Chapter - 1
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Introduction

"We have not inherited the earth from our ancestors
We have borrowed it from our children"

Native American Proverb

In this era of depleting resources, deteriorating standards of life due to ever increasing problems of pollution, poverty and illiteracy; and various problems related to the earth like global warming, ozone layer depletion etc; there is an immediate need of environmental awareness amongst people. Unfortunately there is a considerable lack of awareness with interrelated nature of all human activities and the environment.

It is lack of awareness, low sense of civic responsibility, and growing tendency of indifference and negligence, which is by some or the other way refraining to think consciously well in advance. There is a need to increase public sensitivity towards environmental problems and involvement in their solution and foster a sense of public responsibility, greater motivation and commitment towards the environment. The famous international conference on environmental education organized by UNESCO and UNEP held in 1971 has provided incentive to
numerous research works in field of research in environmental education.

As follow up of the 96\textsuperscript{th} recommendation UNESCO-UNEP (United National Environment Program), The International Environmental Education Program (IEEP) was started in 1975. Its basic aim was to include government as well as national state and international organizations in formal/informal education system and program; to achieve the goals:

1. Affiliation and awareness towards interdependency of economic, social, culture and ecological aspects of environment.

2. Development of new behaviour patterns and more responsibility amongst individuals, groups and communities for protection and rectification of environment.\textsuperscript{1}

The above quality itself gives the revolutionary idea of the basic and necessary relationship that must develop between an individual and it's very own life supporting system. "And of course, that is a call for the future, as the coming years require nothing less than a totally new way of looking at reality; a new way based on renewed understanding of the interactive relationship between human being and the physical relationship".
Nisarga Seva Kendra is a dynamic organization involved in many social activities related to nature. The organization conducts the co-curricular activities during the celebration of 15\textsuperscript{th} August, 5\textsuperscript{th} September, 2\textsuperscript{nd} October, 14\textsuperscript{th} November, 25\textsuperscript{th} December, or any other such national festival or social gathering, which the school holds during the academic session. The fieldwork comprises of awareness programme, environmental week, competition, assignment, short-nature camps, school trips and excursions.\textsuperscript{2}

1.1 Inter-relationship between Environment and Man:

Every element, objects and living being in the universe is created by the same Supreme Being. Environment is not conceived as a physical, lifeless entity-it is a living mechanism where Homo sapiens are one of the many species.

Though nature has a self-balancing system but unlimited use of natural resources and unplanned destruction has affected self-balancing system of nature to the extent that now we are facing different problems, of environmental pollution. Man's quest for development has not left any aspect of the environment untouched. His zeal for advancement has affected the environment and the quality of life on this earth, so that these problems have arisen on the global scale. In the
recent years the nations have realized the damage being caused to Mother Nature in due course of time.

Man is the main component involved in the conspiracy of disturbing the naturally balanced system; which remains balanced unless its range of balance is not disturbed. But the worst part is that Man is exploiting nature almost to the part of no return. In the last few decades, man has brought accelerated changes in balance of nature, through his power to transform the environment. On an individual basis human beings can prove to be the driving force to bring a positive environmental transformation which may give birth to the solutions related to the present environmental problems. The need of the hour is that the present individuals should realize the extreme dependence of life on environment. The mechanism of life cannot work and be productive if the main "tool or fuel" of life supporting system malfunctions. Man is using the nature not for satisfaction of basic needs but for the fulfillment of his unquenchable greed.

The growing population is also the gift of the society as a whole which along with the help of advanced research, technology, etc are contributing their best to increase the burden on Mother Earth. It may be noticed that all the other environmental problems we encounter,
occur directly or indirectly due to the increase in the number of individuals in the society.

The growing number of human species has increased the competition amongst them to survive. Though DARWIN'S theory indicated "survival of the fittest" but this competition is posing the maximum threat for the survival of the earth. Every individual is equally fit to survive and utilize the environment according to his needs hence the biggest looser is the environment itself.

In the last four decades the Global Population has doubled from three billion to over six billion. This has caused tremendous pressure on the earth's resources, for example everyday on earth we loose over 100 square miles of forest and about two square miles of productive land, and at the same time the society adds a quarter of a million people to the world population. Uncontrolled population has caused land mismanagement and habitat destruction which has resulted in the extinction of 70-100 plant and animal species. (GEO, UNED 1999) The process of urbanization is accompanied with a greater concentration of population in and around mega cities, which lead to major problems of housing, sanitation, water, electricity, etc. Another consequence of uncontrolled population is intense use of non-bio degradable things made of materials like plastics, rubber etc.) Hence causing
Environmental Degradation. It refers to visible reduction on the availability of goods and services, quantity and quality wise, from the physical environment and the renewable natural resource base.

On one hand the advancement of science and technology have added to the human comforts by giving us automobiles, electrical appliances, supersonic jets, space crafts, good medicines, better chemicals to control harmful insects and pests, etc. but on the other hand, they have given us a very serious problem to face, that is pollution. Pollution can be defined as an undesirable change in the physical, chemical or biological characteristics of the air, water or land that can harmfully affect health, survival or activities of humans or other living organisms. It is manifested in a number of ways including, air pollution, land degradation, deforestation and forest degradation, degradation of aquatic systems/wetlands, degradation of grazing lands, loss of biodiversity, depletion of fishery resources and degradation of the urban environment.

The relationship between man and environment is very closely related to the promotion of sustainable development. No programme can be successful until and unless every citizen volunteers to take the task him self. The Chipko Movement is the most eg. to prove that 'People's Participation' is the keyword in saving environment.
At the dawn of Industrial Revolution, the planet's natural abundance was so great that the global human community was so easily supported by the forests, fisheries, water, soil and other resources found throughout the world. Man is now therefore facing one of the most horrible ecological crises and the problem of pollution of his environment which some time in the past was pure, virgin, undisturbed, and basically quite hospitable for him. (During the last decade, a disparate picture contradictory to the very concept of sustainable development has been perceived in reality). The recent earth summit at Johannesburg has belied the hope of myriads, enkindled by a promise of the previous RIO summit on sustainable development. The world appears no better a place than what it was at RIO, 10 years before.\textsuperscript{1}

In fact, the concern is that the environmental problems have never been as high as it is now. It is essential to recurrent the attitude towards the use of environmental resources and re-educate our self to treat the environment with great caution and control. It is indispensable to educate the school children about the environmental conditions because they the face of the future.
1.2. Global Environmental Changes:

Environmental pollution results mainly from improper handling of domestic waste, dumping untreated industrial effluents and surface run-off from agricultural areas which have received over doses of fertilizers and pesticides. The environment consists of various components including air, water, land etc which are interconnected and interdependent which is collectively called the Ecosystem. Pollution is observed in all the environmental components. This include air pollution, water pollution, noise pollution, radiation pollution etc.

The recent effects of the global environmental changes cannot be ignored because of their multiple disastrous consequences. In one such headline of a newspaper (TOI 27 April 2006) acknowledged that “Switzerland’s Glaciers Cauldron Dry”. The news said that the alpine glaciers have already lost 10% of their ice. According to a 2005 study by the EU’s environment agency, the previous three years were the hottest on record in Europe after the continent’s temperature case by 0.95°C during the 20th century.

Also another headline proved the water pollution to the disastrous even after measures been taken by government. The (TOI, March 31, 2008) said that Pollution in Ganga Reaches Septic Level. Experts said that “almost 96% of pollution in the river is caused at
‘point sources’ at which serves and open drains bringing pollutants in domestic and municipal land falls, while only 5% is by the direct users, specially in the case of river like Ganga, which was in a constant use for religious reasons.

Air pollution is the most hazardous and most widely spread mode of pollution. 60% of the diseases associated with respiratory infections are linked to exposure to air pollution. Pollutants such as Sulphur dioxide, ozone, nitrogen - oxide, Carbon Monoxide and volatile organic components come mainly from motor vehicle exhaust. 3 million people die every year due to air-pollution. Environmental conditions caused 20% of deaths world wide in children under age five. Also fetal exposure to chemicals such as lead(Pb) increases a child’s chances of having brain damage or development problems after birth.

The continued industrial and chemical activities on our earth have resulted in one of the biggest environmental hazard called as ‘Global Warming’. Its main agents are the green house gases (mainly carbon dioxide) which are responsible for forming an insulating layer in the atmosphere. This blanket of green house gases traps the sun’s heat and causing the planet to warm up Global warming is not only
responsible for the climatic condition but also affects the ecology of the earth.

In February 2004, consultants to the pentagon released a report laying out the possible impacts of abrupt climate change on national security. In the worst case global warning could make large areas of the world uninhabitable and cause massive food and water shortages, sparking wide-spread migrations and war. The idea that such extreme changes are possible underscores the urgent need to start cutting air pollution. In 2003, for example one extreme heat wave caused more than 20,000 deaths in Europe and more than 1,500 deaths in India.

There are several disastrous effects of the constantly rising temperature. Melting glaciers and ice-caps will lead to rising sea-levels. That in turn would lead to coastal flooding all around the globe. Warmer sea surface temperature will fuel more intense hurricanes in the southeastern hurricanes in the Atlantic and Gulf Coasts. Forest, farms and cities could face transplanted new pests and more mosquito borne diseases. Disruption of habitats such as coral reefs and alpine meadows could drive many plant and animal species to extinction.

Apart from the green house gases, one other major contributor to the deterioration of the earth’s atmosphere are the CFC’s. The CFC’s are the hazardous carbon compounds known as chloro-fluro-carbons, which
are massively being used in modern devices like refrigerators. The
direct affect of the CFC’s is on the ozone layer, whose concentration has
been continuously decreasing which is alarming.

Another major component of the ecosystem is the land and
therefore its pollution is also a major issue in the present era. The very
basic importance of ‘land’ lies in the fact that all the human life on the
earth is on the ‘land’ itself apart from other life forms like the animals,
plants, etc. Land pollution has many forms like the soil erosion, soil
salinity etc. The main causes of this degradation are deforestation,
overgrazing, fuel wood consumption, agriculture mismanagement, the
establishment of industries and urbanization. Soil erosion and
degradation which occur due to loss of green areas, strong arnicas,
chemical pollution etc have severe effect on the environment. List of
above mentioned problems is very long, but the notable fact is that all
these factors are very much interrelated. Deforestation is a problem
which is of grave concern since it can have an adverse affect on the land
and the agriculture on it and also has critical implications for the
world’s climate. Forested areas are disappearing in most parts of the
world at a rate of two percent per year and in some areas faster still,
resulting in soil erosion and flooding.
Water Logging is yet another problem which occurs when irrigation is not accompanied by the proper drainage. This result is the accumulation of salts on the soil surface. It is collected as a thin crust on the land surface making it unfit mainly for agriculture. Rapid evaporation also add salt to the soil. Pakistan, Egypt, India and US are some of the countries worst affected by Stalinization and water logging. In India 12 to 25% of land is water logging as Stalinized. Earth summit in 1992, supported a new, integrated approach to the problem, emphasizing action to promote sustainable development at the community level. The UN convention to combat desertification was adopted in 1994 and came into force in 1996 over 180 countries are now parties to the convention.

India where groundwater is used intensively for irrigation and industrial purpose, a variety of land and water based human activities is causing pollution of this precious resource. Its over exploitation is causing aquifer contamination in some instances, while in others its unscientific development with insufficient knowledge of groundwater flow, dynamic and geo-hydro chemical processes has led to its mineralization. There are no estimates of the public health consequences of water pollution as it involves methodological complexities and logistical problems. Nevertheless, toxicity depends on
the type of pollutant. Mercury is reported to cause impairment of brain functions and neurological disorders, retardation of growth, etc while the pesticides are toxic and carcinogenic. Generally pesticides damage liver and nervous system.

Water is a prerequisite for the existence of life. Life can not survive without water weather it is biotic or abiotic. The total water in the world is estimated to be 1400 million k.m. unfortunately 97% of this water is found in the oceans and it is unfit for use because of its salty nature of the remaining 3% two third is lacked up in relatively inaccessible icecaps and the most of it lies far underground. About 200,000 k.m can be found in rivers and lakes and 14000 k.m. in the atmosphere.5

About 1.5 billion of world population has no access to safe drinking water half of the world’s population lacks sanitation facilities. Some 80 countries suffer serious water shortage. On a whole it is estimated that about 30% of world population are 1.2 billion people are without a safe and reliable supply of water. Even in India, the per capita water availability was 5177 w.m. in 1951, but the figure dropped to 2464 a.m. in 1990 and further don to 1820 a.m. in 2001. India will be the next major country to move into the water stressed category.
A range of life threatening diseases, amongst which diarrhoeal diseases being the most deadly are caused due to contaminated water, 80% to 90% of these diseases result from environmental factors. Water being the most necessary element for sanitation and disposal of wastes makes it a more intrinsic factor, for cleanliness of the environment diarrhea and several other water borne diseases are mainly caused by the waste water released from municipalities, sanitary, tanning and slaughtering plant and boats which are the source of bacteria and microorganisms. Apart from this, the prevalence of malaria is closely associated with water pollution.

The most hazardous contamination which is caused on a very large scale is by the disposal of highly toxic wastes in the sea and also the leakage of oils and other related compounds in large water bodies. This not only is responsible for water pollution but also causes a great disaster to the aquatic life. Many of the aquatic species are extinct or on the verge of extinction due to the harmful affect of toxins in the water body. Even the various food chains existing in the ecosystem are vastly disturbed. This causes an environmental imbalance as well water is an intrinsic catalyst without which the processes of the earth can come to a half. Water is not only necessary for human beings and animals but also it is an essential component for the life-cycle of plants. Even the process
of photosynthesis, reduces water without which it cannot liberate Oxygen gas. Photosynthesis not only is necessary for the food production of plants but also to sustain all the heterotrophic modes of life on earth. Hence lack of fresh water may cause the human race to starve in the coming years.

The dumping of pesticides in landfills poses long term problems from leaching of toxic additives into groundwater, dioxin-forming landfill fires and toxic landfill gases plastic waste material found in the sea shores, especially in tourist centers causes immeasurable harm to human life stream and stretches of rivers are affected by plastic bags. Even the rain water is hindered to get permeated in the ground due to this man made blocking elements. And hence the biggest threat is to the disturbance of the water cycle which will definitely lead to the end of the planet. The water (prevention and central of pollution) act 1974 and the environmental (protection) act 1986 suggested technique for prevention and control of water pollution through stabilization of ecosystem, re-utilization and recycling of waste, removal pollutants.

The need of the hour is to estimate the causes and sources of water pollution. The major sources of water pollution are discharge of domestic sewage and industrial effluents and run off from agriculture and mining. The major water polluting industries include fertilizers,
leather, metal plating and other chemical industries with increasing demands of mankind to fulfill different needs.

Noise pollution (or environmental noise) is displeasing human- or machine-created sound that disrupts the activity or balance of human or animal life. Noise pollution can cause annoyance and aggression, hypertension, high stress levels, tinnitus, hearing loss, sleep disturbances, and other harmful effects. Furthermore, stress and hypertension are the leading causes to health problems, whereas tinnitus can lead to forgetfulness, severe depression and at times panic attacks. High noise levels can contribute to cardiovascular effects and exposure to moderately high levels during a single eight hour period causes a statistical rise in blood pressure of five to ten points and an increase in stress and vasoconstriction leading to the increased blood pressure as well as to increased incidence of coronary artery disease. Chronic exposure to noise may cause noise-induced hearing loss. Older males exposed to significant occupational noise demonstrate significantly reduced hearing sensitivity than their non-exposed peers. Exposure of workers to Industrial noise has been addressed since the 1930s. Changes include redesign of industrial equipment, shock mounting assemblies and physical barriers in the workplace.
Radioactive contamination is typically the result of a spill or accident during the production or use of radionuclides (radioisotopes), an unstable nucleus which has excessive energy. Radioactive contamination can enter the body through ingestion, inhalation, absorption, or injection. Radioactive contamination may also be ingested as the result of eating contaminated plants and animals or drinking contaminated water or milk from exposed animals. In cases that radioactive material cannot be contained, it may be diluted to safe concentrations. Nuclear fallout is the distribution of radioactive contamination by a nuclear explosion. Containment is what differentiates radioactive material from radioactive contamination.
Diagram showing Environmental Pollution: Its Types and Causes

-WATER POLLUTION
- THERMAL POLLUTION
- AIR POLLUTION
- RADIOACTIVE WASTES
- FERTILIZERS
- FACTORIES
- PESTICIDES
- NUCLEAR ENERGY
- MORE FOOD
- MORE CLOTHING HOUSING AND OTHER GOODS
- AIR POLLUTION
- RADIOACTIVE WASTES
- Population

SEWAGE

SOLID WASTE
As we earlier discussed that today, people all over the world face grave environmental problems. The continuing depletion of natural resource, deforestation, extinction of many plant and animal species, rise in global temperature, environmental pollution, thinning of life saving ozone layer etc. are few examples of environmental degradation. These problems are further being compounded with population explosion, food crisis, hunger, malnutrition, poverty, insanitation, and unbridled consumerism which together has caused serious strains on the essential life-support systems of our planet. For example unsafe water kills three million people each year many of which are children. Nearly two billion people cope daily with the problem of finding enough water, and as many as 3.5 billion-almost half the world's projected population-could face water shortage by 2025 (Satapathy, 2007). Every year 15.2 million hectares of forest in tropical countries cut down and converted into other uses. Green house gases, notably carbon dioxide coming out from power plants, automobiles, and burning forests, acting as agents of climate change are contributing to warming climate that causes shifting precipitation pattern, melting glaciers, and rising sea levels. (Parashar, 1996).

The concept of sustainable development, which became well-known through the famous, Brundtland report, entitled 'Our common
Future’ published in 1987 recognized that natural resources are not inexhaustible, and the current trends of economic development and the accompanying environmental degradation are unsustainable. There is urgent need to look into the health of global environment for the future of everyone.

Education is the first and foremost human right—as proclaimed in article 26 of Universal Declaration of Human Rights. Education is the key to building up the skills and capacities in all domains necessary technoeconomic development. It is the means where people may hope to address some of the most profound problems confronting our societies in the current century. As such education can help set the parameters of future action to help restore our planet and prevent future action to help restore our planet and prevent future ecological deterioration (Yodmani, 1997).

Considering education as the instrument to environmental sustainability, United Nations in December 2002 in its general assembly by resolution 57/254 has proclaimed 2005-14 and the Decade of Education for Sustainable Development (DESD) in order to help everyone consider and learn the values, behaviour and lifestyles required for a sustainable future and for societal transformation Bory-Adams, 2006). It calls for building public awareness so that everyone
contributes to the decade. As teachers are the most critical agents of change responsible for growth, development and progress of societies and communities, it is pertinent to look into the role of teacher training institutions in promoting environmental sustainability.

1.3. Environmental Education - Concept, Need and Objectives:

Education refers to a process of awareness building and sensitization, which can be geared to the education, school children, to college and university students or to different occupational groups. According to Merle O’Neill (2000) of Earth Times, ‘something more than education is required to produce environmental action’ watershed projects are part of an effort to introduce environmental literacy into curriculum of schools. An ongoing involvement with nature combined with knowledge was the strongest contributing factors to the development of Environmental literacy.

Department of Natural Resources (DNR) provides activities which can be used with students to enhance information on environmental education for kids. These are changing the land, conduct fish survey, how to plant a tree, observing wetland habitat, trees and air quantity. So, environmental education takes care of the relationship of man with his fellow human beings in addition to man-nature relationship. In order to accomplish the goal, environmental education
should develop certain standards, which prompt people, without fear of
the law, to protect the environment.

The goals of environmental education are at four levels - ecological foundations, conceptual awareness, investigation and evaluation and action skills training and application. Traditional thinking in environmental education seems to be more effective in saving the environment. Also it is observed that behaviour of the people towards the environment can be changed by giving people knowledge about the environment. Recently a number of researches have contributed to our understanding of behaviour change, which indicates that there are three levels of variables, namely, entry-entry level, ownership and empowerment variables and act in more or less linear fashion.

Environmental Education is of relatively recent origin in countries around the world, much is being done in most countries in the region not matter that is to be used in the teaching/learning process but also possible strategies for its implementation in formal school programmers as well as in the out of school sector. In the words of Mr. Amadeus Mother O'Dowd, Director General of UNESCO “In an area as new as that of Environmental Education, clarification of the concepts and principles which should guide our action is of crucial importance.
What must be done is to state as clearly as possible not only what is meant by environmental education. According to Tan M.C. (1994) the broad aims of environmental education at secondary level of education are:-

**Behaviour**- Practice of environmental friendly habits in home and community affairs;

**Knowledge** - Application of knowledge in resolution of problems at the community level;

**Skills** - Simple problem solving and decision-making.

Environmental education is a process of recognizing values and classifying concepts in order to develop skills and attitudes necessary to understand and appreciate the interrelatedness among man, his culture, and his biophysical surroundings. Environmental education also initiates practice in decision making and self formulation of a code of behaviour about issues concerning Environmental quality.

Environmental education has two components by environmental and education, environment is the sum total of all the conditions and influences that affect the life and development of organisms. Education involves knowledge, understanding and application of facts and concepts pertaining to that discipline. Environmental literacy is hence
the desired outcome of environmental education programs. Environmentally literate individuals understand both ecological and socio political systems and have the inclination to apply that understanding to any decisions that pose consequence for environmental quality.

Hence environmental education takes care of the relationship of man with his fellow human beings in addition to the man nature relationship. In order to accomplish this goal, environmental education should develop certain ethical standards which prompt people, without fear of law to product environments. The goals of environmental education are at four levels-ecological foundations, conceptual awareness, investigation and evaluation and action skills training and applications traditional thinking in environmental education.

The Belgrade Charter includes the following Six Environmental Educational Objectives:

(1) **Awareness**: to help individuals and social groups acquire an awareness of and sensitivity to the total environment and its associated problems.
(2) **Knowledge:** to help individuals and social groups acquire basic understanding of the total environments, its associated problems and humanity's critically responsible presence and role in it.

(3) **Attitude:** to help individuals and social groups acquire social values, strong feelings of concern for the environment and the motivation to actively, participate in its protection and improvement.

(4) **Skill:** to help individuals and social groups acquire the knowledge and skills for solving environment problems.

(5) **Evaluation ability:** to help individual and social groups evaluate environment measures and educational programmes, in terms of ecological, political, economic, social aesthetic and environmental factors.

(6) **Participation:** to help individual and social groups develop a sense of responsibility and urgency regarding environmental problems to ensure appropriate action for solving these problems.

1.4. **Need of Environmental Awareness:**

When we discuss about environmental education, developing environmental awareness comes as the first objective of it. No need to
repeatedly mention, that now the time has come that all of us should act jointly to notice that people are becoming cautious about depleting resources, deteriorating standards of life due to ever increasing serious problems of pollution, poverty and illiteracy. It is unawareness, low sense of civic responsibility and growing tendency of indifference and negligence, which is by some or the other way refraining to think consciously well in advance.

The need of creating mass awareness about environment and environmental problems is felt by all including those concerned with education too. The syllabi at different stages of education contain only few references to environment. The present syllabi at different, levels of education are not comprehensive enough to educate children to become environmentally. Oriented individuals by incorporating exclusive latest ideas in the syllabi we need a lot of revision work in this field.

A dichotomy exists in our society we tend to keep our homes clean but have no problem in throwing the garbage out because there is someone paid to clean it up. This contrasts with the situation where littering, spitting and using public places as to lets are frowned upon.

While we tend to imitate the developed countries in various ways, we have not taken such good points for adoption. Awareness of environmental issues is minimal in the community. Issues, it is a lone
voice of Sunderlal Bahuguna or Medha Patkar which is heard in protest against destructive environmental policies of the state.

1.5. Significance of the Present Study:

In the previous discussions, we have seen that, in just a small fraction of time on earth, man has served as a powerful agent of change in the global environment and has moulded the life on earth. Time has come when we have to actively face the consequences of our uncontrolled experiments with this planet.

The issues of environmental education have been discussed at various national and international seminars, workshops, symposium etc. the United Nations conference on the Human environment convened in Stockholm in 1972, provided an impetus for renewed interest in environmental education during the 1970s. in response to Stockholm recommendation the United Nations educational scientific and cultural organization (UNESCO) programs (UNEP) set up an International Environmental Education program (IEEP) which aims at promoting exchange of information Environmental Education..

In our country the environmental problems seems to be a great challenge before the humanity. It is essential for the young school going as well as the adult people, calling for their more active involvement
towards better future through development of better appreciation and understanding of the consequences of unplanned human activities upon the total bio-physio and socio-economic environment.

Attempts have been made to study status of environmental awareness in secondary school children. Many children are aware of the problems but are reluctant in doing something for the problems of the cause of environment. Most of them are hesitant in taking actions towards environmental protection. Thus there is a need to study both active and passive behaviour of children towards their immediate environment.

As a follow-up of IEEP initiatives, different regional initiatives were taken. According to Sharma (1994, p. 107), the Asian regional meeting was held at Bangkok in November 1976—which resulted in recommendations under following four problem areas.

i. Programme for environmental education;

ii. Personal training;

iii. Non-formal environmental education; and

iv. Materials for environmental education

In continuation to this, the regional workshop on Environmental Education held at Bangkok in September 1980 made some
recommendations for implementation of EE programme in Asian region. Important among them were; (i) to stimulate and facilitate exchange of information, (ii) to collect and disseminate information and documentation, (iii) to prepare and publish source materials for different levels of education, (iv) to organize visits and exchange programmes, and (v) to develop a pool of experienced resource persons.

In the year 1981 a survey conducted by UNESCO/UNEP-IEEP revealed that in the Asian region the pressing needs were felt at almost all levels of education. University education, technical and vocational education and teacher education was one of the high priority areas. It was also marked that there was shortage of appropriate teaching materials, the number of qualified teachers, curricula in the field of environmental education and research and experimentation.

Thus, many things can be done for protecting the environment from ourselves and others. It is our own lifestyle, greed, selfishness and lack of awareness that is the starting point of all the problems. As the cartoon character Pogo says "we have seen the enemy and it is us". Every one of us having the responsibility to protect the environment from the evil of population. It is only self-motivation and sense of duty
in students themselves which can bring a grassroots change by bringing changes in knowledge, attitude, skill and behaviour of masses.

Whenever there is a good response from the public the evil deeds play with its full vigor. At this juncture it is the responsibility of every citizen to change their attitude in change habits will contribute a lot to the environment. Every citizen should think individually and act globally. And it is the time to develop environmental attitude to understand the problems of environment through relevant experiences and to extend assistance to the society. The society is in dire need of environmentally trained citizens as the environmental conditions are quite alarming.

In the present study the main objectives of the investigation is to develop environmental awareness amongst secondary school children. She felt that there is only the need of promoting the environmental awareness among the student. In the present study the main objective of the investigation is to develop environmental awareness and positive attitude towards environment amongst secondary school children. The very basic criteria observed by the investigation was that the students have considerable knowledge and information about the environment but what is missing is the sense of protecting the environment which is mainly due to the lack of compassion and level for the environment.
2d. There will be no significant difference in behaviour of Muslims regarding their environmental awareness.

2e. There will be no significant difference in attitude of Muslim and non-Muslim students before applying the environmental programmes.

2f. There will be no significant difference in behaviour of Muslim and non-Muslim students before applying the environmental programmes.

2g. There will be no significant difference in attitude of Muslims and non-Muslims students after applying the environmental awareness programme.

2h. There will be no significant difference in behaviour of Muslims and non-Muslims students after applying the environmental awareness programme.

3. Gender will not affect their attitude and behaviour of secondary school children towards the environment.

3a. There will be no significant difference in attitude of male and female students before applying the environment programme.
3b. There will be no significant difference in behaviour of male and female students before applying the environment programme.

3c. There will be no significant difference in attitude of male and female students after applying the environmental programme.

3d. There will be no significant difference in behaviour of male and female students after applying the environmental programme.

3e. Environmental awareness programmes will not affect the attitude of male students of secondary school.

3f. Environmental awareness programmes will not affect the behaviour of male students of secondary school.

3g. Environmental awareness programmes will not affect the attitude of female students of secondary school.

3h. Environmental awareness programmes will not affect the behaviour of female students of secondary school.

4. The socio-economic background will not affect the environmental awareness and active participation of secondary school children in environmental protection.
4a. There will be no significant difference in attitude of High Socio Economic Status and Middle Socio Economic Status before applying the environmental programme.

4b. There will be no significant difference in behaviour of High Socio Economic Status and Middle Socio Economic Status before applying the environmental programme.

4c. There will be no significant difference in attitude of High Socio Economic Status and Middle Socio Economic Status after applying the environmental programme.

4d. There will be no significant difference in behaviour of High Socio Economic Status and Middle Socio Economic Status after applying the environmental programme.

4e. There will be no significant difference in attitude of High Socio Economic Status and Low Socio Economic Status before applying the environment programmes.

4f. There will be no significant difference in behaviour of High Socio Economic Status and Low Socio Economic Status before applying the environment programmes.
4g. There will be no significant difference in attitude of High Socio Economic Status and low Socio Economic Status after applying the environment programme.

4h. There will be no significant difference in behaviour of High Socio Economic Status and low Socio Economic Status after applying the environment programme.

4i. There will be no significant difference in attitude of Middle Socio Economic Status and Low Socio Economic Status before applying the environment programme.

4j. There will be no significant difference in behaviour of Middle Socio Economic Status and Low Socio Economic Status before applying the environment programme.

4k. There will be no significant difference between attitude of Middle Socio Economic Status and Low Socio Economic Status of after applying the environment programmes.

4l. There will be no significant difference between behaviour of Middle Socio Economic Status and Low Socio Economic Status of after applying the environment programmes.
5. Gender in combination with Socio Economic Status and religion will not influence environmental awareness of the secondary school children.

5a. Socio Economic Status will not affect the attitude of Muslims boys.

5b. Socio Economic Status will not affect the behaviour of Muslims boys.

5c. Socio Economic Status will not affect the attitude of Muslim girls.

5d. Socio Economic Status will not affect the behaviour of Muslim girls.

5e. Socio Economic Status will not affect the attitude of non-Muslims boys regarding the environmental programme.

5f. Socio Economic Status will not affect the behaviour of non-Muslims boys regarding the environmental programme.

5g. Socio Economic Status will not affect the attitude of non-Muslims girls regarding their environmental awareness.

5h. Socio Economic Status will not affect the behaviour of non-Muslims girls regarding their environmental awareness.
1.9. **Delimitations of the Study:**

It is generally not possible to study the entire mass of variables associated with a given problem. Every research study is limited in several ways. It cannot be exhaustive and complete in all respects. It has to be delimited in certain aspects in terms of population covered, sample selected, scope of variables studied, the scope of generalization of findings and so on. The present study has certain delimitations like:-

1. The study has been carried out on students of Secondary School so age as a factor remains uncontrolled.

2. The sample covered only the students studying in Aligarh City.

The present study is an attempt to measure the environmental awareness among students. Measuring environmental awareness in students is a difficult task specially when there is no suitable tool for it. Therefore the investigator herself develops a tool required for measuring environmental behaviour. This tool may not cover all the issues related to the environmental behaviour and the study may not cover all the aspects that have any bearing on the environmental awareness, attitude and behaviour.
The present study delimits its findings only to the selected samples and available resources.

1.10. Definition of Important Terms:

1.10.1. Environment

In the most general term environment is defined as "the sum of all physical, chemical, biotic and cultural factors that affect life of mass in every way". The Oxford Dictionary defines environment as "condition, circumstance, etc., affecting people's life".

According to Gloria, J. Studdard "The environment is the sum of external conditions and influences affecting the life, development and ultimately the survival of an organism.

Jose de Castro opines environment to be a system of mutual relation between living creators and their natural environmental.

Environment as defined by a Brazilian scientists is not only the sum of all material things that interact with each other but it also includes the economic and cultural aspects as well as the habits of people in different parts of the world.

1.10.2. Awareness:

According to the dictionary of education edited by Carter V. Good, "awareness is the act of having or showing realization,
perception or knowledge. It is the sum of all experience that are known to a person at a given time. Total awareness at any given time is defined as over summative feel behaviour and condition of living beings.

In biological psychology, awareness comprises a humans or an animals perception and cognitive reaction to a condition or event awareness dies not necessarily empty understanding, just an ability to be conscious of feel or perceive.

Awareness provides the raw materials from which animals develop quality or objective ideas about their experience.

1.10.3. Environmental Awareness:

According to Belgrade Charter "Environmental awareness means the act of having or showing realization, perception or knowledge about the environment and its related problems. It is a total behaviour pattern and sensitivity to the environment in its totality and problems related to environment".

The growth and development of awareness, understanding and consciousness toward the lie physical environment and its problems, including human interaction and effects thinking ‘ecologically” a in terms of an ecological consciousness (Source: UNUN)
Environmental awareness means to help social groups and individual to acquire an awareness of an sensitivity to the total environment and its allied problems. The importance of environmental awareness can not be over emphasized. We must understand to improve the environment is to improve the quality of life. It is not only a question of air and water pollution it includes elimination of decrease hunger malnutrition and poverty, destruction of forests extermination of wild life erosion of soil and accumulation of waste.

1.10.4. Attitude and Behaviour:

Schmieder wrote "environmental education calls for participation in real world activities and for modification and changes – sometimes radical ones – in the attitude and behaviour of people, yet neither approach is very central to education the way it is commonly practiced through out the world (1977).

Just after Second World War the noted American resource conservationist and Philosopher Leopold (1949) voiced concern about generally anticipated but rarely realize behavioral result following educational efforts dealing with conservation.

The more sophisticated under standing of human behaviour developed since Leopold's time indicate that the relationship between
cognitive knowledge (content) and behavioral change (action) is not as direct as he apparently assumed, "where as knowing how to improve environmental quality is important, possessing such knowledge certainly does not ensure that one will be motivated to take action (Lozzi 1989 p.4) Thus lack of knowledge as primary cause is apparently not in itself a sufficient explanation for inappropriate environmental behaviour.

1.10.5. Responsible Environmental Behaviour:

Analysis of educational research findings indicates that individuals who exhibit responsible behaviour on a broad range of environmental problem have:

a. Knowledge of relevant environmental concept;
b. Knowledge of environmental problems and issues.
c. Concern for the quality of environment;
d. Knowledge of action strategies that may be used for resolving an issue.
e. Belief that their action can make a difference;
f. Commitment to take action
g. Experience in action based activities

1.10.6. Attitude:

An attitude is defined as an enduring system of cognitive component, the feeling component and the action tendency component, all which centre sound an object, person, events etc.

Fisher (1977) stated that the concept of attitude has had more definitions than any other concept in social psychology. Fish been and Agzen (1975) asserted that the term is ‘characterized by an embarrassing degree of ambiguity and confusion’ (p.1) As early as 1935, at least 16 definition of attitude existed (all port 1935). Despite the my read of definition; they share a set of common feature Krathwohl et al. (1964) sought to order this field for the purposes of instruction and assessment by developing a taxonomy of educational objectives for what to be term the ‘affective domain’.

In reviewing these definitions, Anderson (1981) identified five common features of attitudes. Emotion, target, direction, intensity and consistency.
1.11. References:

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