CHAPTER-V
CHAPTER – V

CONCLUSION AND SUGGESTIONS

The earlier chapters (Chapter 1st to 4th) were concerned with introduction, Review of Related Literature, Methods and Procedure, Data Analysis and their interpretations. Now, the present Chapter presents the conclusions drawn on the basis of the preceding Chapters.

The main concluding points collected after an overall view of the entire thesis are being presented below.

5.1 Environmental Awareness of Secondary School teachers (Total Sample)
1. A small percentage of Secondary School teachers (24.4%) show a low performance on the Environmental Awareness Scale (Table 4.1b).

2. Only 42.4 % Secondary School teachers are satisfactorily aware of the environment (Table 4.1b).

3. Only 4.8 % Secondary School teachers are such who are having very high awareness of the environment and its issues (Table 4.1b).

4. 16% Secondary School teachers are such who are having quite high awareness of the environment (Table 4.1b).

5.2 Relationship between Environmental Awareness and Gender of Secondary School teachers.

When the relationship between Environmental Awareness and Gender of Secondary School teachers was analyzed, following conclusions were drawn:
1. There exists a significant difference in the Environmental Awareness of Male Secondary School teachers and Female Secondary School teachers. The Male Secondary School teachers are found to be environmentally more aware than Female Secondary School teachers. Thus, Gender contributed significantly to the Environmental Awareness of Secondary School teachers. (Table 4.2a).

2. A significant difference is found to exist in the Environmental Awareness of Male Secondary School teachers of Science group in comparison to Female Secondary School teachers of Science group. It is thus concluded that Male Secondary School teachers of Science group are more aware and conscious of the environment as compared to the Female Secondary School teachers of Science group. (Table 4.2b).

3. There exists a significant difference in the Environmental Awareness of Male Secondary School teachers of Social Science group in comparison to Female Secondary School teachers of Social Science group. Male Secondary School teachers of Social Science group are more aware of the environment than Female Secondary School teachers of Social Science group. Therefore, it was concluded that Gender contributes to the environmental awareness of Secondary School teachers. (Table 4.2c).

4. A significant difference is found to exist in the Environmental Awareness between Male Secondary School teachers of Science group and Male Secondary School teachers of Arts group. Hence, it is concluded that Male Secondary School teachers of Science group are more aware of the environment in comparison to Male Secondary School teachers of Arts group. Thus, it is concluded that Subject-Area contributes significantly to the Environmental Awareness of the Secondary School teachers. (Table 4.2d).
5. When the Environmental Awareness between Female Secondary School teachers of Science group and Female Secondary School teachers of Arts group is compared, a significant difference is found to exist. Thus, it is concluded that Female Secondary School teachers of Science group are more aware of the environment in comparison to Female Secondary School teachers of Arts group. Here, the Subject-Area contributed significantly to the Environmental Awareness of the Secondary School teachers. (Table 4.2e).

6. A significant difference is found to exist in the Environmental Awareness of Male Secondary School teachers of Science group and Male Secondary School teachers of Social Science group. Thus, it is concluded that Male Secondary School teachers of Science group are more aware of the environment in comparison to Male Secondary School teachers of Social Science group. Hence, Subject-Area plays a greater role in developing Environmental Awareness of the Secondary School teachers and whatever difference in awareness is the, it is due to Subject-Area and not due to Gender (Table 4.2f).

7. A significant difference is found to exist in the Environmental Awareness of Female Secondary School teachers of Science group and Female Secondary School teachers of Social Science group. It is, therefore concluded that Female Secondary School teachers of Science group are more aware of the environment in comparison to Female Secondary School teachers of Social Science group. (Table 4.2g).

8. No significant difference has been observed in Environmental Awareness between Male Secondary School teachers of Arts group and Female Secondary School teachers of Arts group. Thus, it can be clearly noted that Gender does not contribute to Environmental Awareness of
the Secondary School teachers. Here, the ‘t’ value, ‘t’ = 1.17 is the lowest ‘t’ value obtained among all the comparative groups, when the Environmental Awareness of the Secondary School teachers is compared. (Table 4.2h).

9. It can also be noted that there exists a significant difference exist in Environmental Awareness of Female Secondary School teachers of Social Science group and Female Secondary School teachers of Arts group. Therefore, it can be concluded that Female Secondary School teachers of Social Science group are more aware of the environment in comparison to Female Secondary School teachers of Arts group. (Table 4.2i).

10. A significant difference is found to exist in the Environmental Awareness of Male Secondary School teachers of Social Science group in comparison to Male Secondary School teachers of Arts group. Thus, it can be concluded that Male Secondary School teachers of Social Science group are more aware of the environment in comparison to Male Secondary School teachers of Arts group. (Table 4.2j).

5.3 Relationship between Environmental Awareness and Subject-Area of Secondary School teachers.

When the relationship between Environmental Awareness and Subject-Area of Secondary School teachers was analyzed, following conclusions were drawn:-

1. It has been observed that a significant difference exists between Secondary School teachers of Science group in comparison to Secondary School teachers of Social Science group. It is therefore, concluded that Secondary School teachers of Science group are more
aware of the environment as compared to Secondary School teachers of Social Science group (Table 4.3a).

2. A significant difference is found to exist in Environmental Awareness between Secondary School teachers of Science group and Secondary School teachers of Arts group. Thus, it is concluded that Secondary School teachers of Science group are more aware of the environment in comparison to Secondary School teachers of Arts group. (Table 4.3b).

3. It can also be noted that a significant difference exists between Secondary School teachers of Social Science group and Secondary School teachers of Arts group. Thus, it can be concluded that Secondary School teachers of Social Science group are environmentally more aware as compared to Secondary School teachers of Arts group. (Table 4.3c).

5.4 Relationship between Environmental Awareness and Types of School of Secondary School teachers.

When the relationship between Environmental Awareness and Types of School of Secondary School teachers was analyzed, following conclusions were drawn:

1. The present investigator noticed that there exists a significant difference between teachers of Government Secondary School teachers in comparison to teachers in Private Secondary Schools on total sample. Thus, it is therefore concluded that Secondary School teachers teaching in Government Secondary Schools are more aware of the environment in comparison to Secondary School teachers teaching in Private Secondary Schools. (Table 4.4a).
2. It has been observed by the present investigator, that there exists a significant difference between Male teachers of Government Secondary Schools in comparison to Female teachers in Government Secondary Schools. It can be, therefore concluded that the Male Secondary School teachers in Government Secondary Schools are more aware of the environment as compared to Female Secondary School teachers in Government Secondary Schools. It is also noticed that the ‘t’ value, ‘t’ = 11.68 is the highest value obtained among all the comparative groups of Secondary School teachers. (Table 4.4.b).

3. No significant difference has been found in Environmental Awareness between Male Secondary School teachers teaching in Private Secondary Schools and Female Secondary School teachers teaching in Private Secondary Schools. Hence, it can be clearly noted that Type of School does not contribute significantly to the Environmental Awareness of the Secondary School teachers. (Table 4.4c).

4. A significant difference has been observed on Environmental Awareness of Female Secondary School teachers in Government Secondary Schools in comparison to Female Secondary School teachers in Private Secondary Schools. Thus, it can be concluded that Female Secondary School teachers in Private Secondary Schools are having a little more Environmental Awareness in comparison to Female Secondary School teachers in Government Secondary Schools. Therefore, it can be noticed that Type of School does not significantly contribute to the Environmental Awareness of the Secondary School teachers. (Table 4.4d).

5. A significant difference is observed on Environmental Awareness of Male Secondary School teachers in Government Secondary Schools in comparison to Male Secondary School teachers in Private Secondary
Schools. Thus, it is concluded that Male Secondary School teachers in Government Secondary Schools are having more awareness of the environment in comparison to Male Secondary School teachers in Private Secondary Schools. Hence, it is clearly evident that type of School does contribute to the Environmental Awareness of the Secondary School teachers. (Table 4.4e)

5.5 Relationship between Environmental Awareness and Socio-economic Status of Secondary School teachers.

When the relationship between Environmental Awareness and Type of School of Secondary School teachers was analyzed, following conclusions can be drawn:-

1. A significant difference is observed when Secondary School teachers of High Socio-economic Status were compared with Secondary School teachers of Low Socio-economic Status (Total Sample). Thus, it is concluded that Secondary School teachers of High Socio-economic Status were more aware of environment in comparison to Secondary School teachers belonging to Low Socio-economic Status. (Table 4.5a).

2. A significant difference is observed between Male Secondary School teachers of High Socio-economic Status in comparison to Male Secondary School teachers of Low Socio-economic Status. It is therefore, concluded that Male Secondary School teachers of High Socio-economic Status are more aware of the environment in comparison to Male Secondary School teachers of Low Socio-economic Status. (Table 4.5b).

3. No significant difference has been observed between the Females of High Socio-economic Status in comparison to Female Secondary School
teachers of Low Socio-economic Status. The ‘t’ value, ‘t’ = 0.28 is also found to be non-significant at both the levels of confidence. Thus, Socio-economic Status does not make any difference in Environmental Awareness of Female Secondary School teachers belonging to High Socio-economic Status and Low Socio-economic Status. (Table 4.5c).

4. A significant difference has been observed in Environmental Awareness of Male Secondary School teachers belonging to High Socio-economic Status in comparison to Female Secondary School teachers of High Socio-economic Status. It is therefore, concluded that Male Secondary School teachers belonging to High Socio-economic Status group are more aware and conscious of the environment as compared to Female Secondary School teachers of High Socio-economic Status. Also, the obtained ‘t’ value, ‘t’ = 9.13 is the highest value obtained among all the comparative groups of Secondary School teachers. Hence, it can be clearly noted here, that Gender contributes to the Environmental Awareness but Socio-economic Status does not. (Table 4.5 d).

5. The investigator observed a significant difference on the Environmental Awareness of Male Secondary School teachers belonging to Low Socio-economic Status group in comparison to Female Secondary School teachers belonging to Low Socio-economic Status. Therefore, it is concluded that Male Secondary School teachers belonging to Low Socio-economic Status group are having more awareness and consciousness of the environment in comparison to Female Secondary School teachers belonging to Low Socio-economic Status. Hence, it is clearly evident that Gender contributes significantly to the Environmental Awareness of Secondary School teachers. (Table 4.5e).
5.6 Suggestion for further studies:

The present investigation has been carried with due care and thought, but still there is a scope for further research in different directions. The present investigation may serve as a threshold for further studies considering different aspects related to the problem.

The investigator would like to submit his humble suggestions in the light of his experience and the results of the present study:-

1. The investigator, himself constructed a suitable tool for the assessment of the environmental awareness of Secondary School teachers. This tool viz; Environmental Awareness Assessment Scale (EAAS), covered nine to ten issues relate to our environment. This Scale may still contain some lacunae and limitations.

   Some other topics and issues related to environment such as Global warming, Bio-diversity conservation, ecological balance, melting of Glaciers, Emission of Green house gases, conservation of endangered species and animals, water and waste recycle, use of Solar energy, banning the use of Plastics, use of Bio-energy such as eco-fuels (use of Jatropha plants) and bio-gas and some other similar topics related to our environment may also be included as further research areas.

   Therefore, any further research on teachers and particularly on Secondary school teachers, must take into account these factors.

2. As the present investigation has taken into account only Gender, Subject-Area, Type of School and Socio-economic Status as independent variables, it is therefore felt that some more variables which could be profitably studied may also be undertaken, visa -vis the regional differences among teachers, religion of teachers, value based environmental studies, taboos, ethics, personality profile of Secondary School teachers, teacher’s attitude towards environment, rural-urban
variable, effect of culture on the teacher’s attitude towards environment, impact of School environments and climate on teacher’s attitude and so on. The effect of these variables could be seen on the Environmental Awareness of Secondary School teachers.

The following are the suggestions for further research on different parameters which could be done:-

a. Information and Communication Technology (ICT) should be used effectively among all the teacher training institutions, which will certainly allow the implementation of the teaching/ institution of the subject.

b. During teacher Education courses (B.Ed & M.Ed) every graduating teacher as well as teacher educators should receive theoretical and practical training ion the value system and approaches related to environmentally conscious behaviour.

c. This concept of giving training to pre-service teachers and in-service teachers should be replicated at the University level also.

d. Every department of the University, if lacks subject serving specialised Environmental Education should at least introduce basic Environmental Education as a separate subject or discipline.

e. An Environmental training system should be framed for every professional course of Teacher Education University Education.

f. In current situation, it would be serviceable to present the system of requirement as well as applicable methodology for Environmental Education to Secondary School teachers from varied aspects.
g. Environmental experts from outside may also be invited to train teachers and teacher educators or teachers of different subjects of various school.

h. Besides Teacher's training much thrust should be given on curriculum transaction of Environmental Education. For this purpose non-formal and in-formal methods should be used to supplement the formal curriculum. Ideas may be borrowed from various environmental movements as CHIPKO movements of Uttaranchal and APPIKO movement in Karnataka.

i. Issues concerning environment should be seen as a whole covering natural Sciences (Biology, Ecology, Earth Sciences), Social Sciences (Economics, History, Sociology) and Humanities (Philosophy, Ethics).

j. Every teacher education institution should take the responsibility to organize Seminars, workshops, conferences, orientation and refresher courses, on Environmental Education, so that qualitative improvement of teacher educators should take place.

k. Environmentally skilled teachers should be developed so that they can educate and terrain future teacher educators in this area.

l. Action research bin dissertation and PhD level should be taken to solve the ever increasing problem and complexity of our environment.

m. Extension Education must adequately be linked with regular academics work at the teacher training institution so that student can plan some activities in extension education and involvement of community people is possible.
n. An orientation programme on Environmental Education should be compulsory for all teacher educators and other professional.

o. Different Teacher Training Institutions should develop information package on Environmental Education and widely made available.

p. Making Environmental Education value based should be one of the important recipe for transforming our life style and attitudes. If basic values like i) Human values, 'man in nature' rather than 'nature for man', ii) Social values like love, compassion, tolerance, justice, iii) Ethical values, iv) Global values i.e. human civilization is a part of the planet as a whole and v) Spiritual values highlighting the principle of self-restraint, self-discipline, contentment, reduction of wants, freedom from greed and austerity, are incorporated into Environmental Education, we can go a long way in attaining the goals of Sustainable Development and environmental conservation.

A linear combination of all independent variables, viz; Gender, Type of Subject, Type of School and Socio-economic Status against the dependent variable, which is Environmental Awareness, could be taken for further studies.

However, the present investigation may serve as a starting point for further research in various directions. Certain variables have still not been covered such as rural-urban areas, due to obvious financial and time limitations. The present studies and the future studies that should be undertaken have also shown to impact a person’s views and mould the attitude accordingly due to the parent’s professional and economic environment.

The studies undertaken in this present thesis work may further be replicated on a very large sample of teachers, both at Primary School level and also at Higher Secondary School level. The review of related literature has revealed that Studies on Environmental Awareness of Secondary Schoolteachers are rare. In-spite of the fact that Environmental Education as a
research area has attracted the attention of researchers, the awareness of teachers towards environment has not been studied properly.

The investigator therefore suggests that future researches in this area may take care of the above mentioned variables which have not been covered in this research due to paucity of time and limited resources on the part of the investigator, especially financial and spatial resources.

5.7 Educational Implications:

Educational research enhances knowledge and provides new insights into the human endeavor and planning. In the present day global scenario where global warming and other environmental issues are engaging the attention of world leaders, political as well as social and of our scientists, it is extremely important that teachers should be well aware of the problem.

Environmental Education connects the entire world globally and it solves many problems faced by the human beings on this planet and Environmental Pollution and degradation being one of such problems.

Education, especially Environmental Education develops awareness in human beings towards environment and it also enhances the concern of the people towards their immediate surroundings as well as towards the entire world.

The review of related literature and other researches have highlighted this point again and again that the government, the Policy makers and the educationists all have to come on one platform to propagate Environmental Education in order to increase awareness of people towards the environment. The print and electronic media are also playing an important role in developing awareness towards the environmental problems and its related issues.

Teachers play a pivotal role in generating knowledge and assimilating it as well. They also play a significant role in generating awareness among students of any issue of concern. Secondary School teachers are concerned with such a group of students which are supposed to be a greater human resource and potential for nation as well as for the whole world.
The effective implementation of Environmental Education requires large number of teachers who are knowledgeable and skillful to deal with Environmental Education in a meaningful way. This would also require some training to handle child centred and activity based curriculum. The role of teacher in Environmental Education includes teacher as a (Srivastava, Nalini, 2006)

i) Planner
ii) Sustainer
iii) Rewarder
iv) Value investigator

Teachers have a great impact on society as they interact with young and growing minds who are easily influenced by their teachers’ views. The teacher has to play an important role in national development and social change. Teacher education is ultimately connected by the ethos, culture and character of a nation. The introduction of Environmental Education requires the involvement and participation of teachers, students and administrators. It offers teachers a rich and diverse array of activities and opportunities to enrich their classroom teaching and help children develop positive attitude and behaviour towards environment. Since teachers play a major role in the education of children, their own education becomes a matter of viral concern. Teacher education must, therefore create necessary awareness among teachers about, and through the environment.

Therefore the effectiveness of Environmental Education relies heavily on the knowledge, skills, and attitudes of the teacher. Efforts have been made for integration of Environmental Education into teachers training curriculum. The teachers themselves should possess enough environmental awareness, positive Environmental attitude and skills of achieving objectives in relation to their students. For this purposed, it is also needed to have a adequate Environmental Education programmes for pupil teacher in their training course.
The teacher is the principle means for implementing the programmes of Environmental Education. As most of the teachers are unaware about environmental decay and about the results of their present life style, it is the need of the hour to make them aware of environment and this can be done only by formal education, by introducing various programmes and including the proper content in their study subjects.

The results of this study can be applied in educational systems for modification of curriculum, teaching methods and for inculcating environmental values in teachers as well as students.

The present thesis work reveals that Male Secondary School teachers of Science group and those Secondary School teachers who are working in Government Secondary Schools are more aware of the environment in comparison to Female Secondary School teachers of Science, Arts and Social Science and those Secondary School teachers who are working in Private Secondary Schools.

Thus, from the results, it can be seen that not much awareness has been developed in Secondary School teachers, so there is a paramount need to develop awareness in teachers also.

Government and Policy makers should think seriously about the problem and should launch Environmental Education and Environmental Awareness programmes in order to generate awareness about the environment in Secondary School teachers. Both pre-service and in-service training of the Secondary School teachers should be arranged so that they become more aware of the environment and its related issues.

The most important characteristic to be inculcated in teachers through the training is the ecological way of thinking and environmentally responsible behaviour. They should be able to infuse environmental perspectives individually into their classes and collectively foster Environmental Education through educational institutions, professional societies and local advocacy groups. National Council of Teacher Education (NCTE) has also recommended that Environmental Education components may be incorporated in the pre-
service training of the teachers. As we know that teachers and especially Secondary School teachers play a pivotal role in imparting Environmental Education, therefore there is a general need for properly and adequately trained teachers at all the stages of school education in order to achieve the objectives of Environmental Education as a subject. To realize this, the curriculum of teacher education should be such so as to provide the basic knowledge and conceptual understanding of Environmental Education as well as to develop relevant skills and attitudes in student teachers and the existing cadre of teachers.

Both the pre-service and in-service teacher education programmes should be strengthened and for this basic strategies include:

1. Reviewing and modifying the existing pre-service and in-service education programmes in view of the need for making Environmental Education their integral part and providing theoretical and practical inputs specifically focusing on environment related issues and concerns.
2. Sensitizing teachers and student teachers with planning, organizing and conducting of projects, activities and case studies in Environmental Education and enabling them to generate desired action amongst the learners.
3. Providing exposure to different kinds of projects already in progress in the community.
4. Developing skills to establish closer community contacts &
5. Using co-scholastic activities in other subjects as a medium of teaching Environmental Education.
6. Environmental Education should be made a compulsory subject in the school curriculum.

The results of the present thesis work thus prove that environment and its awareness should be there among Secondary School teachers, particularly among Female Secondary School teachers. This can be done by launching mass
Environmental Education programmes and schemes promoting and generating awareness of the environment and its related issues.

Thus, Environmental Education has to become a way of life of all stakeholders in the school as also the community. Thus it is the duty of Secondary School teachers to show a sense of responsibility and urgency to ensure appropriate action to solve environmental problems and its related issues.