



CHAPTER-I
INTRODUCTION

CHAPTER-I

Introduction

1.1. INTRODUCTION

The term environment has been derived from a French word "Environia" means to surround. It refers to both abiotic (physical or non-living) and biotic (living) environment.

It encompasses both the abiotic (physical or non-living) and the biotic (life) environments. The term "environment" refers to the environment in which organisms live.

Environment and the organisms are two organised and complex components of nature. The environment has a strong influence on the lives of species, including humans. Humans engage in more vigorous interactions with their surroundings than other living creatures.

Environment represents the physical components of the earth, where man is an important factor affecting the environment.

Environment comprises interacting systems of physical, biological, and cultural elements, which are interlinked individually as well as collectively in various ways.

1.2. CONSTITUENTS OF ENVIRONMENT

Physical elements constitute space, landforms, water-bodies, climate, soils, rocks, and minerals. These elements determine the variable character of human habitat, and also its opportunities and limitations.

Biological elements include plants, animals, micro-organisms, and man.

Cultural elements include economic, social and political conditions which are largely man-made features.

1.3. TYPES OF ENVIRONMENTS

There are basically two types of Environments:

Natural Environment: The components of natural environment are air, water, soil, land, radiations, forests, wildlife, flora and fauna etc.

Manmade Environment: It includes transportation, housing, agricultural and livestock farms, aquatic farms, industries, dams, energy plants etc.

1.4. COMPONENTS OF ENVIRONMENT

The basic components of the environment are atmosphere or the air, lithosphere or the rocks and soil, hydrosphere or the water, and the living component of the environment or the biosphere.

1.4.1. ATMOSPHERE: -

- The thick gaseous layer surrounding the earth.
- It spreads up to 300 km. above the earth's surface.
- Apart from gases there are water vapor, industrial gases, dust and smoke particles in suspended state, microorganism etc.

1.4.2. LITHOSPHERE: -

The word lithosphere originated from a Greek word mean "rocky" + "sphere" i.e., the solid outmost shield of the rocky planet. The Earth is an oblate spheroid. It is composed of a number of different layers. These layers are:

- The Core which is around 7000 kilometers in diameter (3500 kilometers in radius) and is situated at the Earth's center.
- The Mantle which environs the core and has a thickness of 2900 kilometers.
- The Crust floats on top of the mantle and is composed of basalt rich oceanic crust and granitic rich continental crust.

1.4.3. HYDROSPHERE: -

The hydrosphere includes all water on or near-earth surface and includes oceans, lakes, rivers, wetlands; icecaps, clouds, soils, rock layers beneath surface etc.

- Water exists in all three states: solid (ice), liquid (water), and gas (water vapor).

1.4.4. BIOSPHERE: -

- Biosphere refers to all the regions on Earth where life exists.
- It is the sum total of all living matter, the biomass or biota. It extends from the polar ice caps to the equator, with each region harboring some life form suitable to the conditions there.

1.5. ENVIRONMENTAL POLLUTION

The most significant hazard to humanity is environmental pollution. The undesired alteration in the physical, chemical, and biological features of air, land, and water is referred to as environmental pollution. Earth got overburdened with varied contaminants as a result of overpopulation, rapid industrialization, and other human activities such as agriculture and forestry, etc.

Pollution's influence on the environment can be evident in the form of serious health problems. Many people suffer from respiratory problems, low immunity, kidney and lung malignancies, tumors, and chronic diseases. Marine biodiversity, comprising both vegetation and animals, is rapidly dwindling. The quality of the soil and the crops is deteriorating. Environmental pollution is of four basic types namely, Air, Water, Soil, and Noise pollution.

1.5.1. Air Pollution:

In today's globe, air pollution is a serious problem. The air we breathe is contaminated by smoke from industry chimneys and automobiles. This smoke emits gases like as carbon dioxide, carbon monoxide, and Sulphur dioxide, which mix with the air and inflict significant harm to the human body, vegetation, and fauna. Our village's domestic fuels, such as dry farm waste, dry grass, leaves, and coal, emit dangerous fumes. An overabundance of Sulphur dioxide in the air causes acid rain.

The Main Sources of Air Pollution are as follows:

- Automobile pollution
- Industrial air pollution
- Burning garbage
- Indoor air pollution
- Decomposed animals and plants
- Radioactive elements

1.5.2. Water Pollution:

One of the most pressing environmental concerns is water contamination. Water contamination results from the improper treatment of waste products from increasing industries and sewage water before disposal into rivers and other water bodies. Pollution of water bodies occurs as a result of agricultural practices that use excessive fertilizers and pesticides.

The Main Sources of Water Pollution are as follows:

- Industrial effluents joining seas and oceans.
- Dumping of radioactive substances into seawater.
- Sewage is disposed of into the sea by rivers.
- Offshore oil rigs.
- Recreational activities.
- Agricultural pollutants are disposed of into the water bodies.

1.5.3. Soil or Land Pollution:

Soil contamination, also known as soil pollution, occurs when solid waste, biodegradable materials, and substances with toxic chemical compositions are deposited on open ground. Land pollution and soil infertility are caused by waste products such as plastics, polythene, and bottles. Furthermore, the dumping of animal carcasses exacerbates the problem. Cholera, dysentery, typhoid, and other diseases are caused by soil contamination in humans and animals.

The Main Causes of Soil Pollution are as follows:

- Industrial waste
- Urban commercial and domestic waste
- Chemical fertilizers
- Biomedical waste
- Pesticides

1.5.4. Noise Pollution:

Noise pollution is becoming a severe form of pollution, harming human lives, health, and comfort in daily life, as the population, urbanization, and industrialization increase. Noise pollution is caused by vehicle horns, loudspeakers, music systems, and industrial activity.

The Main Sources of Noise Pollution are as follows:

- The machines in the factories and industries produce whistling sounds, crushing noise, and thundering sounds.
- Loudspeakers, horns of vehicles.
- Blasting of rocks and earth, drilling tube wells, ventilation fans, and heavy earth-moving machinery at construction sites.

1.6. EFFECTS OF ENVIRONMENTAL POLLUTION

The effects of environmental pollution are as follows:

Effects on Humans

The effects of environmental pollution on humans are mainly physical, but can also turn into neuro-affections in the long term. The best-known troubles to us are respiratory, in the form of allergies, asthma, irritation of the eyes and nasal passages, or other forms of respiratory infections. Notably, these well-spread affections can be observed when air pollution is high in cities, when the weather gets hot, for instance.

On top of that, environmental pollution has been proven to be a major factor in the development of cancer. This can happen, for example, when we eat reminiscences of pollutants used in the production of processed foods or pesticides from the crops. Other rarer diseases include hepatitis, typhoid affections, diarrhea, and hormonal disruptions.

Effects on Animals

Environmental pollution mainly affects animals by causing harm to their living environment, making it toxic for them to live in. Acid rains can change the composition of rivers and seas, making them toxic for fishes; an essential quantity of ozone in the lower parts of the atmosphere can cause lung problems to all animals.

Nitrogen and phosphates in water will cause the overgrowth of toxic algae, preventing other forms of life to follow their normal course.

Eventually, soil pollution will cause harm and, sometimes, even the destruction of microorganisms, which can have the dramatic effect of killing the first layers of the primary food chain.

Effects on Plants

As for animals, plants, and especially trees, can be destroyed by acid rains (and this will also have a negative impact on animals as well, as their natural environment will be

modified), ozone in the lower atmosphere block the plant respiration, and harmful pollutants can be absorbed from the water or soil.

Effects on the Ecosystem

In short, environmental pollution, almost exclusively created by human activities, has a negative effect on the ecosystem, destroying crucial layers of it and causing an even more negative effect on the upper layers.

1.7. AWARENESS ON ENVIRONMENTAL POLLUTION: A NEED OF THE TIME

The Earth is a unique planet due to existence of life. The five elements of the life support system viz. air, water, land, flora and fauna are inter-related and inter-dependent and the entire process is self-generating and self-sustainable. As long as human as a part of the life support system worked in harmony with nature and used the natural resources for its normal sustenance, damage to the system was minimal. But when human, in order to satisfy its greed for a better life and higher standard of living overexploited natural resources environmental problems evolved one after another. These problems not only disturbed the ecological balance but also caused serious health hazards to human beings. In addition to these, some species of flora and fauna have got extinct, where as some species are getting endangered. Environmental deterioration as well as environmental pollution is increasing at an alarming rate. If both cannot be checked in appropriate manner in proper time, they can destroy not only the human civilization but also the entire world. Hence the first and foremost duty of every human being is to play an active role for the protection of the environment.

Awareness is essential for action. Education can make man aware of environmental problems. Awareness and education can help man understand the underlying causes, the manifestations and impact of these problems so that he may act in a concerted manner not only to alleviate and solve the existing problems but also to prevent their occurrence too. On the whole, education can create awareness in the masses. Environmental education is a way of creating knowledge, understanding, values, attitudes, skills, abilities, and awareness among individuals and social groups towards environmental protection and conservation. Hence, in order to save our unique planet earth from imminent dangers, the need of the time is to provide environmental education to the people of all sectors not withstanding their ages.

One of the most horrible ecological crises is Environmental Pollution. 'Environmental pollution may be defined as the unfavorable alteration of our surroundings, wholly or largely as a by-product of man's actions, through direct or indirect effects of changes in energy patterns, radiation levels, chemical and physical constitution and abundances of organisms.

However, the sources of environmental pollution can be broadly divided into two categories, natural and artificial. Environmental pollution originated due to natural change in environment is very slow but continuous. This type of pollution may not be dangerous for life support system in the near future. The second type of pollution, which is artificial, or man-made is very fast and self-multiplying in nature. This type of pollution has reached up to such a high limit that it is very difficult to stop its motion. Though population explosion is one of the reasons of environmental pollution, population control may not be a positive step for solution in near future. Again, steps suggested to make the environment pollution free, might adversely affect the development in the field of industry, agriculture, science and technology etc. Hence environmental pollution stands as a matter of global concern. Its gravity was seriously discussed in United Nations Conference on Environment and Development (UNCED) held in Rio-de-Janeiro, Brazil (1992). The agenda - 21, the report of UNCED calls upon the member states to raise public awareness and intensify education and training towards sustainable development. Starting from Rio Summit till date action plans have been formulated through worldwide conferences, seminars and meetings for proper environmental education by both formal and non-formal agencies. Still the control of environmental pollution has remained as an elusive dream. Prevention is always better than cure. Hence, arises the need for awareness on environmental pollution.

1.8. IMPORTANCE OF ENVIRONMENTAL KNOWLEDGE

Environmental knowledge is a multidisciplinary knowledge whose fundamental aspects have a direct significance to every segment of the planet. Its main characteristics include:

- Conservation of natural resources.
- Maintenance and management of biological diversity.
- Controlling and managing environmental pollution to permissible limit.
- Stabilisation of human population and environment.

- Development of alternate sources of renewable energy systems.
- Providing new dimension to nation's security through conservation, protection.

1.9. ENVIRONMENTAL AWARENESS AND UNDERSTANDING

People are becoming more attentive about environmental education as their awareness and comprehension of the environment grows. When it comes to boosting public attention and awareness, a strategy that focuses on local issues rather than global ones is frequently more effective. This may explain for the success of non-formal community environmental education and local environmental communication programmes in both urban and rural settings in sensitizing people about the loss of natural resources and making them aware of environmental challenges.

In both rural and urban locations, a variety of environmental issues have just a local character. Above this level, localities, villages, and their common properties, as well as small towns, should be made aware of the use of water, electricity, detergents, chemicals, plastic, steel, and wood, among other things. Tree planting and maintenance, social forestry, environmental education, extension programmes, and other activities should be supported.

1.10. ROLE OF EDUCATIONAL INSTITUTIONS

Educational institutions play a critical role in raising public consciousness, and these efforts aid in student awareness and involvement in order to reach public awareness and participation.

The major goals of including environmental awareness in the school curriculum are to increase students' awareness and knowledge, foster a good attitude, and prepare them to participate in solving various environmental problems.

1.11. ENVIRONMENTAL EDUCATION AND AWARENESS

In today's world, environmental awareness is critical. It is critical to recognize the fragility of our environment and the need of safeguarding it. The natural world should be respected, protected, and preserved against anthropogenic (human-caused) afflictions.

We should understand that improvement in the environment automatically improves the quality of life.

It covers the eradication of sickness, starvation, malnutrition, and poverty, as well as waste annihilation. As a result, proper environmental management is required now more than ever. The biggest impediment is a lack of scientific information as well as a willingness to act.

A number of environmental problems have a local dimension both in rural and urban areas. Role of Non-governmental organization (NGOs) voluntary organizations help the government regarding some Local environment issues. Some of their functions are as follows:

- They can be very effective in organizing public movements for the protection of environment through awareness programmes or courses.
- 'Chipkoo Aandolan' for conservation of trees.
- "Sastra Sahitaya Parishad" for science and environmental awareness research and extension work.
- The recent report by CSE on use of excess pesticides in the Cola drinks sensitizes the people all over the country.

1.12. ENVIRONMENTAL AWARENESS: POLICY IMPLICATIONS

As the government develops and revises national plans for the environment and sustainable development, these issues must be taken into account and integrated more fully. Environmental education allows people to become more conscious of their surroundings. They also learn and exchange knowledge, values, abilities, and other attributes that enable individuals to act individually and collectively to address all current and future challenges.

Governments have rigorous command and control instruments such as taxes, levies, subsidies, and laws at their disposal, as well as soft instruments such as teaching, education, information, advertising, and public relations, to achieve policy goals.

As a policy instrument, education is effective only when:

- The target is an identifiable and reachable.

- The policy is clear, effective and legitimate.
- The behavior requested is practicable, visibly helps solve the problems, has low individual cost, and is subject to control.

1.13. ROLE OF MEDIA IN CREATING ENVIRONMENTAL AWARENESS

Mass media and vernacular press are two of the most successful techniques of spreading awareness among the greatest potential audience in the world, especially in a varied country like India. Because of the scholarly or pedantic nature of most environmental documentaries on television today, which are frequently minimally researched and badly written, they attract few viewers. Pollution, climate change, and other challenges are among them. The media has played an important role in raising environmental awareness and raising issues. Drought in Gujarat, pollution in the capital metropolitan areas, ground water depletion in Chennai, and pollution from coal mines in Jharia, west Bengal are among concerns that the media is covering to raise awareness about. It is still being confirmed that the influence of the media in raising environmental consciousness is one of the most essential aspects.

The media also aids in the dissemination of vocational and professional knowledge to a larger community. Recent programmes on guiding households in the conversion of waste and garbage into compost in order to save the environment are an excellent example;

The media raises public awareness and educates individuals about many societal issues. Through specific events and programmes, the media educates individuals about their roles in altering society. It enables people to understand how they may contribute to environmental protection and sustainability, as well as the creation of a healthy environment.

1.14. METHODS TO PROPAGATE ENVIRONMENTAL AWARENESS

Various stages and methods than can be useful in raising environmental awareness among different strata of the society are given below:

- Inculcating among students with the help of education: Environment education is already an integral part of school curriculum. For classes I and II, Environmental Studies (EVS) components are integrated with language and mathematics. For classes III to V, the NCERT has developed EVS syllabus and

textbooks integrating Science and Social Science components. For classes VI onwards, essential EVS components are integrated across subject areas.

- Role of electronic media & Press: The role of media is very important in spreading awareness among the masses on environmental issues through plantation campaigns, awareness rallies, Dramatization, real eco- disaster stories etc. Further TV serials are playing effective role in propagation of environmental awareness amongst the people of all age groups.
- The society plays the most important role in shaping the future of the country, it is very important to give them the decision maker for necessary orientation and training through specially organized seminars, workshops and other training programmes etc.
- Publication of environment related resources material in form of brochure, advertising pamphlets or booklets published by ministry of environment & forests, Govt. of India can also help in keeping environment save.

1.15. SIGNIFICANCE

Human beings are the best creation of God and he always like to go for discovering something new, inventing, creating etc. He has the ability of transforming the nature. But sometime same creativity can cause harmful effect to environment. Thus, since beginning of the earth he benefited the earth and with same zeal caused the harm also. He polluted the water, air, cause harm to living beings on earth, land, sky etc. Ozone layer is depleted. At present, the entire world is facing numerous of environment problems. These problems are of great concern for scientists all over the world. We better know that over-exploitation of natural resources is responsible for some of environmental problem. Some other problems are the direct outcome of lack of concern toward environment. Environment is threatened due to many hazards. Air, water and soil pollution is increasing every day. Vehicular exhausts, smoke releasing tall smokestacks, mining is various problem associated with human activities. Such activities pose many threats to the help of people. Degradation of environment result in many problems. All this disturbs the ecological balance. The government is taking several steps but is not success everywhere. Participation of people and students is there for, very important in planning and management of environment. The surrounding in which we live is our environment.

Environmental awareness is the basic tool for the protection of environment. Knowledge creates awareness, which is essential for action. Environmental pollution is one among the major problems and incoming dangers to life as it affects both biotic and abiotic components. So, knowledge related to cause and effect of environmental pollution with remedial measures to control pollution is quite essential to create environmental awareness in children, who in turn, can make the common mass aware.

The present study is a modest attempt to highlight some important aspects of Awareness of Environmental Pollution among primary school students.

1.16. STATEMENT OF THE PROBLEM

"A STUDY OF AWARENESS OF ENVIRONMENTAL POLLUTION AMONG PRIMARY SCHOOL STUDENTS".

1.17. OBJECTIVES

1. To study the awareness towards environmental pollution of primary students from urban area.
2. To study the awareness towards environmental pollution of primary students from rural area.
3. To compare the awareness level between the rural students and urban students of primary school towards environmental pollution.

1.18. RESEARCH QUESTIONS

In this context it is very pertinent to raise some research queries. These are:

1. Is the rate of awareness on environmental pollution among school students satisfactory?
2. Is there any difference in the rate of awareness on environmental pollution among school students in relation to area?
3. Is the impact of environmental education curriculum appropriate and satisfactory according to need of the time?

In order to get answer to the above-mentioned questions the researcher proposed to take up the present study.

1.19. HYPOTHESIS

H₀₁: There exist no significant difference in awareness level towards environmental pollution between the rural students and urban students of primary school.

1.20. OPERATIONAL DEFINITION OF THE TERM USED

Awareness: Environmental awareness is the state of knowledge or understanding of environmental aspects. In this study awareness about the environmental pollution will be obtained from primary school students.

Environmental Pollution: Environmental Pollution may be defined as addition of undesirable material into the environment as a result of human activities.

1.21. DELIMITATION

1. The present study is confined to Cuttack district of Odisha state only.
2. Study is taken only for awareness of learners towards environmental pollution while other variables will be not considered.
3. It is also delimited to primary level students.
4. The researcher confined the study to small sample size i.e., 80.