Figure 5.16 Felled Trees
Figure 5.17 Disastrous Environmental Practice
Figure 5.18 Unsustainable Road Construction & Desertification

Figure 5.19 Mining and Degradation of River
Figure 5.21 Pressure on the Wildlife due to unnatural development

Figure 5.22 Dam construction & Removal of Natural Resources
Figure 5.23 Rat Hole Mining near Paddy Fields
Figure 5.24 Too tough for Shepherds to find green pastures

Figure 5.25 ‘Use Me’ in Rymbai Village