1.0 INTRODUCTION

Lives in the present form as we find have evolved on this planet through millions of years of interaction between the organisms and their environment. The life of man is closely associated with the environment, which influences man’s activities and at the same time influenced by man. Hence, man is the central factor in the total environment. He is the creator and at the same time destroyer of the environment. Survival of life can be possible through careful dealing with the environment. But in recent years the quality of the environment and ecosystem is declining at an alarming rate. The unprecedented environmental crisis is only due to the man’s action and attempt to master over nature through science and technology which causes pollution in environment. It is because of man’s ability to exploit the nature and its resources indiscriminately, environmental problems are posing a stiff challenge for physical, biological as well as social sciences. As such, excessive consumption of scarce resources, huge amounts of garbage, acid rain, deforestation, desertification, global warming, ozone layer depletion, various types of pollution, radiation and species extinction are some of the major environmental problems facing the world today.

It is observed that degradation of environment mostly occurs due to destruction of natural environs. 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 act 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 relating to environmental education. Teachers play a very significant role in developing desirable attitude towards and awareness about environment among students. As such, it is very interesting to know how teachers are playing their roles and what factors influence them in this direction.

1.1 ENVIRONMENTAL EDUCATION – AN OVERVIEW

1.1.1 Global Scenario

The beginning of the modern environmental movement could be dated from the publication of Rachel Carson"s "SILENT SPRING" in 1962. This gave a foretaste of the current environmental scenario. Then the United Nations Conference on the human environment was held at Stockholm in 1972, which resulted in the declaration "to defend and improve the environment for present and future generations has become an imperative good for mankind". The concept of Environmental Education
(EE), World Environment Day (5 June, every year) emerged from this conference; United Nations Environment Program (UNEP) was set up. In response to one of the recommendations of the Stockholm Conference, UNESCO and UNEP launched an International Environmental Education Program (IEEP) in 1975 and an international workshop on EE was held at Belgrade. The Belgrade Charter (1975) proposed a number of guiding principles for EE programs.

In 1977, the first Intergovernmental Conference on EE was held at Tbilisi, USSR and this resulted in the clarification of the objectives and the guiding principles of EE. Then the UN set up the World Commission on Environment and Development, called Bruntland Commission in 1983 and submitted its report ‘Our Common Future’ (Bruntland Report) in 1989, which defined sustainable development as development that meets the needs of present generations without compromising the ability of future generations to meet their own needs. Further UN Conference on Environment and Development 1992 (Earth Summit) and Johannesburg Summit 2002 on Sustainable Development (World Summit) also emphasized the global actions for sustainable development, defining rights and responsibilities of States towards this end.

**1.1.2 Scenario of India**

Concern for nature and natural resources is not a new concept for Indians. Admiration for nature and the urge to conserve and protect it has been a part of our civilization. India’s wealth of literature, scriptures and folklore are replete with examples which show that our ancestors were environmentally conscious and advocated concepts of sustained usage of resources through many social customs, myths, taboos, traditions and religion. Thus in traditional society, EE was an integral
part of the learning. However with the onset of industrial revolution resulting in alienation of societies from the natural environment and with changing social relationships, this kind of education has ceased to be a part of the natural learning process.

Unrestricted and indiscriminate exploitation of environmental resources necessitated by population growth, poverty, illiteracy, filthy politics and lack of awareness and values among people in India has created ecological imbalance resulting in environmental problems, different types of pollutions and other kinds of ecological disorders. This environmental crisis may become more worsened in the coming days simply because of lack of concern for the common good and the absence of a sense of responsibility for sustaining a balanced eco-system. Therefore, what is required today is education for the people and reorientation of the people towards the desirable attitudes and values, specially those that will lead to a greater concern for preserving balance in the eco-system, besides teaching them how to save the environment from further degradation. After the emergence of the concept of Environmental Education (EE) as a new dimension in the educational (both formal and non-formal) system (Stockholm Conference 1972), India also recognized the significance of EE in the direction of environment protection, took initiative in this regard and marched ahead to put into practice.

Then, the National Policy on Education 1986 and 1992 emphasized the need for EE as an integral part of the curriculum at all stages of education. NPE 1986 states "there is a paramount need to create a consciousness of the environment. It must permeate all ages and all sections of society, beginning with the child. Environmental
consciousness should inform teaching in schools and in colleges. This aspect will be integrated in the entire educational process". The policy visualizes a national curricular framework, which has a common core and includes several elements having a direct bearing on the natural and social environment of the pupils. These core areas are expected to occupy a place of prominence not only in the instructional materials but also in the classroom and out of school activities. The Department of Education, Ministry of Human Resource Development (MHRD) took initiative for integration of EE into the formal educational system at all levels and visualized a national curriculum framework, which contains a common core of EE. While the National Council for Educational Research and Training (NCERT) takes care of this at the school level, the University Grants Commission (UGC) is responsible at the college/university level.

Further, the responsibility of developing policies and strategies for creation of awareness amongst all the people about environmental issues through non-formal methods has been entrusted to the Ministry of Environment and Forest (MOEF). Some of the programs of the MOEF, which aimed at creating public awareness are: National Environment Awareness Campaign (NEAC) -1986, Centers of Excellence on EE (CEE Ahmedabad-1984 and CPREEC Chennai-1988), Paryavaran Vahini 1992 (stopped at present) and Eco-clubs 1993. Recently (1998-99) this Ministry initiated the Environmental Management Capacity Building (EMCB) project for implementation of EE in school system. India joined Global Learning and Observations to Benefit the Environment (GLOBE), an international Science and Education program during 2000. This program, which unites students, teachers and
scientists all over the world, is aimed at school children. About 100 schools spread over different parts of the country have already joined this program.

However, several measures have been taken and are being taken to control environment pollution and to protect the environment. In this direction, the need for enactment of general legislation on environmental protection is also found imperative, which enunciates the natural commitment to protect and improve the environment. It is very important to note that Indian Constitution contains specific provisions on environmental protection and various legislative measures have been undertaken by the Government of India in order to protect the environment. There are about 30 major enactments related to protection of environment now being administered both by the central and state governments, and of these Acts, the Environmental (Protection) Act 1986 is the most important one.

1.1.3 Scenario of Iran

Traditional beliefs and attitudes were (and to a certain extent still are) handed down through the generations. The public culture of environment training in Iran has an ancient history. Time naturally transformed these teachings from one generation to another. But what is clearly indicated is that the extreme interference of humankind in the food chain has always been considered as indecent, immoral and antithetical behaviour. Thus balancing economies with natural resource consumption is a time-honoured national custom.

Iran is faced with a litany of environmental problems, many of which the country is only beginning to tackle as the problems reach a crisis point. Although Iran established Department of Environment in 1971, long-term environmental concerns
often have been subjugated to shorter-term industrial production and political goals. Iranian environmental protection efforts in the 1970s focused on conservation, with the establishment of a number of national parks, national monuments, and wildlife refuges throughout the country.

Rapid population growth over the past 20 years has been a significant factor contributing to Iran’s environmental problems and continued higher population growth, combined with continued reliance on oil fuels. The recent pollution crisis in Iran may serve as a significant catalyst for change, however, forcing Iran into action to protect the health of its citizens.

Iran will need to confront its environmental problems head-on if it is to prevent further pollution crisis. Iran may need to take a more long-term approach towards environmental protection in order to safeguard the health of Iran’s cities and citizens. By further developing its gas fields, Iran can use more clean-burning natural gas rather than oil for its energy needs. Reducing Iran’s reliance on oil and “petrodollars” will not only help to decrease pollution, but will also help Iran diversity its economy.

Although several of these initiatives are difficult to achieve if Iran’s diplomatic isolation continues, the victory of reform-minded candidates in recent Iranian parliamentary elections eventually may lead to a warming of relations between Iran and the United States and other countries. Ironically, the pollution problem in Tehran may prove to be beneficial to Iran’s environment in the long-run-the health crisis spotlighted the need to act to protect Iran’s environment and helped
foster support for green groups, while encouraging more public participation in environmental affairs.

Iran maintained this focus after the Islamic Revolution, enshrining environmental protection in the Constitution. Article 50 of the Constitution reads: “In the Islamic Republic of Iran protection of the environment, in which present and future generations should enjoy a transcendent social life, is regarded as a public duty. Therefore, economic and any other activity, which results in pollution or irremediable destruction of the environment is prohibited”. However, eight years of war with Iraq, international political isolation and economic sanctions kept environmental goals on the back burner in Iran, and conservation measures predominated in Iran’s environmental policies and emphasised the need for sustainable way of life.

In Iran environmental education is taught in both formal and non-formal system. In formal system environmental education is included in curriculum but not as a separate subject. They are included with subjects like natural sciences, geography, chemistry and biology.

Creation of awareness amongst Iranian people about environmental education through non-formal methods has been entrusted to Iranian Society of Environmentalists (IRSEN), which has been established for promotion of environmental knowledge qualitatively through integration of development aspects and sustainable development aims, applying appropriate technology, development of expert research activities in environmental fields.

The Centre for Sustainable Development (CENESTA) 1979 is a non-governmental, non-profit organisation dedicated to promoting sustainable
community- and culture-based development. Its main area of work is Iran and Southwest Asia. CENESTA experts have also engaged in extensive activities in Africa, Latin America, Asia, and in the international arena in general. CENESTA is a member of IUCN – the World Conservation Union and is affiliated with the University of the North (Iran).

CENESTA works with a variety of partners, from local communities in Iran and other countries to local and national governmental agencies, from universities and research organisations to national and international NGOs. The UN bodies with which CENESTA and its experts entertain on-going collaboration include UNDP, FAO, UNICEF, UNSO, IFAD, UNCCD and the UN Secretariat.

CENESTA has a small core of staff and a large network of associates – ranging from community-based groups to women’s associations and technical experts who act on the basis of common concerns and specific capacities. CENESTA staff and associates work in the context of project contracts and/or on a voluntary basis, contributing time as well as financial and material resources for the goals of the organization.

Green Front of Iran (GFI) was established in 1989 by four medical students in Tehran. After initial establishment, GFI members started negotiations with many scholars, university professors and distinguished individuals in order to use their experiences to lighten the way for future. This led to the point where GFI considered public awareness on environmental issues as its first and primary goal and started several programs in that way.
1.2 CONCEPT AND SCOPE OF ENVIRONMENTAL EDUCATION

1.2.1 Concept of Environmental Education

While Environmental Education (EE) has its roots in nature study, conservation education and outdoor education, it is distinctly different from these earlier movements. Whereas these areas focus on nature, wise use of natural resources, and the use of the outdoors to teach, EE is fundamentally concerned with the interconnection between humans and the environments that surround them (Disinger and Monroe, 1994).

There are a plethora of definitions of ‘Environmental Education’ given by different organisations, authorities, scientists, educationists and politicians, reflecting each one’s own philosophy and perception of the subject. Some of the definitions which are comprehensive and commonly accepted are cited below.

In 1969, Dr. William Stapp at the University of Michigan published the first definition of EE: Environmental education is aimed at producing a citizenry that is knowledgeable concerning the biophysical environment and its associated problems, aware of how to help solve these problems and motivated to work toward their solution. (Stapp et al., 1969)

The concept of Environmental Education was first formalised by the International Union for the Conservation of Nature and Natural Resources (IUCN), in 1970 at a meeting in Nevada, USA. At that meeting, Environmental Education was defined as: A process of recognising values and classifying concepts in order to develop skills and attitudes necessary to understand and appreciate the interrelatedness among man, his culture and his biophysical surroundings. Environmental
Education also entails practice in decision-making and self-formulating of a code of behaviour about issues concerning environmental quality.

The American States Conference on Education and Environment in America 1971, defined Environmental Education as follows: “Environmental Education involves teaching about value judgements and the ability to think clearly about complete problems – about the environment – which are as political, economical and philosophical as they are technical”. (Krishnamacharyulu and Reddy, 2005)

The term Environmental Education means the educational process dealing with man’s relationship with his nature and manmade surroundings and includes the relation of population, pollution, resource allocation and depletion, conservation, transportation, technology and urban and rural planning to the total human development. (NCERT, 2001)

At an International Conference of UNESCO held at Tbilisi in 1977 defined Environmental Education as an integral part of the education process. It should be centered on practical problems and be of an inter-disciplinary character. It should aim at building up a sense of value, contributing to public well being and concern itself with the survival of the human species. Its force should reside mainly in the initiative of the learners and their involvement in action and it should be guided by both immediate and future subjects of concern.

By the analysis of these definitions, it is concluded that the definitions of Environmental Education encompassed a variety of concepts and approaches, with varying emphasis on each of them. The following points have been identified as the essential components of Environmental Education.
1. Knowledge and understanding of environment, its associated problems and future consequences.

2. Understanding the subtle relationship between man and man, man and nature and its appreciation.

3. Value clarification, development of attitudes, interest and awareness concerning quality of environment.

4. Decision making and problem solving.

5. Formulation of code of behaviour.

Considering all the above said points, it is further inferred that Environmental Education is the education ‘about’ the environment, ‘from’ the environment and ‘for’ the environment.

(i) Education ‘about’ the environment means an understanding of the total environment.

(ii) Education ‘from’ the environment implies gathering concepts, knowledge and skills referring to specific academic discipline.

(iii) Education ‘for’ the environment means the development of attitude, skills and evaluation abilities for the proper use and the development of the environment.

The above mentioned definitions have a tilt towards cognitive aspects of learners. Perhaps a considerable emphasis also needs to be put on aspects which relate to values, feeling and attitude analysis in Environmental Education. Without such an emphasis, Environmental Education will be nothing more than a facile exercise in glibness.
### 1.2.2 Nature and Scope of Environmental Education

Environmental Education is largely interdisciplinary and multilingually in nature as the environment problems and issues are not confined to any one discipline like Physics, Chemistry, Biology, etc. It is an amalgamation of many of the conventional subjects.

Environmental Education is considered both as an art (doing) and as science (understanding) organized from primary to University level. The objectives and the content of Environmental Education to be integrated with the curriculum vary from stage to stage, i.e. primary to University level.

Environmental Education is a process of creation of individual and collection commitment to improve the quality of the life through self knowledge and an understanding of the physical, political, socio-economic and behavioural concerns of man. Moreover, it is a continuous, individual and community education process that is an integral part of the complicated web of communication for human understanding.

Environmental Education as a perspective to be given to all the subjects on the curriculum, a second trend, means that, without alterations of the subjects on the curriculum, teachers will give them an ecological or economic front towards environmental problems. If teachers are to do this, they will have to be given a lengthy and costly training, unless they have a profound insight into the mechanisms of nature and the aggressive process of the economy and technology, they will not be able to carry out this difficult task successfully.
Environmental Education should be broad, open to the internationalist spirit, it should not offer protection to narrow minded chauvinism. It is not difficult to discern the propagandistic aims of the great industrial powers who have no hesitation in using hard technology in the areas of influence while recommending developing countries to see soft technology.

Environmental Education seeks to develop the ability to assess environmental situations and the causal chain of relationships leading to environmental damage; the interaction among social, economic, and physical factors; mutually related and overlapping developments, networks and feedback; responsibility for the future generations’ economy and care in the use of natural resources; respect for nature and life; recognition of the limits of nature, human action and self-restriction; and acquiring an ability to perceive nature.

Environmental Education aims at ultimately far reaching and manifold behavioural changes in everyday life and workplace. The guiding principle and pedagogical ideal of environmental education is the environmentally responsible consumer, industrial producer, employee, citizen, policy-maker, traveller, athlete, tourist and the farmer – every individual who is aware of nature and lives in harmony with it.

The various aspects of Environmental Education which form its scope are as follows:

1. **Pollution**: This includes air pollution, water pollution, noise pollution, land pollution, thermal pollution, unclear pollution of social environment, their effects and prevention.
2. **Population Education**: This includes importance, problems, ways and means of promoting population education.

3. **Population explosion**: This includes causes and effects of population, explosion and remedies for population explosion.

4. **Use of resources and conservation**: This includes use of resources, conservation of resources, land and soil conservation, water conservation, energy conservation, conservation of wildlife, forests, air, natural beauty and other natural resources.

5. **Food and nutrition**: This includes production of food, supply and use of food, food adulteration and preservation, uses of food, value of food, balanced diet, malnutrition and under nutrition.

6. **Health and hygiene**: This includes individual, family, community, health and hygiene, health hazards communicable and non-communicable diseases and their preservation and treatment.

1.3 **AIMS AND OBJECTIVES OF ENVIRONMENTAL EDUCATION**

Aims of Environmental Education were formulated at an international conference held at Tbilisi, Georgia in 1977. These aims are quoted in a nutshell as below:

a. To foster a clear awareness of, and concern about, economic, social, political and ecological interdependence in urban and rural areas.

b. To provide every person with opportunities to acquire the knowledge, values, attitudes, commitment and skills needed to protect and improve the environment.
c. To create new patterns of behaviour of individuals, groups and society as a whole towards the environment. (NCERT, 2001)

Generally, the aims of Environmental Education fall into three groups:

(i) **Cognitive aims**: These include imparting knowledge about environment and an ability to think which will enable the individual and his social group to work out political solution to the wide variety of problems connected with environment.

(ii) **Normative aims**: These relate to the inculcation of ecological awareness which will be conducive to the creation of modification of value models enabling the individual and the group of identifying the factors that upset the environment equilibrium and protest against them.

(iii) **Technical and applicative aims**: This means planning collective practices which preserve, improve or restore the quality of life, as understood by the community in the light of formal and informal education in such a way that the demands made by economic development do not conflict with the biological rhythms of the ecosystem.

The objectives of EE are summarized in the Belgrade Charter (1975) as follows.

a. **Awareness**: to help individuals and social groups to acquire an awareness of and sensitivity to the total environment and its allied problems.

b. **Knowledge**: to help individuals and social groups acquire basic understanding of the total environment, its associated problems and humanity’s critically responsible presence and role in it.
c. **Attitude**: to help individuals and social groups acquire social values, strong feelings of concern for the environment and the motivation for actively participating in its protection and improvement.

d. **Skills**: to help individuals and social groups acquire the skills for solving environmental problems.

e. **Evaluation ability**: to help individuals and social groups evaluate environmental measures and education programmes in terms of ecological, political, economic, social, aesthetic, and educational factors.

f. **Participation**: to help individuals and social groups develop a sense of responsibility and urgency regarding environmental problems so as to ensure appropriate action to solve these problems.

Therefore, the objectives of the Environmental Education are to generate awareness, knowledge, attitude, skills, evaluation ability and participation to help social groups and individuals. These objectives are further clarified in the flow chart (Yeshodhara, 2003) given as follows.
Flow chart presenting the objectives of Environmental Education

Educate

To improve

Awareness

Which arouses

Concern

Which translates into

Commitment

Which demands

Action

Ourselves on matters and issues relating to the environment

Acquisition of knowledge, skills and change of attitudes

Of the environment

Our room, family, school and community

Regarding the state of our environment

Air, water, land

To do something about environment

Individual and collective in the family, school, community, local, national and international level
To sum up, the main objectives of environmental education are to generate and disseminate knowledge through research, teaching and extension work, develop knowledge-based awareness, that will lead to cultivation of responsible attitude to environment, without losing sight of the value system of society and individual, acquire skills for implementation of programmes and policies conducive to solving immediate problems and overall development of the nation.

1.4 PRINCIPLES OF ENVIRONMENTAL EDUCATION

The EE involves the task of creating an informed group of young citizens who will become the leaders of tomorrow, and for whom environmental issues will be a part of their daily lives. This will eventually bring about changes on a larger scale, creating a more socially just and ecologically sustainable society. This includes running EE programs in schools and colleges, conducting training and awareness building workshops for teachers, developing and disseminating EE material to all segments in the society through the web and print media and networking and coordinating among school communities across the country. In toto, EE is a subject of a very practical nature and is also supported by sound pedagogical principles.

Thus, it is very essential to consider the following principles in teaching Environmental Education.

Environmental Education should:

• consider the environment in its totality – natural and built, technological and social (economic, political, technological, cultural-historical, moral, aesthetic).

• be a continuous life long process, beginning at the pre-school level and continuing through all formal and nonformal stages.
• be interdisciplinary in its approach, drawing on the specific content of each
discipline in making possible a holistic and balanced perspective.

• examine major environmental issues from local, national, regional and
international points of view so that students receive insights into environmental
conditions in other geographical areas.

• focus on current and potential environmental situations while taking into account
the historical perspective.

• promote the value and necessity of local, national and international cooperation in
the prevention and solution of environmental problems.

• explicitly consider environmental aspects in plans for development and growth.

• relate environmental sensitivity, knowledge, problem-solving skills and values
clarification to every age, but with special emphasis on environmental sensitivity
to the learner’s own community in early years.

• emphasize the complexity of environmental problems and thus the need to
develop critical thinking and problem-solving skills.

• utilize diverse learning environments and a broad array of educational approaches
to teaching/learning about and from the environment with due stress on practical
activities and first-hand experience.

• helps in programming learning experiences from simplex to complex. It is this
principle that makes EE as a medium of learning different subjects. It also helps a
child proceed from indefinite ideas to definite ones. The first principle of thoughts
which are vague will become clear later as it grows and EE helps in sharpening
the development of observational skills for definiteness.
• helps a child proceed from concrete to abstract. This is a very simple education maxim and does not need any elaboration.

• helps the ordering of learning experiences from empirical to rational which is a very important educational maxim.

• provides for the self-development of the child. Children are encouraged to conduct their own investigations and draw their own conclusions.

• provide for self-instruction and self-discovery.

• create delightful and pleasurable excitement in children because of the beauty and glory of the environment issued as teaching aid by the teachers. It makes the child’s education problem-based for understanding environment and has social relevance.

1.5 ROLE OF TEACHER IN ENVIRONMENTAL EDUCATION

As teacher is commonly considered as an agent of social change, socialisation and modernization, he has been honoured as the maker of history, the builder of the society and nation at large, and also as social engineer. The opening statement of Kothari Education Commission “The destiny of our Nation is being shaped in the classrooms” can be extended to say that “the destiny of India is being shaped by teachers who are capable, creative and committed”. No doubt, teacher plays a significant role in education in general and a vital role in promoting Environmental Education which aimed at developing environmental awareness, knowledge, attitude, skills and values among the students.
As such teacher is required to create a healthy and inspiring environment in the school. Teacher has to foster a love for the natural environment among his/her students, and guide and train them to appreciate the nature. For this the teacher has to exploit different aspects and elements of the natural environment as learning materials for teaching. Sufficient information should be given to the students regarding the importance of the environment and its relationship with human life and thus encourage students to take care of natural elements like air, water, animals, trees, plants, mountains, river, natural resources and all other living creatures. Hence, teachers should be at the forefront in pursuing the actions on environmental education, whether acting as individuals infusing environmental perspectives into their classes or collectively promoting environmental education through their educational institutions, professional societies, state infrastructures and local or national advocacy groups.

Teachers are even responsible for pursuing opportunities for professional training to incorporate the principles of sustainability in their courses. In addition, they can enlist the help of non-governmental organisations to ensure that their efforts embody diverse cultural perspectives. They can initiate innovations – or inform themselves about the efforts of others – to bring the corporate sector and the people at large into the educational experience. They can participate in workshops and seminars that help in finding appropriate uses of advanced information and communication technologies for teaching about sustainability. They can initiate or replicate successful attempts to make the classroom serve as a model of sustainability for the community. For all of these activities, teachers and faculty can seek assistance from institutions of
higher education, professional societies, the business community, non-governmental organisations and state and central departments. In turn, they have the formidable responsibility of ensuring that their educational offerings on sustainability consistently meet the highest standards and serve students, parents and the community. For this the teacher can even exploit different aspects and elements of the natural environment as to be more aware and learn the right attitude towards teaching with the required informations and materials. With this help a teacher may without much effort, educate a student about keeping the environment clean and about the methods of controlling and protecting environment by relating the information to different subjects of study. Along with the objectives of teaching in general, a teacher should also be aware of objectives of teaching Environmental Education simultaneously and be able to:

a. help students to develop in them a sense of appreciation of natural resources (can be done by organising educational excursions for creating love for nature).

b. create a positive approach and relationship between healthy life and pure natural environment.

c. set up healthy examples before the students and help them to develop interest in the natural environment of their own region, state and country.

d. give information about the pollutants so that they will be aware of the diseases and consequences of water, air and other pollutions.

e. organize tree plantation functions, cleanliness drives which help students to protect plants and trees and get optimum satisfaction out of it.
f. initiate and organize group discussions regarding man, environment and pollutions.
g. organize poster competitions, declamation contests, essay writings, poetical recitations, dramatisations, which easily help the students to understand the importance of environment for the better life.
h. make arrangements and seek assistance from public thinkers, visiting speakers and environmentalists so that they can be guided in a better way.
i. take their students to different industries and factories and inform them about different types of pollutions with samples and examples and even the methods and modern techniques of preventing such pollutants.
j. convince the students and society about the urgency of environmental protection.
k. make the students know fundamental duties of Indian citizen with regard to environment as incorporated in Article 51, Part IV-A of Indian Constitution, “to protect and improve the natural environment including forests, lakes, rivers and wild life, and to have compassion for living creatures.

All the above said things are possible, if teachers themselves are adequately aware of environment and have a positive attitude towards Environment / Environmental Education.

1.6 NEED, CONTEXT AND SIGNIFICANCE OF THE STUDY

Today the global concern is to struggle against environment 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 utilisation, the provision of food supplies, exploitation of raw materials and environmental pollution leading to environmental degradation. This environmental degradation / 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. No doubt, it is considered that education plays an important role in reducing the environmental degradation and protecting the environment and as such Environmental Education in India has emerged as a significant area of concern.

The National policy on Education 1986 (modified in 1992) states that 'Protection of the Environment' is a value, like other values, must form an integral part of the curriculum at all stages of education. The national system on education as defined in the policy visualizes a national curricular framework, which contains a common core including several elements having direct bearing on the natural and social environment of the pupils. There is considerable emphasis in the syllabi / textbooks on making teaching and learning more environment oriented and socially relevant. While NCERT has integrated environmental concepts into various subjects taught at the school level under the central sector, SCERTs have attempted to integrate these concepts into the syllabi and textbooks at state level. In addition, under
the “Socially Useful Productive Work (SUPW)” provision has been made for direct participation of the children in environment related field programs such as planting and caring for trees, environmental sanitation etc.

It is very important to note that the Environment Education started at the school level will have to become, over a period of time, a way of life. This is possible only when we aim at the development of certain values among children, youth and adults, irrespective of their social, economic and occupational status, which enable them to participate in solving real life environmental problems. Environment Education should not only create consciousness and this consciousness be translated into coherent behaviours in which collective action finds a fundamental solution for the problems related to environment.

Today Environmental Education is an important segment within the educational system. Environmental Education, involving an interdisciplinary, integrated and active approach to learning, mainly purports to create environmentally literate and active citizens and ensure that, present and future, enjoy a decent quality of life through the sustainable use of resources. Environmental literate citizens are able to consider the sustainability of development, to actively work to reverse environmental degradation and to manage and use the country’s natural resource base more wisely and democratically. The key to successful environmental education is the classroom teacher. They can use information, legislation and community action to protect and improve human and environmental health.

A competent teacher can make the young minds to know that within this finite system of earth, the air, the water, the soil, the landscape and the biological organisms
exist in a very delicately balanced mutual relationships. As the balance is disturbed by any human intervention or technological innovations, the environment gets affected leading to environmental degradation. A committed teacher indeed can develop awareness about these and make students feel sorry for the undesirable act of human beings, help them incline their attitude towards aiming at benefiting the public trust properties. If teachers do not have knowledge, skill and commitment to environmentalise their curriculum, it is unlikely that an environmentally literate and active student will be the end product. For this, teachers need to have a positive approach and positive attitude towards Environmental Education.

There is a general feeling that teachers’ Attitude towards Environmental Education at different levels of education play an important role in development of the desired attitude, awareness and behaviour among students. Hence there is a need to assess attitude and awareness of teachers about environment, i.e. environmental attitude and awareness and suggests measures to enhance them. An important reason for linking environmental attitude and awareness of classroom teachers with their Attitude towards Environmental Education is that both can contribute significantly to transformation and development of individuals with utmost care for environment. Environment pollution and degradation has been a universal phenomenon and almost all the countries including India and Iran are attempting at minimising the pollution, conserving the environment and moving towards sustainable development.

Ever since academic attention was drawn to the environmental crisis and the adoption of EE as strategy to combat it, considerable research has been conducted and adequate literature is prepared/published. A thorough review of research studies
related to Environmental Education revealed that considerable research has been done on different aspects of Environmental Education with different variables but only a few studies have been carried out to measure the existing levels of environmental awareness and attitude among teachers and students at different levels of education.

However most of the studies carried out on EE in India and Iran have been only in the area of curriculum analysis in order to find out their adequacies or otherwise for integration of EE into school subjects. Minimum effort has been directed at finding out the level of awareness, attitude and perception of environmental issues and environmental education among the school teachers and learners of the program and more over experience of successful countries, as revealed through comparative studies, could serve as sources of ideas for those involved in the Iranian and Indian education system.

Further, it is found that considerable number of research studies have attempted to study Environmental Attitude and Awareness, and Attitude towards Environmental Education in relation to certain variables like sex, subject studied, qualification, teaching experience, etc. Some of those studies have reported the difference in the attitude and awareness between/among different categorie on the selected variables and some have reported no differences. Hence, finding of those studies are found to be inconsistent and therefore, it is attempted here to consider the above said variables to study the influence of them on teachers’ Environmental Attitude and Awareness.

Thus, the present study aiming at comparison of Environmental Attitude, Awareness and Attitude towards Environmental Education in relation to certain
background variables among teachers in India and Iran is necessitated and the study is entitled “ATTITUDE AND AWARENESS ABOUT ENVIRONMENT AND ATTITUDE TOWARDS ENVIRONMENTAL EDUCATION OF HIGHER PRIMARY SCHOOL TEACHERS IN MYSORE (INDIA) AND IN HAMEDAN (IRAN) – A COMPARATIVE STUDY”.

1.7 RESEARCH QUESTIONS FOR THE STUDY

In this study, following research questions have been raised.

1. What is the level of Environmental Attitude, Environmental Awareness and Attitude towards Environmental Education of higher primary school teachers of Mysore (India) and Hamedan (Iran) ?

2. Do the higher primary school teachers of Mysore (India) and Hamedan (Iran) differ in their Environmental Attitude, Awareness and Attitude towards Environmental Education ?

3. Do the following categories of teachers of Mysore (India) and Hamedan (Iran) differ in their Environmental Attitude, Awareness and Attitude towards Environmental Education ?

   a. Male and female teachers
   b. Teachers with different academic qualification
   c. Teachers with different lengths of experience
   d. Teachers with different area of specialisation

4. Is there any significant main effect and interaction effect of Environmental Attitude and Environmental Awareness on Attitude towards Environmental Education of the higher primary school teachers in Mysore (India) and Hamedan (Iran) ?
1.8 CHAPTERIZATION

The present thesis consists of five chapters.

Chapter I presents the theoretical background of the study focusing on an overview of Environmental Education at global and national levels, concept, objectives and principles of Environmental Education, role of teachers in Environmental Education/conservation, need for and context of the study and research questions for the study.

Chapter II focuses on review of related literature pertaining to Environmental Attitude, Environmental Awareness and Attitude towards Environmental Education in India, Iran and other countries.

Chapter III deals with the statement of the problem and methodology of the study. This chapter presents the details of the objectives, hypotheses, variables, delimitations, design and procedure, sample, tools used and statistical techniques used for analysis of the data.

Chapter IV presents the details of the analysis of the data, its interpretation and discussion under the following heads:

(I) The levels of Environmental Attitude, Environmental Awareness and Attitude towards Environmental Education of higher primary school teachers in Mysore (India) and Hamedan (Iran).

(II) Comparison of the Environmental Attitude, Environmental Awareness and Attitude towards Environmental Education of higher primary school teachers in Mysore (India) and Hamedan (Iran).
(III) Differences in Environmental Attitude in relation to different teacher variables (gender, academic qualification, length of experience and area of specialization).

(IV) Differences in Environmental Awareness in relation to different teacher variables (gender, academic qualification, length of experience and area of specialization).

(V) Differences in Attitude towards Environmental Education in relation to different teacher variables (gender, academic qualification, length of experience and area of specialization).

(VI) Main effect and interaction effect of Environmental Attitude and Environmental Awareness on Attitude towards Environmental Education of higher primary school teachers.

Chapter V gives the summary and conclusions of the study. In this chapter, the details of the chapter I to IV are summarised, implications of the findings are discussed and topics for further study are suggested.