Human’s quest for improving the quality of life through the interactive process with nature is an ongoing phenomena. Scientific and technological achievements are enabling mankind to control and transform the natural environment to suit its needs and demands. Indiscriminate use of this capability, however, has created a situation threatening the existence of humanity itself. What is required is a recognition of the need for both development and proper management of the environment. Also needed is a new concept of development that emphasizes the relation between humanity and nature being mutually supportive and sustainable from a long-term point of view.

A series of themes discussed and debated in national and international forums have contributed towards the redefinition of the concept of development. These definition suggest that neo-development needs to be viewed as a diversified process involving all sectors and groups of a community on a continuing basis, seeking solutions to immediate environmental problems while ensuring the continuity of future developments. There is a need for clarifying the direction and pace of development on an endogenous basis taking into consideration the society’s needs, socio-economic status, features of its environment and the impact of development on the biosphere. From the initial experiences in this direction, some of the essential prerequisites for the success of this approach are:
(a) a clear political endorsement and active support from decision makers;
(b) wide participation of local communities in the formulation and implementation of the national policies and programmes;
(c) the need to build up technological and scientific data base in support of the programme;
(d) a closer and stronger link between the environmental legislations and the economic decisions;
(e) a revamp of educational system to generate and diffuse knowledge through research, teaching and extension at various levels making Environmental Education a life long learning process (Sharma, 1990).

THEORETICAL BACKGROUND FOR THE STUDY

1.1 CONCEPT OF ENVIRONMENT

The concept of environment is complex and comprehensive of several factors influencing it. It is not merely the air, water and soil that form our environment but also the soil and economical conditions of our life.

It is usually defined as the aggregate of all external conditions and influences the life and the development of an organism, human behaviour or society. The internal and external environments comprise the total environment. For descriptive purposes, environment has been divided into components, viz. physical, biological and psychosocial, all closely related.

The concept of total global environment is the product of convergence of many forces – industrialisation, the effects and dangers of weapons of mass destruction, with overall global technological advancements which make
communication, ecological studies of nature and man-made environment easier than thought earlier.

Thus the concept of total global environment is derived directly from ecological studies of the outcome of the convergence of the above forces. These studies base their work on the basic principles of ecology which may be summed up as follows:

1. All forms of life are interdependent.
2. The stability of ecosystems is dependent on their diversity and complexity.
3. All sources – food, water, minerals, energy, etc. are finite.

1.2 CONCEPT OF ENVIRONMENTAL EDUCATION

Nature is fascinating. It embodies the spirit of creation. Man has made it more beautiful. But for him, nature would not have been so enjoyable as it is. He has converted the wild forests into parks, gardens, orchards and cities and he deserves all praise for that. But in doing that and in his attempts to make it more comfortable, he has often destroyed forests recklessly, polluted air and water, de-spoiled nature ruthlessly. The inevitable consequence is an ominous deterioration of environment. He did not take precautions, so he is in a crisis today.

Now, the time has come for man to be more careful, lest he invite catastrophe. How can it be done?

Obviously environmental education, imparted with sincerity is the only answer. Environmental education will not only open our eyes to the havoc but also inform us as to how we can intertwine progress and life on this planet that they exist
together. We can save this earth only if we organise environmental education programmes on a larger scale.

Defining environmental education is not an easy task, because the specific content areas of environmental education have never been well-defined. It is universally agreed that environmental education should be interdisciplinary, drawing from biological, sociological, anthropological, economic, political and human resources. It is also agreed that a conceptual approach to imparting environmental education is always best.

The definition of environmental education, given by the groups working on the subject, apparently differ from one another in phrases only. One definition is already mentioned above, it is given by IUCN commission on education, international working committee on environmental education in the school curriculum, Paris, 1970.

Report of the conference of African Educators, EDC and CREDO, Nairobi, African social studies programmes 1968 states “Environmental education is the process of creating an awareness and an understanding of the evolving social and physical environment as a whole, its natural, man-made, cultural, spiritual resources, together with the rational use and conservation of these resources for development”.

To sum up, we can list the main concepts derived out of environmental education as follows:

(i) Environmental Education (EE) is not simply a theme to be added to the curricula as a separate discipline.

(ii) Environmental education is the outcome of a re-orientation and dove-tailing of various disciplines.
Environmental education is education through, about and for environment. It is both a style and subject matter of education. Environmental education is a study of factors influencing ecosystems, mental and physical growth, etc. Environmental education is a process of creation of individual and collective commitment to improve the quality of life.

1.2.1 Concept and Definitions of Environmental Education

Defining environmental education is rather a difficult task. There is no all-embracing definition of environmental education. In practice, it can mean gardening local studies, outdoor science, or almost anything that school cares to evolve. A completely acceptable definition of environmental education has not yet been found.

The “Environmental Education Act of 1970”, landmark legislation which reflects a national commitment to the search for enlightened lifestyles, has provided its own definition of environmental education. The language of the senate report explaining the act follows: Environmental education is an integrated process which deals with man’s inter-relationship with his natural and man-made surroundings, including the relation of population growth, pollution, resource allocation and depletion, conservation technology, and urban and rural planning to the total human environment (The United States Environmental Act, 1970).

Environmental education is a study of the factors influencing ecosystems, mental and physical growth, living and working conditions, decaying cities, and population pressures. Environmental education is intended to promote among citizens the awareness and understanding of the environment, our relationship to it, and the
concern and responsible action necessary to assure our survival and to improve the
quality of life.

As stated in the Act, environmental education is a design for national reform
because it will run through every aspect of formal and nonformal education, improves
philosophies of life and help each citizen to acquire a new and more viable life style.

IUCN Commission of Education, international working meeting on
environmental education in the school curriculum, Paris, UNESCO, 1970 has defined
environmental education as follows:

“Environmental education is the process of recognising value and clarifying
concepts in order to develop skills and attitudes necessary to understand and
appreciate the interrelatedness among man, his culture and his biophysical
surroundings (Council of Europe, 1976). Environmental education also entails
practice in decision making and self formulation of a code of behaviour about issues
concerning environmental quality” (International Union for Conservation of Nature
and Natural Resources Conference at Nevada).

“Environmental education is an integral part of the education process. It
should be centered on partial problems and be of inter-disciplinary character. It
should aim at building up a sense of values, contribute 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”. Finnish National Commission for
UNESCO, Report of the Seminar on Environmental Education, Jammi, Finland,
1974, defines environmental education as,
“Environmental education is a way of implementing the goals of environmental protection. Environmental education is not a separate branch of science or subject of study. It should be carried out according to the principle of life-long integral education”.

The US office of education has offered the following two working definitions:

(i) “Environmental education is the process that fosters greater understanding of society’s environmental problems and also the process of environmental problem solving and decision making . . .” It involves the development of skills and insights needed to understand the structure, requirements and impact of interactions within and among various environmental entities, sub-systems, and system.

(ii) 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.

It is a means of organising the work in school so that a study of school’s immediate surroundings or of the community in which it is situated can provide starting points for learning. In other words, such studies can provide starting points for learning rather than a clearly defined areas of knowledge. It is often far from clear what the desired outcomes of these studies should be for individual children.

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.

The problem with many environmental education definitions is that they end at the leave of cultivating the skills, developmental and problem solving feelings, politics and economics. Agne and Nash (1974) put such definitions in allopathic models of environmental education, because they treat surface symptoms (admittedly important ones) such as water and air pollution, solid wastes, and over population, without effectively getting at the attitudes, values and beliefs, and feeling which cause environmental deterioration. They define environmental education as a total psycho-political approach to thinking, valuing and acting which will enable person to identify the over simplifications, distortions, contradictions and oversights in their world-views, so that they can understand and resolve the destructive influences these have on psychological, physical, social and non-human environment.

1.3 NATURE AND SCOPE OF ENVIRONMENTAL EDUCATION

Despite its recent origin, the theme of environmental education has, for good or ill, directed our attention to a number of problems, both old and new, concerning the question of what education is and what is ought to be, in a world society tormented by profound and persistent crisis. These crisis are particularly discernable in the matter of human fellowship and the growing discrepancies between culture – the second nature created by man and the original biogenetic nature of the planet.

There are two widely differing views of what environmental education is, or should be with the framework of our civilisation.
Considered in broad terms, environmental education is a pretext for working out a brand theory of education embracing all the philosophical, social and educational ideas that converge to form the new education. It synthesizes them in a way which is more enthusiastic than critical, and presents them as something original produced by the creativity and imagination of a revolutionary way of thinking.

In the narrow sense of term, environmental education is not a panacea for all the present and future ills of our civilisation; it is rather, a pragmatic response to the defacement of the environment, both in affluent societies, where pollution results from poverty.

Such a realistic conception is devoid of any illusions about the possibility of giving environmental education to a small holder, whose biological needs prevent him from entertaining ideas such as brother tree or sister bird.

Thus environmental education, considered in this narrow sense, is not a pretext but a modest texture. It is not a complex universe but a province with familiar, rustic landmarks. Unlike the contentious attitude of certain radicalised middle class educators who question the policies, methods and relationships of the participants in the educational process within the framework of the capitalist economy, the narrow approach, seeks to establish an experimental station on a pioneer front and to develop on educational practice that is of a restricted nature.

A series of questions on the uncertainties surrounding this new pedagogical development are formulated: What is environmental education? Is it a new subject to be included in the curriculum? Is it an aspect of one of the subjects which taught today for all of them? Is it a new teaching method? Is it a new type of education
aimed at the conservation of nature, hygiene and general health? Is it a new approach to education, seeking to interest and involve people in world problems? Is it an attempt to save mankind from impending disasters? Is it education for economic development? Is it a new integrated approach to education which seeks to link the student to his immediate surrounding, with a view to improving the interaction between man and his environment? These questions have not yet been answered satisfactorily; and many other could be asked.

Environmental education is a process of creation of individual and collective 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.

Perceived in different ways in different institutions and nations, environmental education has not progressed as a distinctive, integrated discipline. Instead it is an evolving field, developing response to the growing concern with national and international environmental problems.

Environmental education is usually problem focussed rather than discipline centered. It is often organised around broad themes of environmental management and involves the detailed study of one or more topics of environment concern like conservation of nature and natural resources, human ecology, wild life management, etc.
Environmental studies are largely experimental, experiential with an emphasis on field work, so that environmental problems can be studied in the systems where they occur.

Environmental education is education through, about and for environment. Its scope is very wide. A lot of teaching-learning can be carried out through environment and that is the first aspect of environmental education. Its second aspect covers teaching-learning about environment. This is important for man has to tackle his environment every day for his survival, sustenance and prosperity.

Environmental education is both a style and subject matter of education. In so far as the style is concerned, it means using environment as a teaching-learning aid and as an approach to education. In so far as the subject matter or the content is concerned, it means teaching about the components and constituents of environment. In so far as the teaching for environment is concerned, it means controlling the environment, establishing proper ecological equilibrium which entails proper use and conservation of resources and also involves control of environmental degradation.

Even though the definition of environmental education seems to be simple and superficial, it is actually very comprehensive and deep, for it denotes that environmental education is a medium and process of education and that it covers man’s relationship with his natural as well as social and manmade environment and also includes the relationship of population, industrialisation, pollution, resource allocation and depletion, conservation, transportation, technology, energy, rural and urban planning, etc. So environmental education has a multidisciplinary character. It is intended to promote among citizens the awareness and understanding of the
environment, our relationship with it, and the concerns and responsible actions necessary to assure our survival and to improve the quality of life.

Various definitions of environmental education reflect a different set of personal priorities but have a similar core of essential characteristics.

The most important of these characteristics is the awareness of inter-relationship between man and environment, and the understanding of both the nature and implications of human impact on the environment. This is an explicit component of every popular definition and is presented in some as the only definitive element. But it is not in itself a sufficient condition to distinguish environmental education from many other academic areas including Geography, Ecology, Agricultural Science Geology and Engineering all of which involve in characteristic ways the study of inter-relationship by a more holistic or integrative approach than any of these other areas. It is in agreement with the current international trend of comprehensive interdisciplinary studies on environmental issues.

Awareness of the environment begins at least at birth, and most likely before with the first sharp cry of the child emerging from the most comfortable life sustaining environment, it will come into the environment we know.

In that sense, environmental education begins with education itself. It is as basic as learning to arrange one’s toys, care for one’s room and personal hygiene, one’s home, school yard or farmyard; and it is as sophisticated as caring about a growing hole in the ozone layer, depletion of rain forests, photochemical fog, land management and urban planning. It lasts a lifetime as one’s own life undergoes an ever changing, ever evolving, ever threatened environment. It is life long learning in
about and for that environment with an accent on action in a process of problem solving and the slow development of an environmental ethic inseparable from social morality, life style and principled behaviour.

Environmental studies cover the study of all system of air, land, water, energy and life that surround man. It includes all sciences directed to system-level of understanding of the environment drawing especially upon such disciplines as methodology, geophysics, oceanography and ecology and such field as Physics, Chemistry, Biology, Mathematics and Engineering . . . Environmental systems contain the complex processes that must be mastered and the solution of such human problems as the maintenance of renewable resources, the conservation of non-renewable resources, reducing the effects of natural disasters, abating pollution by man and coping with natural pollution, etc.

The term environmental studies programme has been used some what loosely to cover any organised programme of study or individual course whose purpose or effect is to produce greater awareness or improved understanding of the complex elements of the natural and manmade environment of man’s role in changing the environment, and of the impact of the environment on humans.

Environmental education is education through, about and for environment. Its scope is, therefore, very wide. It begins from using environment as a medium of learning and includes all that Kalidasa, Wordsworth and others have said in appreciation of nature and also all that scientists and scholars have disclosed about our physical and social environment, and finally it includes all that we say and do for
conserving our resources and for beautifying our surroundings including urban and country planning.

Teaching and learning about environment is important for man has to tackle his environment every day for his survival, sustenance and prosperity. Environmental education is a life long process and is aimed at not merely imparting knowledge and understanding man’s total environment and of the methods and their application for improving our near and distant surroundings, but it also aims at inculcating skills, attitudes and values necessary to understand, appreciate and improve the quality of life in biosphere. Environmental education is a way of implementing the goals of environmental protection. It is not a separate branch of science or subject of study, it should be carried out according to the principle of life long integral education.

Environmental education as a naturalistic type of education with a distinctly ecological bias that really amounts to ecology, respect for nature, knowledge of the ecosystems in general and of the local ecosystem. Its limited nature means that it is but one more subject on the curriculum – let us call it simply ecology – which will become more complicated and reaches the higher levels in the educational system, if its inclusion throughout the educational process is accepted.

Environmental education as a perspective to be given to all the subjects on the curriculum, a second trend, means that, without altering the subjects on the curriculum, teachers will give them an ecological or economic slant 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 as a new style of education, an all-round approach to education with ambitious goals, which will seek to make pupils fully aware of the problems connected with their environment, so that they will be able to tackle these problems with a sense of responsibility and with the technical skills which will enable them to contribute, alongside other members of their community, to their solution. This awareness of environmental problems is social awareness rather than ecological awareness. Such problems will be solved through collective action aimed at eradicating the social and economic causes of the degradation of the human environment. The political aspects of this search for solutions may give rise to conflicts of various kinds. One such conflict and not the least, is the collision between the educational system and the private interests which operate in alliance with the powers on of the state.

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 in the narrow sense of the term is not intended to replace general education or to become a world with its own laws. It should have a clearly defined objective: on all round understanding of the natural system and the social system. The treatment of reality as a whole, the consolidation of the various
subjects so that they form an environmental science which will enable students to get a unified view of the world. However, a distinction should be made in the accomplishment of this task, between the realm of nature, which is one of necessity and the realm of man, the key note of which is freedom. It is extremely important that the systems theory should be applied to the total reality of the environment, but it is also essential to realise that there cannot be harmony between the social system and the natural system unless the relations between men are harmonious and national. An understanding of the situation as it is should enable students to decide what it should be.

Thus environmental education is not merely a matter of inculcating respect for the natural order or appreciation of it. It will be a scientific and practical study of environmental problems which originate in human relations rather than in man’s relationship with things.

Such an environmental education is forward-looking; it concerns all ages and is designed for all social strata, it helps to raise the standard of living and the quality of life in local communities through collective self-management and seeks to give tangible expression to the highest social values inspired by human civilisation. Ultimately, the integrating capacity of a steadily maintained environmental education tends to blur the boundaries between the formal and nonformal aspects of education.

1.4 IMPORTANCE OF ENVIRONMENTAL EDUCATION

For children to develop an environmental ethic, we must redefine the objectives of formal education. Schooling has been and to a greater extent still is, for the purpose of enabling the individual to extract the maximum advantage from the
natural and social environment in which he operates. This perhaps was reasonable when we could move away from ecological crisis. With our growing awareness of the finite capacity of the biosphere, however and man’s ability to alter its life support system drastically and permanently, we realise that the central objective of education must shift. Man and environment must now be presented in schools as a single system in which the activities of the individual must be adjusted to the capacities of the environment. Only in this way can both man and environment be maintained in a healthy state. We must help children to perceive themselves as part of their environment the object environment is taken over as a personal responsibility – a pre-requisite for self determination.

The main understandings developed in schools are:

1. The complementarity of organisms and their environment.
2. The selectivity of the individual into input and output.
3. The extent of interconnections from an individual outwards.
4. The enabling and constraining properties of energy and material resources.
5. The significance of short term and long term change.
6. The consequences of individual, society and environment of human life styles.
7. The choice of criteria and the procedures available for guiding and managing change.

To achieve these objectives, skills must be developed for realising them. They will include:

1. Skills of data acquisition, handling and presentation.
2. The formulation and testing of hypotheses.
3. Skills of prediction and evaluation.
4. Skills of imagination prediction and creativity to complement those of science.
5. Behavioural skills needed to achieve objectives as a member of society.

   Attitudes to be fostered might include
1. A sense of identity with one’s environment enjoyment of it and respect for the processes upon which it depends.
2. A critical attitude to received information.
3. A sense of community with other people and other living things.
4. Respect for oneself and for the unique human capacity to overcome biological and other environmental constraints.
5. A sense of continuity with the past and future.
6. A sense of responsibility for making choices of action consistent with caring for the future as well as the present.
7. A commitment to contribute personal talents to participation in the improvement of environmental quality.

   These concepts, skills and attitudes, expressed in a form suited to the prevailing circumstances, can provide a basis for the construction of a checklist of objectives against which a programme of studies may be arranged and assessed.

**Goals of Environmental Education**

Goals, objectives and principles of environmental education were formulated at an international conference held at Tbilisi, Georgia in 1977.
The internationally decided goals of environmental education are;

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

2. To provide every person with opportunities to acquire the knowledge, values, attitudes, commitment and skills needed to protect and improve the environment; and

3. To create new patterns of behaviour in individuals, groups and society as a whole towards environment.

**Objectives of Environmental Education**

The categories of environmental objectives that flow from the goals stated earlier are:

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

2. **Knowledge**: To help social groups and individuals gain a variety of experiences and acquire a basic understanding of the environment and associated problems.

3. **Attitudes**: To help social groups and individuals acquire a set of values and feelings of concern for the environment and the motivation for an active participation.

4. **Skills**: To help social groups and individuals acquire the skills for identifying and solving environmental problems.

5. **Participation**: To provide social groups and individuals with an opportunity to be actively involved at all levels towards resolution of environmental problems (UNESCO, 1978).
The specific aims of environmental education fall into three groups:

(a) **Cognitive aims**: Three 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.

(b) **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 to identify the factors that upset the environment equilibrium and protest against them.

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

Clear comprehension of these objectives of environmental education is very essential for successful formulation implementation and evaluation of programmes.

The UNESCO states that environmental education goal is to develop a world population that is aware of, and concerned about, the environment and its associated problems, and which has the knowledge, skills, attitudes, motivations and commitment to work individually and collectively towards solutions of current problems and the prevention of new one.

The National Council of Educational Research and Training (NCERT) explains the objectives as follows:

1. To recognise the interdependence among materials in the physical environment, plant and animal life, for survival, growth and development.
2. To take decision individually and collectively and initiate actions for social, cultural and economic survival, growth and development and for conservation of nature and natural resources.

3. To identify human, material, space and time resources in the environment.

4. To recognise ways of making effective use of environmental resources for social, economic and cultural survival, growth and development.

5. To take decisions for the effective use of resources, to recognise the special significance of conservation of natural resources and initial or support community efforts for the purpose.

6. To understand that many diseases may be prevented by efforts leading to village community cleanliness, environmental sanitation, removal and prevention of pollution.

7. To recognise simple physical, biological, chemical principles and laws and cause and effect relationship with reference to real life situations and use these principles and laws to explain changes in the environment.

8. To recognize changes taking places in the environment in the modes of self-adoption and self-management and take suitable decisions individually and collectively.

**1.4.1 Objectives of Environmental Education in the Three Domains**

(a) **Cognitive domain**

1. To help acquire knowledge of the immediate environment.

2. To help acquire knowledge of the environment beyond the immediate environment including distant environment.
3. To help understand the biotic and abiotic environment.

4. To help understand the effect of unchecked population growth or unplanned resource utilisation on the world of tomorrow.

5. To examine trends in the growth of population and interpret them for the socio-economic development of the country.

6. To evaluate the utilisation of physical and human resources and suggest remedial measures.

7. To help diagnose the cause of social tensions and to suggest methods for avoiding them.

8. To help diagnose the different causes of environment pollution and to suggest remedial measures.

   Beside the foregoing objectives, the following skills and abilities also fall in the cognitive domain.

1. To help develop observational skills and notice details usually not seen by an untrained eye.

2. To help develop skills required for making discriminations in form, shape, sound, touch habits and habitats.

3. To help develop ability to draw unbiased inferences and conclusions.

4. To help develop ability to make meaningful suggestions.

(b) Affective Objectives of Environmental Education

1. To help acquire interest in the flora and fauna of the near and also distant environment.

2. To help evince interest in the people and problems of the community and society.

3. To show tolerance towards different castes, races, religions and cultures.
4. To appreciate the gifts of nature.
5. To love the neighbours and value mankind as a whole.
6. To value quality, liberty, fraternity, truth and justice.
7. To respect the national boundaries of all countries.
8. To value cleanliness and purity of our environment.

1.5 NEED AND IMPORTANCE OF ENVIRONMENTAL EDUCATION

In pre-industrial times, the major role of education was to pass on the culture that had made the society cohesive and successful. Change was frowned upon, tradition held away. In such societies, formal education was primarily for the young and for privileged classes that had time to explore new directions.

In past industrial times, change gained the upper hand from tradition. New information necessary for success in society proceeded to accumulate rapidly. Education became necessary for more and more people. At first this increased education was based on new factual material, but as knowledge accumulated it has become increasingly necessary for the young to acquire the process of learning rather than transmission of tradition.

In today’s world, education has become a life long process. It proceeds both formally and nonformally through schools, private organizations, communication media and continuing experiences. No serious or effective modification or improvement of attitudes and behaviour of man towards his environment can occur without broad educational efforts at all levels of our society. People need to learn way to perceive environmental problems and opportunities, to acquire the information for forming and evaluating alternative actions, and to develop the cultural skills for living
according to chosen alternatives. All of this demands a high and continuing educational input. It is the only effective way to deal with the constant and rapid change in our current cultural environment.

Educational systems must provide the learner with the skills of continuous learning and a continuing flow of information about man and his environment.

In the 21st century, we have put incredible amount of money and time for research. We and the planet we live on, have been subjects of innumerable studies and experiments. The facts and figures have poured out in an ever growing steam. When environmentalists, educationlists, scientists, etc. set back to look at the facts and figures these studies produced, they realised that lack of efficiency and effectiveness in teaching, lack of awareness about environment, over population, depletion and pollution were already reducing our standards of living and imperiling our future.

Education and research here is necessary because many environmental problems cannot be solved by Government alone. They can be solved by individuals, and the individuals must be educated to know what needs to be done. With our enormous ignorance of vital environmental problem it is disheartening to realise that in many nations including our own, more time and money has been spent on environmental destructive activities than constructive ones.

1.5.1 Recognition of the Need for Environmental Education

The basic characteristic of environmental consciousness have existed for thousands of years it follows that environmental education has also been part of the same cultural tradition. But the aims of environmental education have not always held a place of great importance – not indeed has these been a need for this, for the major
problems have remained until recent years in relatively localised state. It is only the present realisation of global repercussions of human interference that demands on urgent reappraisal of the current status and philosophy of environmental education.

Some years ago, the public was forced by circumstances to endure and accept the ultimate responsibility for environmental degradation it should be well informed about the nature and implications of relevant human activities. The need for a better understanding of the nature, extent and ultimate implications of human impact on the natural environment is perhaps, as suggested by Frankel, the most pressing and most important aspect of education for the coming decades.

The need for environmental education has also been expressed by numerous other individuals and has been formally acknowledged at both the background to the US Environmental Education Act that: “We, as a society can no longer afford the luxury of not knowing the environmental consequences of our decisions. The citizens of this country, both present and future, must understand this ecosystem and the interrelationships between its parts. Each phase of education, from pre-school through adult and continuing education, must be recorded to permit the introduction of ecological understanding”.

A similar statement was made, as a prelude to recommendations for international action, at the UN Conference on the human environment: Education and training on environmental problems are vital to the long term success of environmental policies because they are the only means of mobilising an enlightened and responsible population, and of securing the manpower needed for practical action programs.
1. In many cases, industrialised countries not only export serious environmental problems, but also do not always propose solutions that interest under developed countries. Conciliation between the interests of development and social progress in regions of the third world and preservation of the environment demand a well prepared population and enlightened institutions that could bring about the process of creating new forms of action and economic activities that would respect the necessity of maintaining the ecological balance. Environmental education has a significant contribution to render in this process.

2. No individual isolated effort can alone solve the problems of environmental degradation. These problems are clearly international and must be solved through international cooperation. Such cooperative action presupposes a common understanding of the environmental problems and an acceptance of responsibility for their ultimate solution. It is the prime function of environmental education to develop this understanding and responsibility.

3. Environmental education seeks to develop, from the individual to the population level and for every cultural, geographical, age and intellectual group, an awareness of the complex and dynamic interrelationship between man and his total environment, a concern for the quality of human life, and a personal commitment to environmental conservation.

4. Environmental education develops among people, an awareness of interrelationship between man and environment and the understanding of both the nature and implications of human impact on the environment.
5. Environmental education is intended to promote among citizens the awareness and understanding of the environment, our relationship to it, and the concern and responsible action necessary to assure our survival and to improve quality of life.

1.6 ENVIRONMENTAL EDUCATION IN SCHOOLS

For children to develop environmental ethics, we must redefine the objectives of formal education. Schooling has been an exercise for the purpose of enabling the individual to extract the maximum advantage from the natural and social environment in which he operates. This, perhaps, was reasonable when we could move away from the ecological crisis, with our growing awareness of the finite capacity of the biosphere, and man’s ability to alter its life support systems drastically and permanently, we realize that the central objective of education must shift.

Man and environment must now be presented in schools as a single system in which the activities of the individual must be adjusted to the capacities of the environment. Only in this way, can both man and environment be maintained in a healthy state. We must help children “to perceive themselves as part of their environment”.

The “object” environment is to be taken as a personal responsibility a pre-requisite for self-determination. Accordingly, the ideas to be developed in schools are:

1. The complemental character of organism and environment.
2. The selectivity of the individual into input and output.
3. The extent of interconnectedness from an individual outwards.
4. The enabling and constraining properties of energy and material resources.
5. The significance of short term and long term changes.

6. The consequences of individual, society and environment of human life styles.

7. The choice of criteria and the procedures available for guiding and managing changes.

To achieve these objectives, skills must be developed for realising them. They include:

1. Skills of data-acquisition, handling and presentation.

2. The formulation and testing of hypotheses.

3. Skills of prediction and evaluation.

4. Skills of imagination and creativity to complement to those of science.

1.6.1 Environmental Education and School Curriculum

The formulation of the curricula material on environmental education is of a more difficult nature than that of history of literature. A well designed program should be based not only on the needs but also should be no the skills of the learner. The curriculum projects should be planned horizontally as well as vertically. Disciplines, such as social sciences and science should not be studies in isolation. The curriculum should be flexible so material can be presented according to the backgrounds, needs and aspiration of the student, the curriculum should have vocational, citizenships and personal goal.

There are two models of environmental education curriculum suggested by Hungerford and Peyton (UNESCO Environmental Education Series 22) one model is called the interdisciplinary (single subject) model. This relies primarily on all disciplines and relevant components of many disciplines drawn upon to create a
distinct environmental education unit, course or module. The other module is called multidisciplinary because environmental education components are infused into other established disciplines where appropriate.

Figure 1: Model of curriculum development in environmental education
(developed by Swedish National Board of Education, 1968)
Figure 2: Inter-disciplinary or conceptual or infused model

Figure 3: Infusion of integration or multidisciplinary model
1.6.2 Environmental Education at the Pre-Primary and Primary Levels

Environmental education starts at home and in its immediate neighbourhood, activities, particularly group activities, are important at this stage. Manipulative skills are developed through helping in the home and at play. Some informal training is received in personal hygiene, and problems of food and water contamination.

At the pre-primary level the basic objective is to address the child’s emotional orientation to nature and to the environment of home and neighbourhood. This level is followed by more formal schooling at the primary school (ages 5-7 years and 11-14 years).

Mental alertness towards the environment seems to develop in most children at the age of 9-10 years. They can appreciate the interactions of man and nature and the relationship between hygiene and nutrition and are ready to accept the demonstrations of such interrelationships. These ages provide a most challenging task for teachers and curricula designers, activity planners and teaching educators. Teachers of these age groups often need a choice of resource materials, help and counseling services.

1.6.3 Environmental Education at the Secondary Level

Students enter secondary schools between the ages of 11 and 14 and leave between ages 16 and 19. They thus enter as children and leave as adolescents. Secondary school students are usually receptive and strongly motivated, and are capable of assimilating an environmental education, that is (a) value oriented, (b) community oriented and (c) concerned with human well-being.

Since secondary education was often oriented to traditional disciplines, there was little room for teachers to make use of integrative environmental elements.
Multidirectional environmental knowledge implies a diversity of skills. In some countries the emphasis was on introducing environmental aspects into school science courses and integrating these later.

1.6.4 Role of Teacher in Environmental Education

Traditionally a teacher has been regarded as an agent of social change and modernisation. He has been called “the maker of history”, ‘the builder of the nation’ and ‘the social engineer’ children and especially children in the plastic period of their life emulate their teachers and draw inspiration from them. A teacher, therefore, can play an important role in promoting environmental awareness and understanding among his students.

The functions of the teacher may be summarised as follows:

1. to arouse the children’s interest in the environment and to raise challenging problems.
2. to discuss the approach to problems or topics.
3. to organise working groups and to provide with the help of work cards the lines of enquiry.
4. to arrange visits or expeditions.
5. to provide reference materials for children’s use.
6. to provide materials needed for practical work.
7. to arrange for visiting speakers.
8. to initiate and develop discussion and debate.
9. to provide facilities for displays and exhibitions of the word carried out.
1.6.5 Role of National Resource Centre for Environmental Education

For policy information coordination of all academic activities and providing academic resource support, there should be an apex body at the national level. The specific functions of the National Resource Centre includes:

1. Development of curricula and instructional materials with reference to the needs of the environment at the local, regional, national levels;
2. Preparation of books and reference material.
3. Determining educational methods and media.
4. Serving as a consultative body in environmental education.
5. Acting as a clearing-house and information centre for environmental education.
6. Promoting collaborative relationships among environmental education associations, research and education.
7. Encouraging and facilitating the contribution to environmental education programmes of non-governmental agencies including voluntary bodies.

Attitude to be Fostered Might include

1. A sense of identifying with one’s environment, enjoyment of it and respect for the processes upon which it depends.
2. A sense of community with other people, and other living things.
3. Respect for oneself and for the unique human capacity to overcome biological and other environmental constraints.
4. A sense of continuity with the past and future.
5. A commitment to contribute personal talents to participation in the improvement of environmental quality.
These concepts, skills and attitudes, expressed in a form suited to the prevailing circumstances, can provide a basis for the construction of a checklist of objectives against which a programme of studies may be arranged and assessed.

1.7 ENVIRONMENTAL STUDIES IN SCHOOLS’ CURRICULUM

Ever enlightened individual has realised that the environmental education should be a part of the school curriculum. But, there seems to be some controversy over how and where to place environmental education in the current school curriculum. Of the several basic approaches, the three commonly acknowledged are,

(i) Integration within the subject disciplines.
(ii) Creation of separate courses and relegation to the extra curricular and
(iii) Out-of-school programmes.

Most of the school educators readily opt for integration, principle and practicability seem to merge more easily here.

At the secondary level, an integrated approach is also preferred. The environmental education content can be injected into natural science subjects and environmental themes into current science courses.

The environmental learning can be achieved through the study of statistics at the secondary level. In addition to that, even arts, and humanities can be considered. This can be emphasised to point that environmental education draws on all subject disciplines and reflects environment through competent citizens.

The roots of desirable human behaviour should result from ecological crisis. It should also provide for emotional motivation for studying man-environment relationship and for discovering beauty in the nature and in ourselves. Through these
subjects, imagination, intuition, creativity, concern, etc. of the internal environment of children should be stimulated for the development of personal environmental ethic.

In short “integration” is currently the dominant approach to getting environmental education into schools. Separate courses in environmental education at the school level exist in some countries, which are not at all common.

Identifying the content of environmental education for schools is a very challenging task. The difficulty is due to, as Smyth says, “the all embracing nature of its subject matter and the diversity of approaches and attitudes among those who promote environmental education”. But one thing is certain that the content must be related to the local environment and cultural content of the community surrounding the school.

Environmental studies at the primary level commonly begin in the classroom, the school compound and the immediate community. As one progresses through the school grades, more distant environment and more abstract environmental concerns become the foci of the study.

In the secondary stage almost in all the countries, a study about the environment of other regions is highlighted rather than their own. The tenet should have been “think globally and act locally”. This principle is not sufficiently applied in secondary education programmes.

According to Krasiletik, there is a tendency in under developed countries to study and worry more about problems of regions of advanced stage of industrialisation than about those themes which to them are typical and more urgent. Instead of topics of industrial pollution and inappropriate use of natural resources
being given more prominence, the problems of nutrition, basic sanitation, housing, agriculture and employment should receive more attention in environmental education. For example, in Thailand, in secondary stage, some of the topics are “Electricity is valuable”, “The land we live in”, “I love trees”, “Air pollution”, etc. But it must be flexible enough to suit the conditions of local environment. In the “content”, more emphasis is given for skills and attitude to achieve participation of students in the community work.

1.8 PRINCIPLES OF TEACHING ENVIRONMENTAL EDUCATION

Guiding Principles for Environmental Education

Environmental education should consider the environment in its totality-natural and built, technological and social (economic, political, technological, cultural-historical, moral, aesthetic);

Environmental education should be a continuous lifelong process, beginning at the pre-school level and continuing through all formal and nonformal stages;

Environmental education should be interdisciplinary in its approach, drawing on the specific content of each discipline in making possible a holistic and balanced perspective;

Environmental education should 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;

Environmental education should focus on current and potential environmental situations while taking into account the historical perspective;
Environmental education should promote the value and necessity of local, national and international cooperation in the prevention and solution of environmental problems;

Environmental education should explicitly consider environmental aspects in plans for development and growth;

Environmental education should enable learners to have a role in planning their learning experiences and provide an opportunity for making decisions and accepting their consequences;

Environmental education should 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;

Environmental education should help learners discover the symptoms and real causes of environmental problems;

Environmental education should emphasise the complexity of environmental problems and thus the need to develop critical thinking and problem solving skills;

Environmental education should utilise 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.

The environmental education helps in programming learning experiences from simple to complex. It is this principle that makes environmental education as a medium of learning different subjects.

The environmental education helps a child proceed from indefinite ideas to definite ones. The first principles of thoughts which are vague will become clear later
as it grows and environmental education helps in sharpening the development of the observational skills for definiteness.

The environmental education helps a child proceed from concrete to abstract. This is a very simple education maxim and does not need any elaboration.

The environmental education helps the ordering of learning experiences from empirical to rational which is a very important educational maxim preferred by Herbert Spencer.

The environmental education provides for the self development of the child. Children are encouraged to conduct their own investigations and draw their own conclusions. The programmes of environmental education provide for self instruction and self discovery.

The programmes of environmental education create delightful and pleasurable excitement in children because of the beauty and glory of the environment issued as teaching aid by the teachers.

The environmental education makes the child’s education problem-based for understanding environment.

The environmental education has social relevance.

In conclusion, environmental education is a subject of a very practical nature and is also supported by sound pedagogical principles.

1.9 RECOMMENDATIONS ON ENVIRONMENTAL EDUCATION

Though educators have highlighted the relevance of environmental education in schools, they, on their own, cannot proceed. They have to accept the recommendations of experts in different areas of activity. Such recommendations
have been made regarding study materials, proper motivational aids, the extent of pupils’ participation, techniques, etc. Some of these are discussed here:

1. At school level, for environmental education, there is an urgent need for textbooks and teaching aids for environmental education. Books on case studies, photographs, charts, maps, slides, films and other audio-visual aids on environmental problems are necessary. Encouragement and financial assistance are also needed.

2. The environmental education at school level should aim at creating environmental awareness.

3. The environmental concepts should be integrated in existing courses in physical, natural and social sciences.

4. Students should be exposed to the concept of nature education and the experience of participating in nature conservation programmes.

5. Extra curricular environmental programmes for school children are a powerful tool for imparting environmental education to children and should be increasingly encouraged. Such programmes should incorporate adventure, learning, grass root action and links with both environmental offenders and beneficiaries.

6. Several techniques for providing extra curricular environmental education to school children are available. These include distributing in the classroom entertaining children’s magazines on environment, organising of nature and science club visits to exhibitions and museums, organising painting and essay competitions and exhibitions, participation in community environmental action
programmes and using songs, plays, folk tales, puppet shows and environmental games and puzzles.

7. Environmental magazines for the use of and by teachers should be brought out.

8. Correspondence courses in environmental education for primary and secondary school teachers should be initiated by teachers’ training institutions.

9. Periodical workshops/seminars on environmental topics should be arranged.

The recommendations do not stop here. Depending on circumstances, needs of the time, requirements of the society and availability of resources, more recommendations on environmental education are to be made to incorporate in school environmental activities.

1.10 ENVIRONMENTAL AWARENESS AND EDUCATION

The home community and the school are the three basic spheres of environmental education. Efforts in all these spheres, as well as efforts to combine the impacts of these foci, form the ideal approach towards creating appropriate perceptions of environmental problems and solutions with the creation of environmental awareness.

The environmental education starts from the very home and its immediate neighbourhood. A child’s perception of the environment develops partly from formal schooling in nursery schools, then pre-primary institutions, temples, churches and partly from nonformal education at home. Young children first learn to see and understand what is happening around them and begin to feel how they are related to it primarily through contact with their mothers. As they grow older, education at home is fundamental to develop ethics and attitudes. Mothers can insist patterns of
behaviour that can lead to marked savings in food, water and energy consumption. Trained teachers can contribute much to increasing children’s awareness of environmental issues at nurseries and kindergartens.

Active consciousness towards natural environment begins to develop in most children at the age of 9-11 years. They can appreciate the interaction of the people and nature and are ready to accept the demonstrations of such inter-relationship. But it should always be remembered that the perception of the environment is not necessarily an academic exercise pursued totally through book learning. It is the art of developing a sense of the significance of the environment through an “awareness” of positive and negative impacts.

Students enter high schools as children and leave as adolescents. These students are usually receptive and strongly motivated and are capable of assimilating an environmental education that is (i) value oriented, (ii) community oriented and (iii) concerned with human well being.

Considerable progress has been made in formulating guidelines and policies for environmental education. One of the major aims of the International Environmental Education Programme (IEEP) of UNESCO and UNEP is the incorporation of basic environmental considerations into primary and secondary curricula. Such environmental considerations include a study of soil, plants and animals, water, air and their interaction with the human environment as well as considerations of basic human needs, health, sustainable development, etc.

IEEP which begin in 1975, has over recent years, been successful in encouraging the inclusion of such material into national curricula. More than 60
countries have introduced environmental education into their educational plans, policies, and reforms.

Nonformal education is also extremely important in enhancing the awareness of the child on environment. Young people often participate in tree planting, nature conservation, wild life protection projects and other such activities outside the school.

Thus, a proper awareness about environmental education goes a long way in planning and conducting different activities connected with environmental issues of the times.

1.11 DEVELOPMENT OF ENVIRONMENTAL AWARENESS IN CHILDREN

The chief objective of environmental education is that individual and social groups should acquire awareness and knowledge, develop attitude, skills and abilities, and participate in solving the real life environmental problem.

The environmental education aims at developing in the child an awareness and understanding of the physical and social environment in its totality. Environmental studies involve a child’s investigation and systemic exploration of his own natural and social environment and prepare himself to solve the problems for improving his life.

Environmental education is a process of providing learning experiences to obtain knowledge, understanding, skills and awareness with desirable attitudinal changes about man’s relationship with his natural and man made surroundings which includes the relation of population, pollution, resource allocation, transportation, technology and urban and rural planning to the total human environment.

Environmental awareness may be defined as to help the social groups and individuals to gain a variety of experiences in and acquire a basic understanding of
environment and its associated problems. World educators and environmental specialists have repeatedly pointed out that any solution to the environmental crisis will require environmental awareness and understanding to be deeply rooted in the educational systems at all level.

Environmental awareness has the main task of providing the understanding of physical and biological components of the environment and their interdependence.

The United Nation Conference on Human Environment (Stockholm, June, 1971) was a major event for those concerned with the quality of the world’s environment. One of the recommendations of the conference resulted in the creation United Nations Environmental Programme (UNEP) while other recommendations specially constituted the foundation of framework for cooperative effort in international, which state that environmental awareness may be developed by:

- Identifying, analysing and understanding the needs and problems of personal life including health, vocation, etc.
- Social life at different levels, viz. family, caste, community, religion, town or village life, state and country.
- National life including civic, economic, etc.

Environmental awareness may also be developed when we:

- appreciate, promote and use the environment to improve health, vocation and social and national life.
- interact with Government and social agencies and utilise the development facilities provided by these agencies in his/her individual capacity and also for organising certain community activities.
• develop the aesthetic sense to appreciate beauty and adopt it in personal and social life.

Environmental awareness provides the understanding and competence to recognize environmental resources and interdependence between physical and biological components of the environment for the growth and development. The areas and content of environmental awareness have been enumerated in the following para.

In order to help children grow in knowledge, skill and values, attitudes and awareness relevant to environments, teacher is expected to be not only dispenser of information and knowledge, but also manages to teaching and learning situation. The ways of classroom organization have also to be drastically changed. For the purpose of profitably utilising the time and taking care of the interests of children, teacher should resort to group activities and bear with a certain amount of active involvement and talking in the classroom. Therefore the concept of discipline in the classroom has also to be changed. This necessarily means that the education officers and other supervisory staff engaged in supervision of classroom activities must also be oriented towards the environmental approach to teaching learning strategies in the classroom. They should look for the positive development in the children rather than acquisition of bookish information.

The environment and the experiences of the children outside the school, vary from place to place, consequently the activities provided them in the school by teachers would also vary so that knowledge, attitude, skill and commitment can be built on the solid foundation of experience the child draws from the environment.
The way each child experiences the environment is unique. Growing up, learning and gaining insight within his/her own environment is most natural for a child, and each child accomplishes it in his/her own way, accommodating to thousands of impression. This natural quality of children is a good basis, but not the essence of environmental education.

Environmental education comes into being when this development, which for every child occurs so naturally, and as a matter of course, is consciously and positively influenced, secured, encouraged, enriched and arranged by responsible adults who belong to the child’s own environment and who thus become part of the interactions between the child and the environment.

Needless to stress that school teachers assume a very important place among the adults in this education, and that their responsibility is extremely great. The way teachers act can be enriching to the child, or it may have adverse effect. In either case the effect is life long.

Good teaching is a diversified professional activity, meant to help children to discover their own potential, and it must show continuity to permit them to develop it and build upon it.

In environmental education children must progress in knowledge, organisation, discipline, and self reliance through an active and affective involvement with the world around them. But the object of this cannot be “the whole world”. The whole big world is far too large for children to comprehend, but with proper guidance they can learn to care for “their world”. The environment in all its complexity presents itself to the child through manageable, comprehensible and approachable
details. The complexity of the interrelationship between and among various living and non-living resources of environment is reduced enough to be comprehensible to a child, and it will invariably lead to new insight.

Children who participate in the changes in their environment and who learn to recognise the relationship of cause and effect, and who begin to understand the interdependence and interaction, including themselves, cannot fail to perceive that they, too, play a role in these interactions, when their interactions become more conscious, more organised, more scientific, they acquire a growing insight into how the environment, to which they belong, can be profoundly influenced by their actions. They also begin to understand how the environment affects their own actions and lives.

Environmental education is not a matter of telling the children about it. It is necessary to use the unique environment of every child as a source of information as a ground for learning, a mine of wisdom. Only then can we expect children to accept responsibility for the earth they share with others. When this feeling of responsibility becomes ingrained in their personality, they will be able to carry it into adult life, when they face environmental problems.

1.12 DEVELOPMENT OF ENVIRONMENTAL KNOWLEDGE AND ENVIRONMENTAL ATTITUDES

Environmental knowledge is defined as the factual information possessed by a student about environmental issues. Facts and events in the content areas of ecological concepts, pollution, wild life, natural resources, population and persons and organisations are involved in the environmental movement.
The influence of environmental knowledge on environmental attitude has been the focus of study and discussion (Marcinkowski, 1988; Muttaqui, 1981; Yount, 1988; Mann, 1983).

It is true that much of the damage caused to the planet is due to man’s ignorance of how to deal with nature. At one time the focus of socio-scientific discussion on science, technology and man was how best to use science and technology in the service of man and how best to tap and utilise natural resources. Today the focus of discussion is how best to utilise science and technology without endangering the planet, and how best to conserve the remaining resources for our grand children.

Following are some knowledge objectives of environmental education, the understanding of which are essential for change in environmental attitude.

1. The earth has finite resources. All life depends on how successfully human beings can learn to harmonise their use of the earth’s resources with natural communities and ecosystems.

2. Due to increase in transport and communication planet earth is more like a spaceship than the planet it once was, and is more vulnerable to destruction.

3. The economic benefit created by a technology at the local level is not the only criterion which can be used to assess its value. It is equally important to assess its global influence on the planet.

4. Science and technology can be used for not only economic growth but also for improving the physical and mental health of individuals as well as civic hygiene and sanitation.
5. Economic growth may improve the standard of living, but it may not improve the quality of life, which is a better index of the well being of a community.

6. Man, though biologically superior, is not the most important species on earth, because all species play an equally important role in maintaining the life support system of the earth.

7. Man is the only organism who consciously modifies his environment. Naturally he is solely responsible for maintaining the quality of life on this planet.

8. Continued contact with nature and an appreciation of the beauty of nature are essential to man’s spiritual and emotional well being.

9. The effects of ecological destruction need not be permanent, and can be reverted if the community acts fast. Prolonged indifference to an ecologically disturbed area can make it permanently inhospitable.

10. It takes millions of years for a species to evolve, but it can be exterminated in a very short time.

11. The extermination of a species of plant or animal is permanent and irrevocable.

12. The cost of repairing ecological damage is much less if the extent of damage is less. Prevention or early intervention is better than cure.

13. Technological progress is not incompatible with environment. Conservation provides man with spiritual and emotional benefits, technology provides material benefits.

14. Man’s survival depends on the natural life support system of the planet and other species of plants and animals in these life support systems with which he is directly or indirectly related.
15. The environmental crisis can be averted only if people all over the world unite, and cooperate to protect the environment.

1.13 PURPOSES OF ENVIRONMENTAL EDUCATION

According to a Chinese proverb, “If you are thinking one year ahead, plant rice; if you are thinking ten years ahead, plant trees; and if you are thinking hundred years ahead, educate the people”.

The philosophy behind the above Chinese proverb, when taken in its totality, is environmentally very comprehensive and holistic. It takes care of many of our needs such as food, fodder, fertilizer, fibre, medicine and shelter, and above all, it help to remove ignorance and irrationality.

The philosophy of environmental education asserts that man is an integral and inseparable component of the ecosystem. Within the system, his culture, values, scientific and technical knowledge and his association and arrangements are the elements through which he interacts with the biotic and abiotic environment. It need to be clearly understood that we cohabit the world with other living organisms. For this, an understanding of the use of available resources by man and also the impact of his activities on the ecosystem is necessary. Such an understanding could be made possible only through an education system which clearly explains causes of ecosystem functioning and its conservation and management. The environmental education therefore has the following purposes:

- Providing factual information to students which will lead to their understanding the intricate system of ecological balance and the position of man in it.
• Developing a concern and respect for environment.

• Informing people as to how they can play an effective role in protecting the environment by demanding changes in laws and enforcement systems.

The role of environmental education at college and university level in particular, should be to provide the highest level of manpower for managing, protecting, preserving and improving our environment.

This is a critical input to any worthwhile development and socio-economic change. Given good teachers and students, good training and motivation will follow, thus helping the students in pursuits to create a suitable environment for human existence, survival and progress and the sustainable growth and development of the country.

The concept of environmental education is related to the problem of human survival and survival of the planet.

Environmental education is that instrument of social change which could influence people of all ages and all walks of life with the purpose of instilling in them the ability to appreciate the natural laws by which this planet is governed, as well as the skills attitudes and values they need to use for protecting this planet as well as life forms inhabiting it.

**Environmental Education Operates in the Following Four Ways**

1. By influencing the legal system so that it can introduce rules, policies, regulations which are implemented to harmonise the lives of individuals with principles of environmental conservation.
2. By influencing the educational system (and the public) so that the youth of today learn the principles of environmental stewardship, and develop suitable skills, attitude and values thereof.

3. By influencing science and technology, scientists and technologists, with the object of posing environmental problems evaluating various solutions and making scientists aware of the necessity to develop environmental friendly technologies.

4. By creating a society which appreciates the importance of leading a simpler non-materialistic life which would make less demands on resources.

1.14 SUGGESTED ACTIVITIES

Keeping in view the objectives of environmental education, the following activities can be undertaken by students and teachers in schools.

1. Conducting seminars, essay and elocution competition on environmental issues.

2. Releasing of bulleting on environmental issues.

3. Writing slogans on environment in public places.

4. Conducting cleanliness drives with the help of local organisations.

5. Making efforts to clean open drains, to facilitate smooth flow of rain water, etc.

6. Helping the people to adopt modern methods of sanitation and help them get government help for the same.

7. Destroying the weeds like Parthenium and Eupatorium from playgrounds, school campus and residential areas.

8. Highlighting the importance of clean water, clean air and earth.

9. Discussing the effects of pesticides, synthetic fertilizers, explosives, etc.

11. Observing plants, flowers, birds and animals with a view to recognising them.

12. Discriminating between colours, sizes of plants and flowers by their names.

13. Observing the behaviour of birds, animals and their nests and habitats.

14. Visiting museums, sanctuaries, wild forests, zoological and botanical parks, etc.

15. Setting up of herbarium, aquarium, vivarium, etc.

16. Visiting sea shores, river banks, fire stations, etc.

17. Visiting historical monuments and studying the effects of environmental pollution on them.

18. Observing meadows, agricultural farms, woodlands, sand dunes, etc.

19. Involving in model-making, arts-works and craft activities, competitions, survey, field trips, demonstration, campaigns, etc.

20. Action programmes – raising school gardens, nurseries, fish tanks, developing school ponds, ecosystem, cleaning school campus, school beautification, fencing the school campus with bushes and bamboos, developing drainage around the school for preventing water stagnation, etc.

21. Creative expressions performing street plays/staging environmental dramas, puppet shows, etc.

22. Observing specific environmental programmes conducted in the community and surroundings.


24. Letter-writing to authorities to take steps for cleaner environment.

25. Developing audio-visual materials on environmental issues.
THE INDIAN SCENARIO

India is one of those countries where Environmental Education has emerged as a significant area of concern. It is clearly reflected in its National Policy of Education (1986). Environmental Education today is viewed as an integral part of the education system at all stages from pre-primary school to the university level. It is well recognized that school system provides the largest organized base for Environmental Education and action. Environmental Education is largely interdisciplinary in nature; both art (doing) and science (understanding) organized from primary to university level. The objectives and the content of Environmental Education to be integrated with the curriculum varies from stage to stage. It is very essential that Environmental Education has to be essentially local specific Environmental Education should permeate the whole curriculum. Curriculum should be related to the immediate environment of the children. (Yeshodhara, 2000)

Environmental Education (EE) has developed as pragmatic educational response to the problems and concerns of environment. The concept of Environmental Education is still evolving and awaiting institutionalisation in the educational systems. As such there is a dire need to understand the subject in proper perspective. Environmental Education has two components, viz. environment and education.

The key to successful Environmental Education is the classroom teacher. If teachers do not have knowledge, skill and commitment to environmentalise their curriculum, it is unlikely that an environmentally literate student will be produced. For this, special training to prospective teachers is necessary. There is a need for a new personal and individualised behaviour based on global ethics, which can be
realized only through the enlightenment and training of educational professionals. Thus there is a need for interested teachers and teacher educators. (University News, New Delhi, 2000)

**THE IRANIAN SCENARIO**

The political and cultural changes in Iran seem to indicate that the world trend has left its mark on Iran. As such, experience of successful countries, as revealed through comparative studies, could serve as sources of ideas for those involved in the Iranian educational system.

Ever since academic attention was drawn to the environmental crisis and the adoption of Environmental Education as strategy to combat it. Considerable research has been conducted and essays have been written. However, most of the studies carried out on Environmental Education in Iran have been only in the area of curriculum analysis in order to find out their adequacies or otherwise for integration of Environmental Education into school subjects. Little efforts have been directed at finding out the level of awareness and perceptions of Environmental issues and Environmental Education among the school teachers and learners of the programme. Therefore, this study was conceived to fill this gap. It has sought to find out how students who are the end user of school curricula perceive Environmental Education within existing school subjects (Journal of Education Tehran, 1996).

Environmental Education is a relatively new program in the educational system and the students are not adequately aware of it. The implication of this is that there is a need for the government as matter of priority to make the teaching of Environmental Education in schools compulsory at all levels.
1.15 NEED, CONTEXT AND SIGNIFICANCE OF THE PRESENT STUDY

India, a developing country, is still confronted with environmental problems of degradation, depletion, conservation and a management of environment. That is why Environmental Education is the prime need of the hour, for educating people to take appropriate steps for the protection and improvement of environment. The formal environmental education programmes can be subdivided into those for pre-school and primary level, secondary school level, tertiary level for general students, tertiary level for teachers and programmes for specialist. Non-formal environmental education is also an extremely important activity in increasing environmental awareness among the public and in motivating the community at large for preserving and protecting environmental quality. The non-formal programmes may be subdivided into those for out of school youth and for adults.

Environmental education increases public awareness and knowledge about environmental issues or problems. In doing so, it provides the public with the necessary skill to make informed decisions and take responsible action. Environmental education does not advocate a particular viewpoint or course of action. Rather, environmental education teachers individuals how to weigh various sides of an issue through critical thinking and it enhances their own problem-solving and decision making skills.

The experience of two countries, India and Iran, which nearly began their journeys towards environmental education together are useful for educational planners in both the countries. It is found that much attention is not given to comparative studies on environmental education of schools in different educational
systems. Thus there is a great need for such studies. Comparative education helps in better understanding of the educational process in general and studying details of environmental education in particular. This was the compelling reason why the Investigator undertook the present study and compared environmental awareness and environmental attitude of teachers and students of secondary schools in India and Iran.

1.16 STATEMENT OF THE PROBLEM

Keeping in mind the above points the Investigator states the problem of research study in the following way. “A COMPARATIVE STUDY OF ENVIRONMENTAL AWARENESS AND ATTITUDE OF TEACHERS AND STUDENTS OF SECONDARY SCHOOL IN INDIA AND IRAN”. The Investigator has selected Mysore city in India and Tehran city in Iran for the purpose of collecting necessary data for the present research study.

In this research, the Investigator will not only study the environmental awareness and environmental attitude of secondary school teachers and students but also compare the same in India and Iran.

1.17 OBJECTIVES OF THE STUDY

1. To study the differences in the level of environmental awareness of secondary school teachers in Mysore and Tehran with regard to
   (a) male and Female teachers
   (b) government and private school teachers
   (c) teachers with different age groups
   (d) teachers with different academic qualifications
   (e) teachers with different lengths of experience
   (f) teachers with different area of specialisation
2. To study the level of environmental awareness of secondary school teachers in Mysore and Tehran.

3. To study the differences in the level of environmental attitude of secondary school teachers in Mysore and Tehran with regard to
   (a) male and Female teachers
   (b) government and private school teachers
   (c) teachers with different age groups
   (d) teachers with different academic qualifications
   (e) teachers with different lengths of experience
   (f) teachers with different area of specialisation

4. To study the level of environmental attitude of secondary school teachers in Mysore and Tehran.

5. To study the relationship between the environmental awareness and environmental attitude of secondary school teachers in Mysore and Tehran.

6. To study the differences in the level of environmental awareness of secondary school students of Mysore and Tehran with regard to
   (a) boy and girl students
   (b) government and private school students
   (c) students with different class standard

7. To study the level of environmental awareness of secondary school students in Mysore and Tehran

8. To study the differences in the level of environmental attitude of secondary school teachers of Mysore and Tehran with regard to
   (a) boy and girl students
   (b) government and private school students
   (c) students with different class standard
9. To study the level of environmental attitude of secondary school students in Mysore and Tehran.

10. To study the relationship between the environmental awareness and environmental attitude of secondary school students in Mysore and Tehran.

1.18 RESEARCH QUESTIONS

The present study tries to answer the following questions.

1. Is there any difference in the level of environmental awareness of secondary school teachers in Mysore and Tehran with regard to
   (a) male and female teachers
   (b) government and private school teachers
   (c) teachers with different age groups
   (d) teachers with different academic qualifications
   (e) teachers with different lengths of experience
   (f) teachers with different area of specialisation?

2. Is there any difference in the level of environmental awareness of secondary school teachers in Mysore and Tehran?

3. Is there any difference in the level of environmental attitude of secondary school teachers in Mysore and Tehran with regard to
   (a) male and Female teachers
   (d) government and private school teachers
   (e) teachers with different age groups
   (f) teachers with different academic qualifications
   (g) teachers with different lengths of experience
   (h) teachers with different area of specialisation?
4. Is there any difference in the level of environmental attitude of secondary school teachers in Mysore and Tehran?

5. Is there any difference in the relationship between the environmental awareness and environmental attitude of secondary school teachers in Mysore and Tehran?

6. Is there any difference in the level of environmental awareness of secondary school students of Mysore and Tehran with regard to
   (a) boy and girl students
   (b) government and private school students
   (c) students with different class standard?

7. Is there any difference in the level of environmental awareness of secondary school students in Mysore and Tehran?

8. Is there any difference in the level of environmental attitude of secondary school teachers of Mysore and Tehran with regard to
   (a) boy and girl students
   (b) government and private school students
   (c) students with different class standard?

9. Is there any difference in the level of environmental attitude of secondary school students in Mysore and Tehran?

10. Is there any difference in the relationship between the environmental awareness and environmental attitude of secondary school students in Mysore and Tehran?
1.19 HYPOTHESES OF THE STUDY

1. There is no significant difference between male and female teachers in their level of environmental awareness in Mysore and Tehran.

2. There is no significant difference between government and private school teachers in their level of environmental awareness in Mysore and Tehran.

3. There is no significant difference between teachers with different age group and their environmental awareness in Mysore and Tehran.

4. There is no significant difference between teachers with different academic qualifications and their environmental awareness in Mysore and Tehran.

5. There is no significant difference between teachers with different lengths of teachers’ experience and their environmental awareness in Mysore and Tehran.

6. There is no significant difference between Arts and Science teachers in their environmental awareness in Mysore and Tehran.

7. There is no significant difference between Indian and Iranian teachers in their level of environmental awareness.

8. There is no significant difference between male and female teachers in their level of environmental attitude in Mysore and Tehran.

9. There is no significant difference between government and private school teachers in their level of environmental attitude in Mysore and Tehran.

10. There is no significant difference between teachers with different age group and their environmental attitude in Mysore and Tehran.
11. There is no significant difference between teachers with different academic qualifications and their environmental attitude in Mysore and Tehran.

12. There is no significant difference between teachers with different lengths of teaching experience and their environmental attitude in Mysore and Tehran.

13. There is no significant difference between arts and science teachers in their environmental attitude in Mysore and Tehran.

14. There is no significant difference between Indian and Iranian teachers in their level of environmental attitude.

15. There is no significant relationship between the secondary school teachers in their level of environmental awareness and environmental attitude in Mysore and Tehran.

16. There is no significant difference between boys and girls in their level of environmental awareness in Mysore and Tehran.

17. There is no significant difference between government and private school students in their level of environmental awareness in Mysore and Tehran.

18. There is no significant difference between IX and X standard students in their environmental awareness in Mysore and Tehran.

19. There is no significant difference between Indian and Iranian students in their level of environmental awareness.

20. There is no significant difference between boys and girls in their level of environmental attitude in Mysore and Tehran.
21. There is no significant difference between government and private school students in their level of environmental attitude in Mysore and Tehran.

22. There is no significant difference between IX and X standard students in their environmental attitude in Mysore and Tehran.

23. There is no significant difference between Indian and Iranian students in their level of environmental attitude.

24. There is no significant relationship between the secondary school students in their level of environmental awareness and environmental attitude in Mysore and Tehran

1.20 DESIGN OF THE STUDY

The present study is undertaken to compare the environmental awareness and environmental attitude of teachers and students of secondary schools in India and Iran. In this chapter an attempt has been made to explain the design of the study, which includes details like locale of the study, variables of the study, tools used for the study, sample procedure and techniques employed for analysis of the data.

1.20.1 Locale of the Study

The locale of the present study is Mysore City in India and Tehran city in Iran. The city of Mysore is spread over an area of 37.37 sq km with a total population of nearly 1,000,000 persons. It is 130 kms from Bangalore, the capital of Karnataka State, South India, and situated 763 meters, above sea level. Mysore city is a cultural center in south India and is a famous tourist spot. Tehran is the capital and the largest city of Iran. Tehran is situated 1100-1700 meters above sea level and has a population
of nearly 10,000,000 persons. Tehran is a city of all four seasons and is the political, economical and intellectual capital of Iran.

1.2.0.2 Variables of the Study

The present investigation is essentially a descriptive-cum-comparative study of environmental awareness and attitude of teachers and students of secondary schools in India and Iran.

A. Dependent Variables

1. Environmental awareness of teachers
2. Environmental awareness of students
3. Environmental attitude of teachers
4. Environmental attitude of students

B. Independent Variables

1. Gender
2. Age
3. Academic qualification
4. Teaching experience
5. Type of school management
6. Area of specification
7. Class/Standard
Teachers background variables are:

- Gender, refers to **male** and **female**

- Age is divided into four categories: Below 30, 31-40, 41-50, 51 and above

- Length of teaching experience: Below 6 years, 7-12 years, 13-18 years, 19-24 years, 25 and above year

- Academic qualification: Graduate, Post-graduate

- Area of specialisation: Human Science (Arts), Science

- Type of schools: Government, Private

Students background variables are:

- Gender refers to **boy** and **girl**

- Level of class are IX, X

- Type of school is Government, Private

1.20.3 Tools Used for the Study

In this study the following tools will be used for collecting necessary research data. A list of tools used to measure different variables chosen for the study is given in table 1.
Table 1: List of variables measured and the tools used in the study

<table>
<thead>
<tr>
<th>Sl.No.</th>
<th>Variables measured</th>
<th>Tools used</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Teachers’ Environmental</td>
<td>“Environmental Awareness Test (EAT)” developed by Shabina Jinaraja (1999)</td>
</tr>
<tr>
<td></td>
<td>Awareness</td>
<td></td>
</tr>
<tr>
<td>2.</td>
<td>Teachers’ Environmental</td>
<td>“Taj Environmental Attitude Scale (TEAS)” developed by Haseen Taj (2001)</td>
</tr>
<tr>
<td></td>
<td>Attitude</td>
<td></td>
</tr>
<tr>
<td>3.</td>
<td>Students’ Environmental</td>
<td>“Environmental Awareness Ability Measure (EAAM)” developed by Praveen Kumar</td>
</tr>
<tr>
<td></td>
<td>Awareness</td>
<td>Jha (1998)</td>
</tr>
<tr>
<td>4.</td>
<td>Students’ Environmental</td>
<td>“Taj Environmental Attitude Scale (TEAS)” developed by Haseen Taj (2001)</td>
</tr>
<tr>
<td></td>
<td>Attitude</td>
<td></td>
</tr>
</tbody>
</table>

These questionnaires developed originally in English were translated by the Investigator into the Persian language for students and teachers in Iran. Initially, the Persian version was administered as a pre-test to 50 boy and 50 girl Iranian students also to 50 male and 50 female Iranian teachers to find out the suitability of the scales. With a few minor revisions, main study was continued based on the suggestions given by the students and teachers of pre-test.

1.20.4 Sample

The sample for the present study was chosen in the following three ways.

1. Selection of schools
2. Selection of teachers
3. Selection of students
1.20.4.1 Selection of schools

**India:** In India, Mysore city is the place chosen for the purpose of collecting data. As per the data available, there are 120 secondary schools in Mysore city. Forty-six schools were selected for the research work using simple random sampling technique.

**Iran:** In Iran, Tehran city is the place chosen for the purpose of collecting data. As per the data available, there are 1200 secondary schools in Tehran city. Fifty-seven schools were selected for the research using stratified random sampling technique.

The details of the distribution of schools selected for the study are given in the table 2.

**Table 2: Distribution of schools selected for the study based on management and country**

<table>
<thead>
<tr>
<th>School</th>
<th>India</th>
<th>Iran</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Government</td>
<td>Number</td>
<td>11</td>
<td>34</td>
</tr>
<tr>
<td></td>
<td>%</td>
<td>23.9</td>
<td>59.6</td>
</tr>
<tr>
<td>Private</td>
<td>Number</td>
<td>35</td>
<td>23</td>
</tr>
<tr>
<td></td>
<td>%</td>
<td>76.1</td>
<td>40.4</td>
</tr>
<tr>
<td>Total</td>
<td>Number</td>
<td>46</td>
<td>57</td>
</tr>
<tr>
<td></td>
<td>%</td>
<td>100.0</td>
<td>100.0</td>
</tr>
</tbody>
</table>

1.20.4.2 Selection of teachers

In order to collect data about teachers’ environmental awareness and attitude, it was decided to select 520 teachers using simple random sampling technique from the selected 46 schools in Mysore city of India. Similarly 520 teachers were selected using stratified random sampling technique from 57 schools in Tehran city of Iran. Even though, 1040 questionnaire (520 in Mysore city and 520 in Tehran city) were given to selected teachers, the investigator could get only 494 questionnaires from
India and 510 from Iran. Thus the size of effective sample was 1004 secondary school teachers from 103 schools in both the countries.

**Table 3: Distribution of teachers selected for the study based on gender and country**

<table>
<thead>
<tr>
<th>Teachers</th>
<th>India</th>
<th>Iran</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>Number</td>
<td>250</td>
<td>255</td>
</tr>
<tr>
<td></td>
<td>%</td>
<td>50.6</td>
<td>50.0</td>
</tr>
<tr>
<td>Female</td>
<td>Number</td>
<td>244</td>
<td>255</td>
</tr>
<tr>
<td></td>
<td>%</td>
<td>49.4</td>
<td>50.0</td>
</tr>
<tr>
<td>Total</td>
<td>Number</td>
<td>494</td>
<td>510</td>
</tr>
<tr>
<td></td>
<td>%</td>
<td>100.0</td>
<td>100.0</td>
</tr>
</tbody>
</table>

1.20.4.3 Selection of students

In order to collect data about students’ environmental awareness and attitude, it was decided to select 500 students using simple random sampling technique from the selected 46 schools in Mysore city of India. Similarly 500 students were selected using stratified random sampling technique from 57 schools in Tehran city of Iran. Even though, 1040 questionnaire (520 in Mysore city and 520 in Tehran city) were given to selected students, the investigator could get only 500 questionnaire from India and 491 from Iran. Thus the size of effective sample was 991 secondary school students from 103 schools in both the countries.

**Table 4: Distribution of students selected for the study based on sex and country**

<table>
<thead>
<tr>
<th>Students</th>
<th>India</th>
<th>Iran</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Boys</td>
<td>Number</td>
<td>250</td>
<td>226</td>
</tr>
<tr>
<td></td>
<td>%</td>
<td>50.0</td>
<td>46.0</td>
</tr>
<tr>
<td>Girls</td>
<td>Number</td>
<td>250</td>
<td>265</td>
</tr>
<tr>
<td></td>
<td>%</td>
<td>50.0</td>
<td>54.0</td>
</tr>
<tr>
<td>Total</td>
<td>Number</td>
<td>500</td>
<td>491</td>
</tr>
<tr>
<td></td>
<td>%</td>
<td>100.0</td>
<td>100.0</td>
</tr>
</tbody>
</table>
1.20.5 Procedure
The data with respect to different variables of the study was collected using appropriate tools. In India, the Investigator personally visited all the selected schools and the teachers and students were selected as described above (section 4). Then teachers and students were met individually for explaining the purpose of the study and were instructed how to respond to different tools namely Environmental Awareness Test (EAT) and Taj Environmental Attitude Scale (TEAS) as rated by teachers, Environmental Awareness Ability Measure (EAAM) and Taj Environmental Attitude Scale (TEAS) as rated by students. Further clarifications were offered on the questions/doubts raised by them and they were requested to cooperate with the Investigator for successful completion of the research. The same procedure has been done in Iran.

1.20.6 Techniques employed for analysis of the data
The data collected was analysed using the following statistical techniques.
1. Descriptive Statistics like Mean and Standard Deviation
2. Analysis of Variance (ANOVA), Correlation and chi-square ($\chi^2$)

1.21 OPERATIONAL DEFINITION OF THE KEY TERMS USED IN THE STUDY
Comprehensive study: In this study, comparative study refers to studying and comparing the various factors of environmental education namely environmental awareness and environmental attitude of teachers and environmental awareness and environmental attitude of students of secondary schools in India and Iran.

Secondary schools: Secondary schools refer to children studying in class 9th and 10th in both countries India and Iran.
**Environmental Awareness**: Environmental awareness is defined as the state in which an individual is environmentally cognitised regarding a number of environmental or ecological concepts and environmental problems.

In this research study, environmental awareness has been viewed from two angles: (i) as a subject and (ii) as a discipline in teaching-learning situations in classrooms.

In long run environmental awareness moulds the individuals who are skilled and dedicated for working, individually and collectively, towards achieving and maintaining dynamic equilibrium between quality of life and quality of environment.

**Environmental Attitude**: Allport (1935) has defined attitude as “a mental and neural state of readiness organised through experiences, exerting a directive or dynamic influence upon the individual’s response to all subject with which it is related”.

An attitude is the degree of positive or negative feelings towards the object. It includes likes and dislikes which means favourable and unfavorable inclinations towards certain objects or situation.

Thus, attitude can be defined as a determining acquired tendency which prepares a person to behave in a certain way toward a specific object or class of objects subjects to the conditions prevailing in the environment. Environmental attitude refers to the concern for the environment and the environmental problems and in addition concern for the conservation of nature and natural resources.
**Gender**: Gender in this study refers to those biological distinctions, which differentiate female from male, sex here refers to boys and girls studying in 9th and 10th standard and also men and women teachers teaching in secondary school.

**Type of School Management**: In this study type of school management refers to private and government school, selected for the purpose of data collection.

### 1.22 DELIMITATIONS OF THE STUDY

1. The study is confined to compare only environmental awareness and environmental attitude of teachers and students of secondary school in both the countries – India and Iran.

2. The Investigation is confined only to find out the influence of independent variables namely, gender, age, teaching experience, academic qualification and type of school on environmental awareness and environmental attitude of teachers and students in India and Iran.

3. The investigation is confined to limited geographical area, i.e. Mysore city in India and Tehran city in Iran.

### 1.23 OVERVIEW OF THE STUDY

The scheme of the chapters is given below for a preview of the contours of the research work. There are altogether five chapters in this study.

In the **first chapter**, the Investigator has proposed the context, need and importance of the study. The problem undertaken, objectives of the study, hypotheses formulated, design of the study, explanation of the terms used and the limitations of the study are made available.
The second chapter focuses on review of related literature pertaining to teachers’ environmental awareness and attitude and students’ environmental awareness and attitude in India, Iran and other countries.

The third chapter deals with the design of the study.

The fourth chapter focuses on presentation and analysis of the data, its interpretation and discussion and conclusion.

The fifth chapter is primarily concerned with the summary of findings of the study, implications, suggestions and suggestions for the further research.