CHAPTER- V

FINDINGS . CONCLUSIONS AND RECOMMENDATIONS

This chapter is the concluding chapter of the present investigation. Here the problem selected for the study is restated and also the sample, instrument used, summary of findings, scope for further research study suggested.

5.1 INTRODUCTION

It was observed that degradation of environment mostly occurs due to destruction of natural environment. Now there is a cry all over for protection and preservation of such natural resources. This can only be possible if we have a right type of attitude towards such issues and if we have proper awareness in the related matters. It is widely accepted that the development of such awareness and attitude can be possible through Environmental Education. Education is an important social instrument and means, which acts as a catalyst in improvement of different aspects of life. Knowledge, awareness, skills, values and attitudes acquired through education help one to lead a desired quality of life. In order to protect and conserve the environment enabling people to lead quality life, emphasis has been given to Environmental Education in both formal and non-formal system of education. In formal system of education, teaching of Environmental Education depends not only on curriculum and other facilities provided to the students, but also the quality of teachers in terms of knowledge, awareness, attitude and skills related to Environmental Education.
Teacher plays a very significant role in developing desirable attitude, knowledge and awareness about environment among students. Today the global concern is to struggle against environmental pollution and maintain the standard of human environment. Environment in developing countries like India and Iran have been threatened by problems like poverty, pollution and over population (India) and degradation and depletion of environment (Iran). In addition to the industrial revolution, unprecedented scientific and technological revolution has resulted in disastrous changes in the environment leading to environmental degradation/crisis. The speed and nature of environmental change (particularly man-induced change) in recent years have brought about a series of environmental problems of global magnitude – including population explosion, energy resources and utilization, the provision of food supplies, exploitation of raw materials and environmental problem (Yashodhara, 2003). This environmental degradation or crisis has become a serious issue as it threatens not only the tranquility of people’s existence, but their health and lives as well. As such, the environmental protection and preservation has been an urgent need of the hour. Realizing its importance, the Indian States have also enshrined it into Constitution which requires both the State and citizen to “Protect, preserve and improve the environment”.

World educators and environmental specialists have repeatedly pointed out that a solution to environmental crisis will require an environmental awareness which should be deeply rooted in the education system at all levels of school education (Shukla, 2001). Today, environmental awareness is a very important topic for discussion and lots of conferences and seminars are being held at various levels. The environmental and energy related problems can not be solved unless students are
aware of them, because the students are the future citizens of the country. It is very much an essential need for each individual to develop an awareness of protection and preservation of the environment. The role of students would go a long way in achieving such desired goals. The present study is an attempt to examine the environmental attitude, knowledge and awareness of school students in relation to gender, residential background and type of school. Parents’ educational qualification, age, income and work status were also taken into consideration. Environmental problems such as depletion of natural resources, degradation of environment, environmental pollutions, loss of biodiversity, global warming and climate change have become prime concerns at global level. The causes, consequences and remedial measures of all the environmental problems were widely discussed at National and International levels during last few decades. Environmental Education has been unanimously accepted as an important tool to provide awareness to the global human society about the environmental problems, future plans for environmental protection and conservation, and to inculcate the knowledge to the younger generation. Environmental Education plays a vital role in the process of environmental awareness and forms an integral part of sustainable environment. Environmental Education is also important in conservation and protection of environmental quality. Therefore there is an appeal to launch an International Environmental Education Program (United Nations, 1972). Awareness and training in Environmental Education is given more emphasis as a strategy for the sustainable development (Rio, 1992). Increasing importance of Environmental Education process leads to the reflection on the definition and goals of Environment Education, as well as on its place within basic education (Montreal, 1997).
The role of the UNO and some developed countries over the protection of the Globe from the hazards of war and other scientifically induced damages such as depletion of ozone layer, melting of the ice bergs in the poles, increasing global warming are the current news in the leading news bulletins of the TV channels and the headlines of the newspapers. The highest judicial body of Indian sovereignty takes its whip against the agencies that do not promote the sense of awareness over the environmental issues. The UGC (University Grants Commission) in its circular stressed the need for inculcating the Environmental Education to all the undergraduate courses as the compulsory subject. The academic community has taken this order in its right sense and course on Environmental Education has been offered at degree level in Arts & Science college stream and in others as well, this is the right time to create awareness about the environment and teaching the strategies to protect the globe from different threats. Studies on Environmental Education will help create future India in a constructive way. Attempts made by the investigation in finding out the awareness of environment will throw light on some major issues and help in continuing some more attempts to study the impact of pollution and educational implications.

5.2 SUMMARY

The present study was an attempt to examine the attitude of Muslim students towards environment and knowledge on Environmental Education in and around Chennai in relation to gender, locality and type of school. Parents’ education, occupation, income, experience and age were also taken into consideration. This section explains the hypotheses, sampling, instrument, procedure, scoring and statistical techniques used for the study. The present study has been conducted in
eight Higher Secondary Schools in and around Chennai District. Among eight schools, two Government Schools, two Government Aided Schools, two Matriculation Schools and two Chennai Public Schools were selected.

A sample of eight Higher Secondary schools were selected for the research work using the stratified random sampling technique. A total sample of 705 students (380 male students and 325 female students) were selected randomly from these schools in and around Chennai. In the present study the investigator selected stratified random sampling technique. In this method, the population is divided into several groups that are individually more homogeneous than the total population. The selected items form to constitute a sample. Since each stratum is more homogeneous than the total population, the nature and qualities of the population are prevalent and identified in the sample also.

The tool used for the present investigation was the Taj Environmental Attitude Scale (TEAS) developed by Haseen Taj (2001), Bangalore University. This tool measures environmental attitude of teachers as consisting of six areas dealt within the scale and attitude towards population. There are several items in each. Thus constituting the total of 40 items on the scale. For Government, Govt. Aided and Chennai Public school students translated version in Tamil was used. For Matriculation school students original English version was used. The split-half reliability has been found to be 0.79. The investigator personally visited all the selected schools and met the students for explaining the purpose of study and instructed them as how to respond to the questionnaire. Also, for students, whenever, they had doubt in understanding questions, investigator made things very clear to them.
Each item alternatively assigned a weightage ranging from 4 (strongly agree) to 0 (strongly disagree) for positive statements. Inverse of negative statements the scoring is reversed, i.e., from 4 (strongly disagree) to 0 (strongly agree). The attitude score of an individual is the sum total of item scores on all the six areas. The range of scores is from 90 to 160 with the highest score indicating the more favourable attitude towards environment and vice versa (Shobeiri, 2005).

Knowledge dimension included multiple choice questions which assessed students’ knowledge about local and global environmental issues and basic ecological concept. Since the knowledge questions of the Environmental Literacy Test (ELT) were originally designed for University students, some of the questions were not suitable for school students. For this reason, only eight questions, out of 11, related to the local and global environmental issues were taken from the Environmental Literacy Test originated from the NEETF/Roper Survey (1998). Ten questions related to local and global environmental issues and basic ecological concepts were taken from the previously adapted instrument (Alp, 2005), which was originally developed by Leeming and Dwyer (1995) for young children. Moreover, 2 questions, about global warming and biological magnification, were taken from Vlaardingerbroek and Taylor’s (2007) study. The final knowledge dimension included 20 questions with five choices, one of them was correct answer, and three of them were distractors. Each knowledge question included an ‘I don’t know’ to help prevent guessing. In computing knowledge score, each correct response received a numeric value of 1 and incorrect responses were coded 0. Therefore, the maximum score of knowledge dimension was 20, the minimum score was 0. The higher score means the higher
knowledge about local and global environmental issues and basic ecological concept. The internal consistency of the knowledge dimension of environmental literacy test was found to be 0.68 by using Cronbach alpha coefficient. Questions from CHEAKS – Children’s Environmental Attitude and Knowledge Scale (1995) were selected.

Using SPSS statistical analysis package, ‘t’ – test was employed to find out the difference in various aspects from the level of environmental attitude including gender, locality and type of school. The investigation attempted to study on attitude of Muslim students towards environment and knowledge on environmental education in and around Chennai. Hence the investigator selected the following variables as independent variables.

1) Gender (Boys, Girls)
2) Locality (Rural and Urban)
3) Types of management (Government, Government Aided, Chennai Public schools and Matriculation schools)
4) Attitude of the students about Environment Education
5) Knowledge of the students about Environment Education
6) Parental educational qualification, occupation, income, experience and age.

The investigator used the survey method in this study. The survey method is aimed at finding out the attitude and knowledge towards Environmental Education among the Muslim students in and around Chennai. In the simplest way, the research design is a plan structure and strategy of investigation in order to answer to the research question. “Design is the blue print of the procedures that enables the researcher to test these hypotheses by reaching valid conclusion about relationships between independent and dependent variable” says Best (1978). Hence, to be right
towards the goal, it is necessary to have a design for the research being carried out at
the very beginning. However, it is also true that “selection of a particular design”, as
Best (1978) suggests, and “is based upon the purpose of the experiment, the types of
variables to be conducted”. Therefore, it is apparent that the designs differ, as the
problem differs.

The investigator attempted to study the attitude of Muslim students towards
environment and knowledge on Environmental Education in and around Chennai.

The investigator was very much interested in analyzing the attitude of Muslim
students towards environment and knowledge on Environmental Education in and
around Chennai, with respect to their gender, locality and type of management,
parental educational qualification, occupation, income, experience and age. In the
behavioural sciences, generally survey methods such as the historical, the descriptive
or the normative survey adopted more frequently as compared to the experimental
method. The survey is an important method that has developed greatly since the
middle of this century and is valuable for many purposes. The survey covers the
grounds to be explored, providing detailed information regarding some prevailing
state of affairs, describing the salient features, regarding what has been explored in
the course of the study.

The survey research is essential for the collection of facts and information
relevant to the problems investigated in educational research. The aim and purpose of
the educational survey is to bring to light many facts, which will point out the need
for refinement and improvement in the educational system. It involves measurement,
classification, interpretation, comparison, evaluation and generalization all directed
towards a proper understanding and solution of the problems.

As the present study deals with “Attitude of Muslim students towards
environment and knowledge on Environmental Education in and around Chennai“,
the investigator adopted the survey method that was found suitable to gather the
essential and reliable data. Reliability is one of the important characteristics of a good
evaluation technique or test. Reliability is the consistency of a test, yielding the same
results in measuring whatever it does matter. The reliability was found to be 0.79
which was determined by spilt-half method. This method also yields what is
sometimes called a co-efficient of equivalence. The test is split into two equivalent
halves usually by pooling the odd numbered items for one score and even numbered
items for another score. This usually makes the two scores obtained from a single test
reasonably equivalent. In this way, two scores for each pupil are obtained.

According to Lindquist, “the validity of a test may be defined as the accuracy
with which it measures that which it is intended to measure”. Validity of a test can be
reported in general terms; no test has high or low validity in the abstracts. For the
present study, the researcher gave the tools to the juries, experts, and their suggestions
were carefully incorporated in the tools which ensures the reliability and validity of
the tools used in the study. Treatment of data by applying appropriate statistical
measure is a must to justify the objectives of the study. The investigator followed the
appropriate procedure in applying the proper statistical treatment for the analysis of
the data. They are as follows:
The statistical analysis helps the investigator to analyze the attitude and knowledge of the group on environmental education. The main procedure of the data gathering procedure is to find out the attitude and knowledge of the Muslim students in and around Chennai. So, the investigator met the Head masters / Principals of the concerned school, the investigator explained about the study and requested permission of data gathering. Questionnaires were given to the school students; all the students gave responses in the response sheet by choosing one out of four options for each statement, which they feel correct and appropriate. After they completed their responses, the investigator collected the response sheet from the students. Parents’ education, occupation, income, experience and age were also taken into consideration.

**5.3 OBJECTIVES OF THE STUDY**

1) To study the attitude and knowledge about Environmental Education amongst the Muslim students

2) To study the attitude and knowledge about Environmental Education of Muslim students in terms of gender (Boys and Girls)

3) To study the difference in the attitude and knowledge about Environmental Education of Muslim students in terms of locality (Rural and Urban)
4) To study the difference in the attitude and knowledge about Environment Education of the Muslim students in terms of type of school management.

5) To study the attitude and knowledge about Environmental Education of the Muslim students based on their parents’ education, occupation, income, experience and age.

5.4 HYPOTHESES

Ho₁ There is no significant difference between the Muslim boys and girls in their attitude and knowledge towards Environmental Education.

Ho₂ There is no significant difference between the Muslim urban and rural school students in their attitude and knowledge towards Environmental Education.

Ho₃ There is no significant difference between the Muslim rural boys and girls in their attitude and knowledge towards Environmental Education.

Ho₄ There is no significant difference between the Muslim urban boys and girls in their attitude and knowledge towards Environmental Education.

Ho₅ There is no significant difference between the Muslim students from Govt. Aided schools in their attitude and knowledge towards Environmental Education.

Ho₆ There is no significant difference between the Muslim students from Government schools in their attitude and knowledge towards Environmental Education.

Ho₇ There is no significant difference between the Matriculation schools Muslim boys and girls in their attitude and knowledge towards Environmental Education.
Ho₈ There is no significant difference between the Chennai Public school Muslim boys and girls in their attitude and knowledge towards Environmental Education.

Ho₉ There is no significant difference between the Muslim students from Government schools and Government Aided schools in their attitude and knowledge towards Environmental Education.

Ho₁₀ There is no significant difference between the Muslim students from Government Aided schools and Matriculation schools in their attitude and knowledge towards Environmental Education.

Ho₁₁ There is no significant difference between the Muslim students from Matriculation schools and Chennai Public schools in their attitude and knowledge towards Environmental Education.

Ho₁₂ There is no significant difference between the Muslim students from Government schools and Matriculation schools in their attitude and knowledge towards Environment Education.

Ho₁₃ There is no significant difference between the Muslim students from Government Aided schools and Chennai Public schools in their attitude and knowledge towards Environment Education.

Ho₁₄ There is no significant difference between the Muslim students from Government schools and Chennai Public schools in their attitude and knowledge towards Environmental Education.
Ho15 There is no significant difference between the Muslim urban girls and rural boys in their attitude and knowledge towards Environment Education.

Ho16 There is no significant difference between the Muslim urban boys and rural girls in their attitude and knowledge towards Environmental Education.

Ho17 There is no significant difference between the attitude and knowledge about Environmental Education of the Muslim students based on their parents’ education, occupation, income, experience and age.

5.5 FINDINGS

1. Muslim school boys and girls showed no significant difference with respect to attitude and knowledge towards Environmental Education.

2. The Muslim students studying in urban and rural schools showed no significant difference with respect to attitude and knowledge towards Environmental Education.

3. There is a significant difference noticed between rural Muslim boys and girls in their attitude and knowledge towards Environmental Education.

4. There exists significant difference between urban Muslim boys and girls in their attitude and knowledge towards Environmental Education.

5. No significant difference was noticed between the Govt. Aided school Muslim boys and girls in their attitude and knowledge towards Environmental Education.

6. No significant difference was observed between the Government schools Muslim boys and girls in their attitude and knowledge towards environmental education.
7. Matriculation schools’ Muslim boys and girls students showed no significant difference in respect of attitude and knowledge towards Environmental Education.

8. There exists significant difference between the Chennai Public school Muslim boys and girls in their attitude and knowledge towards Environmental Education.

9. No significant difference was noticed between Government school Muslim students and Govt.Aided school Muslim students in their attitude and knowledge towards Environmental Education.

10. Govt.Aided school Muslim students and Matriculation school Muslim students also showed no significant difference in their attitude and knowledge towards Environmental Education.

11. No significant difference was noticed between Matriculation school Muslim students and Chennai Public school Muslim students in their attitude and knowledge towards Environmental Education.

12. Government school Muslim students and Matriculation school Muslim students also showed significant difference in their attitude and knowledge towards Environmental Education.

13. No significant difference was noticed between Govt. Aided school Muslim students and Chennai Public school Muslim students in their attitude and knowledge towards Environmental Education.

14. No significant difference was noticed between Chennai Public school Muslim students and Government school Muslim students in their attitude and knowledge towards Environmental Education.
15. Significant difference was noticed between urban Muslim girls and rural boys in their attitude and knowledge towards Environmental Education.

16. There is no significant difference between the attitude and knowledge about Environmental Education of the Muslim students based on their parents’ education, occupation, income, experience and age.

17. Urban Muslim boys and rural girls also showed significant difference in their attitude and knowledge toward Environmental Education.

18. Students who had obtained information from field trips had better environmental knowledge, skill, and attitude.

19. All the age groups had moderate knowledge related to environment and attitude.

20. Educational background of mothers is effective on students’ knowledge only.

21. There is a significant effect of fathers’ education on students’ environmental knowledge.

22. Students who had working mothers had more knowledge about environmental concepts.

23. Students who had educated parents had a higher knowledge on environment.

5.6 CONCLUSIONS

1. The present study reveals that there is a significant difference between the urban school boys and girls.

2. The study indicates no significant difference in the level of environmental attitudes and environmental knowledge of Muslim students.
3. Locality has influence on gender in the attitude and knowledge of urban boys and girls. School management has no influence on the attitude and knowledge of Muslim students.

4. Locality has influence on the attitude and knowledge of Muslim students.

5. Environmental education should be a continuous and life long process inculcated from pre-school to all age groups.

6. Environmental threats and issues should be introduced to all age group of people.

7. The survival of human race on the earth is connected with the maintenance of natural equilibrium in the environment.

8. Thus education is the only means by which we can prepare the future generation to face the environmental problem.

9. There is no significant difference between the attitude and knowledge about environmental education of the Muslim students based on their parents’ education, occupation, income, experience and age.

10. All age groups had moderate knowledge and attitude towards environmental education.

11. Mothers’ educational background is effective on students’ knowledge.

12. Fathers’ educational qualification is significant on students’ attitude and knowledge on Environmental Education.

13. Students who had working mothers had more knowledge about environmental concepts.

14. Students who had educated parents had a higher attitude and knowledge about Environmental Education.
5.7 RECOMMENDATIONS FOR THE FURTHER RESEARCH

Research is a vital and comprehensive area. The purpose of any research is to find solution scientifically for the problems related to education, society etc.,. However investigation of one problem always provides many research questions that can be investigated by other researches. Some of the areas for research in the future may be as follows.

1. This study was confined to only eight Higher Secondary schools for Muslim students in and around Chennai District. The same study may be conducted in other Districts, Regional, State levels in future.

2. The present study was confined to the school students. This may be extended to the college students and to the teachers at various levels of school education.

3. This study may be conducted at college level also.

4. Likewise this study may be conducted between the professionals of the Government and Non Governmental organizations (NGOs).

5. Corporates may be involved in the study and working of these projects as it can be a form of recreation also.

6. School students can be motivated to take up activity based projects related to the study. Group activities or individual activities can be assigned to the students and teachers can facilitate and encourage the students to complete the project. Workshops, debates, discussions can be organized. As Environmental Education is an inter disciplinary and action oriented subject,
related projects can help students to become more aware, have increased knowledge and develop a healthy attitude towards the environment.

5.8 IMPLICATIONS OF THE STUDY

The following are few educational implications of the study:

1. The study will be of immense use in the understanding of attitude, knowledge and awareness level of all school students towards Environmental Education.

2. The study will be more useful to students of all grades as the subject is an interdisciplinary and an action oriented one.

3. The study will be more useful when the practice of conservation and preservation of the environment is highlighted to the students.

4. The study will be meaningful when the students understand the concepts of global warming, carbon footprint, deforestation, ozone layer depletion, black hole formation, energy crisis, acid rain and sea erosion.

5. Activities related to Science clubs, Eco clubs, Green Ribbon clubs, school garden maintenance, Nature walk when implemented by the school authorities and the teachers will help students to discipline themselves and conserve the environment.

6. Project work either in groups or individual, brainstorming sessions, discussions and debates can also help the students become aware of their surroundings.