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Review Article

Fundamentals of Environmental Science

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Abstract

The fundamentals of environmental science are referred to the introduction to environmental study. It primarily takes into account all the areas that are concerned with the physical, chemical and the biological surroundings in which the organisms live. It draws deeply upon the aspects of life and the earth sciences. On the other hand, there are some overlaps that are unavoidable. The individuals, who are interested in studying and learning about the environments will acquire understanding of the fundamentals of environmental science in this research paper. Environmental science is a broad area, it provides concise, non-technical explanations of physical processes and systems and the effects of human activities. The main areas that have been taken into account in this research paper are, history of environmental science, changing attitudes to the natural world, concepts of environmental science, elements of the environment, types of environment, structure of environment, environmental education, and need for public awareness.

Keywords: Environmental Science; Concepts; Elements; Environmental Education; Public Awareness; Conditions; Individuals

Introduction

The science of the environment studies is a multi-disciplinary science, the reason being, it comprises various branches of subjects like chemistry, physics, medical science, life science, agriculture, public health, sanitary engineering etc. It is the science of physical phenomena within the environment. It studies the foundations, reactions, transport, effects and fate of physical and biological species in the air, water and soil and the effects of human activities upon them. The simple meaning of the environment means the surrounding external environmental conditions that have an influence upon the growth, and development of the individuals, animals and plants. The living as well as the working conditions get influenced by the environmental conditions [1]. In rural areas, environmental conditions play an important part in influencing the living conditions and the functioning of the individuals. Agriculture is the main occupation of the individuals in rural areas and its enhancement primarily depends upon the environmental conditions.

Environment comprises of various types of forces, such as, physical, intellectual, economic, political, cultural, social, moral and emotional. Environment is the sum total of all the external forces, influences and conditions that have an effect upon the life, nature, behaviour, growth, and development of living organisms. There are four segments, which comprise of the environment, these are, atmosphere, it implies the protecting layer of gases around the earth. The Hydrosphere comprises all types of water resources, such as, oceans, seas, lakes, rivers, streams, reservoirs, polar ice-caps, glaciers, and ground water. Lithosphere is the outer mantle of the solid earth, it consists of minerals occurring in the earth's crusts and the soil e.g. minerals, organic matter, air and water. Biosphere indicates the realm of living organisms and their connections with the environment, i.e. atmosphere, hydrosphere and lithosphere [1].

History of Environmental Science

By the time their civilization reached its peak during the fifth dynasty, after about 2480 B.C. the ancient Egyptians seem to have turned into satisfied people. According to accounts described by the late Joseph Campbell, a primary authority on the ways, people have seen themselves and the world around them, they had an elated, outward looking view of the world around them. Accurate, they were somewhat preoccupied with the after-life, but that was seen as a continuation of their present lives and was notable in some of the most beautiful art and magnificent architecture, the world has ever seen. Their pharaoh was described as good rather than great and the land he ruled was glory and to some extent in an accurate

manner. Life was expectable and secure. Each year, the appearance of Sirius, the star of Isis, on the horizon at dawn heralded the flooding of the Nile. The consistent flood brought water and silt to improve the cultivated land and guarantee the abundant harvest that would follow. No doubt the work was firm, as it always is, but there was ample time for festivals and other celebrations [2].

Much of the history of the environmental science, revolves around the reconstruction of the history of the planet since it first formed. To a significant extent, this reconstruction was based on understandings of fossils, which were by no means always seen as the noticeable remains of once living organisms. Even when it became possible to use the fossils entrapped within them to arrange rock strata in a chronological sequence argument continued over the mission of dates to those strata, the mechanisms by which the rocks had assumed their present forms and distribution, and over the total age of the Earth itself. It was in his effort to solve this puzzle that in 1650 James Ussher (1581–1656), an Irish scholar and archbishop of Armagh, constructed what may have been the first theoretical model. Basing his chronology on the Old Testament, he concluded the earth had been created in 4004 B.C. [2].

If the expansion of environmental science seems to have been dominated by the study of rocks and fossils, it is perhaps because of revealing the history of the planet. It was the first indispensable step toward attaining an understanding of its present condition and, in any case, the classification and distribution of plants and animals contributed a major role in it. The theory of evolution by natural selection was derived from earth history, and Charles Darwin (1809–82) began his career as a geologist [2].

Environmental science ranges in a broad way that much of the history of science is pertinent to its own development. Even such seemingly unconnected innovations as the gas laws relate directly to meteorology, climatology and, through them, to weather forecasting and considerations of possible climate change. In the present world, many disciplines contribute to the environmental science and its specialists are well prepared with instruments, methods and practices that enable them to begin compiling an inclusive, comprehensible picture of the way the world functions. The picture remains far from complete, nevertheless, and the individuals are required to be tolerant, while one waits to determine, whether some of what are popularly perceived as environmental problems are really so and, if they are, what are the most accurate ways to report them [2].

Changing Attitudes to the Natural World

If environmental science has a long history, there are number of environmental problems that are of concern to the individuals in the present existence. The problem of air and water pollution are regarded as the most severe that are caused due to rapid industrialization. A wide variety of industries contributed to the dust and other waste materials and poured their effluents into the nearest river, thus causing water pollution. The pollution causes damage and imposes detrimental effects upon buildings, vegetation, crops, plants, trees and other natural environmental conditions [2]. Air pollution causes respiratory problems and there are number of health problems caused due to contaminated water. The individuals need to generate awareness amongst themselves regarding preservation of the environment. The environmental sources should be used to satisfy one's basic needs, but one should not exploit them.

As early as the seventh century, there were laws controlling the felling of trees and in royal forests, a fence was created around the felled trees to allow renewal. By the thirteenth century, there were laws forbidding the felling of trees, clearing of woodland, and even the using of wood, which is not of good quality. Although they were occasionally enforced, except as a means to generate revenue by fining an offender the value of the trees felled. For most of the history, the conflict between farms and forests was resolved in favour of farms, there is a possibility of confusion over the use of the word, forest. In the present existence, the word describes a wide-ranging tract of land, covered with trees increasing together, sometimes combined with smaller areas of pasture. Under Norman law, however, it had a different meaning, derived from the Latin foris, meaning, outdoors, and applied to land beyond the boundaries of the enclosed farmland or parklands and set aside for hunting. Much of this forest belonged to the sovereign. Special laws applied to it and were managed by officers appointed for the purpose, it may or may not be tree-covered [2].

Forests are usually regarded as dark and intimidating places, which are habitations of wild animals. The tribal communities are spread all over the country, they normally depend upon the forests for the sustenance of their living conditions. They gather food items from the forests, to treat their illnesses, they obtain medicinal herbs and plants from the forests and for survival purposes, clothes, and in construction of dwellings too forests make provision of the materials. Mountains, wetlands, wastelands that could not be cultivated, were used for other activities. The methods that are necessary for the preservation of the environment need to be implemented in an adequate manner. Deforestation is one of the areas that should be prevented and planting of trees should be encouraged. In the agricultural sector, when the farmers are not aware of modern and innovative techniques and methods, when they do not make use of modern machines and equipment, then natural

environmental conditions, climate, livestock and so forth are the main areas, upon which they depend.

In the present existence, the appreciation of wilderness and longing to protect it perhaps represents the majority view, at least in most industrialized societies. Similarly, most people identify pollution as detrimental and will support measures to reduce it, provided they are not too costly or disturbing. As it has been observed, however, these are far from being new ideas or new attitudes. They have emerged at various times in the past, then concern has waned. It may seem that public attitudes reflect some cyclic change, and this may be not be far from actuality. When the possibility of famine was material, the most beautiful landscape was one that was well and intensively cultivated. When factory jobs were uncommon and apprehensive, but for large numbers of people, the only jobs available were the minority jobs that indicated affluence. Involvement in minority jobs, enabled the individuals to acquire fulfillness. No one could afford to care that the fumes were unsafe, even they were damaging to human health [2]. There are number of individuals in India, who are residing in the conditions of poverty. The conditions of poverty proved to be detrimental to the existence of the individuals and they depend upon the natural environmental conditions in order to sustain their living conditions.

Concepts of Environmental Science

Environmental science was developed from the science of ecology. Ecology is the study of the way, organisms collaborate with each other and with their non-living environmental conditions. These interactions involve energy and matter. Living things require a continuous flow of energy and matter to ensure their survival. If the flow of energy and matter concludes, the organism dies. Ecology deals with the ways, in which organisms are formed by their surroundings, how they use these surroundings, and how an area is transformed by the presence and activities of the organisms. All organisms are dependent on other organisms in some way. One organism may eat another one and in this way, use it as a source of energy and raw materials. Or an organism may temporarily use another living thing without causing it any harm. Sometimes organisms may provide service for another, such as, when animals allocate plant seeds or when bacteria break down dead organic matter that is then reused by other organisms [3].

Everything that affects an organism during its lifetime is in its environment. For example, from its birth to its death, a caribou interacts with millions of other organisms such as, bacteria, food plants, parasites, mates, predators, drinks water, breathes, and responds to the changes in the temperature and weather conditions. This list only outlines some of the various components that make up a caribou's environment. Because of this complexity, it is worthwhile to subdivide the concept of environment into abiotic (non-living) and biotic (living) factors [3]. The environment can be understood in a better way by differentiating between living and non-living organisms.

Abiotic factors are the non-living factors and can be organized into several comprehensive categories, these are, energy, non-living matter, and processes that involve the interactions of non-living matter and energy. All organisms require a source of energy to survive. The ultimate source of energy for the majority of organisms on the planet is the sun. In the case of most plants, the sun directly supplies the energy. Animals get their energy by eating plants or other animals that are herbivores, meaning eating plants. The amount of living materials that can exist in an area is determined by the amount of energy that plants, algae, and bacteria can absorb [3].

The biotic factors are the living factors influencing an organism, include all forms of life with which it interrelates. The biotic environment further can be divided into floral environment and faunal environment. All the organisms connect to form their social groups and organizations at several levels, hence, leading to the formation of the social environment. In this social environment, the organisms work to develop matter from the physical environment for their sustenance and contentment. This process gives birth to economic environment. Human beings claim to be the most skilled and civilized of all the organisms. This is the reason, his social organisation is the most organized. Plants that carry out photosynthesis, animals that eat other organisms, bacteria and fungi that cause decay, bacteria, viruses, and other parasitic organisms that cause disease, and other individuals of its own species, are all part of an organism's biotic environment [3].

Elements of the environment

The environment is constituted by the interacting systems of the physical, biological and the cultural elements. There is an interrelationship between these elements in various ways, which can be collective or individual. These elements have been explained as follows: [1].

Physical Elements - Physical elements are as space, landforms, water bodies, climate soils, rocks and minerals. They determine the variable character of the human habitat, its opportunities as well as limitations. Physical elements are considered vital for the exis-

tence of the individuals, they make use of them for multiple purposes. They serve as habitats for birds and animals, and human beings make use of them to carry out their functions and occupations.

Biological elements – The biological elements such as, plants, animals, micro-organisms and human beings constitute the biosphere. These elements are considered as an integral part of the environment. They are of utmost significance within the environment, plants are the sources of multiple purposes, human beings, in majority of cases have plants in their houses as well. Animals and birds in multiple cases are useful to human beings, such as in the agricultural sector and in rural areas, rearing of livestock is an important occupation of the individuals.

Cultural elements - Cultural elements such as, economic, social and political elements are basically man-made features, which make the cultural environment. Every individual desires to make his existence useful and for this purpose, it is vital to acquire awareness of the cultural elements. Economic elements are the financial, cost-effective, commercial, and profitable features that are important to meet the essential needs and requirements of one's living. Social elements are the societal, collective, common and group elements, such as, maintaining cleanliness within the environment, implementing measures to alleviate poverty, illiteracy and unemployment, and working for the welfare of the community. Political elements come under administration and governing functions, it is important for the individuals, who are involved in government and administrative roles to carry out their tasks and functions in an adequate manner.

Types of environment

There are three types of environment, which have an impact upon the personality of the individuals: [1].

Physical Environment - Physical environment, refers to the geographical climate and weather or physical conditions, which affect the lives of the individuals. The human races are prominently influenced by the climate. Some examples are, the climate influences the complexion of the individuals. In the cold countries i.e. European countries, individuals are of white complexion. Similarly, in Asian and African countries, i.e. in hot climate countries, individuals are of dark complexion. The physique of an individual depends upon the climate conditions as the individual tries to adjust within his physical environment. The efficiency of the human functioning also gets influenced by the climatic conditions to a large extent. For instance, in agriculture and farming practices, the productivity depends upon the climatic conditions.

Social Environment - Social Environment includes an individual's social, economic and political condition, wherein he lives. The ethical, cultural, standard and emotional forces influence the life and nature of the behaviour of the individuals. Society may be classified into two categories, these are, open society and closed society. An open society is when an individual recognizes his independence to get involved in all kinds of tasks and activities that are for the well-being of himself and the community, he is free to communicate with others, carry out employment in accordance to his own needs and interests and acquire educational qualifications. An open society is conducive for the development of the individuals. On the other hand, a closed society is the one, where individuals are not well known to each other, they do not communicate with each other in an effective manner, they are engaged in their own lives and do not participate in other people's functions and events. A closed society is not very conducive for the development of the individuals.

Psychological Environment – The social and the physical environment are common to the growth and development of the individual. Every individual has his own psychological environment, in which he lives. The psychological environment enables an individual in acquiring an understanding of the personality of the individuals. In order to live an efficient and a fulfilling life, it is important to understand one's personality and mind-set. The psychological environment primarily comprises of an individual and his goal. In the achievement of goals and objectives, every individual encounters barriers and it is vital for him to be aware of how to overcome barriers. If a person is unable to overcome the barriers, he can either become unsatisfied or may change his goal for a new psychological environment. But in implementing this mechanism, the individual is assisted in his adjustment to the environment.

Structure of environment

When understanding the structure of the environment, it is vital to acquire an understanding of the physical and the biological components and they include, both living and non-living components. The main components that constitute the structure of the environment includes: [1].

Atmosphere – The atmosphere comprises of the protecting blanket of gases, surrounding the surface of the earth. It has several functions to perform, such as, sustaining life on earth, the atmosphere saves the earth from the environment of the outer space, it absorbs most of the cosmic rays from outer space and a major portion of the electromagnetic radiation from the sun and it transmits

only here ultraviolet, visible, near infrared radiation (300 to 2500 nm) and radio waves. (0.14 to 40 m), while filtering out tissue-damaging ultra-violate waves below about 300 nm. The atmosphere is comprised of nitrogen and oxygen, besides argon, carbon dioxide, and trace gases.

Hydrosphere – The hydrosphere comprises of all types of water resources, such as, oceans, seas, rivers, lakes, glaciers, streams, reservoirs, ice-caps, and ground water. Three fourths of the planet earth is made up of water, which is also known as the blue planet. Water is considered essential for the survival of not just human beings, but also animals and plants. Water pollution is something that needs to be prevented, as there are numerous detrimental effects that are caused due to contaminated water. Therefore, individuals have been made aware that they should keep the water bodies clean and pollution free.

Lithosphere – Lithosphere is referred to the outer surface of the planet earth. It consists of the minerals that occur on the earth's crusts and soil e.g. minerals, organic matter, air and water. There are different kinds of minerals that are of use to human beings in multiple ways. For instance, coal is obtained from the coal mines, which is of use to human beings. Natural resources are essential for the existence of the individuals, which are the part of the natural environmental conditions. When individuals face shortage of water supplies, they obtain water from water resources to meet their needs and requirements.

Biosphere – Biosphere comprises of the living environment, human beings, plants, birds, animals and micro-organisms. These components interact with each other in various ways and the existence of one is regarded as essential for the existence of the other. For instance, plants and trees are essential for the survival of human beings, animals and birds. Birds and animals are useful to human beings, for instance in rural areas, they provide the sources that lead to generation of income. In the agricultural sector and farming practices, animals are important in carrying out the tasks. Atmosphere, hydrosphere and lithosphere are an integral part of biosphere.

Human Beings – For the purpose of survival, human beings need the basic elements of the physical environment, i.e. habitat, air, water and food. One of the most critical negativities that need to be taken into account are, human beings have caused environmental pollution to a great extent. The various types of pollution include, air pollution, water pollution, and noise pollution. Air pollution is mainly caused, when harmful gases are evicted into the atmosphere from industries, factories and vehicles. Water pollution is caused, by throwing of waste materials into the water resources, which may be from homes as well as industries. Noise pollution is caused due to loud noise, which is disadvantageous to the individuals by hindering their concentration upon work, as well as causing hearing impairments. It is up to the individuals to curb pollution. Air pollution can be restrained by controlling the eviction of gases into the atmosphere. Water pollution is curbed by not polluting the water resources and noise pollution is curbed by restraining loud noise caused from various sources.

Social functions of the human beings are essential for survival. There are number of social functions that need to be carried out, these are, firstly, establishment of social institutions, social institutions are the institutions where individuals work and get involved with each other in meeting the desired goals and objectives. For instance, educational institutions are stated to be social institutions, where individuals meet, interact with each other, work and learn to achieve their aims and objectives. Secondly, forming social organizations, social organizations are of various types, they are normally formed with a purpose or an objective. The various objectives of social organizations are, alleviation of poverty, enhancing education amongst children, belonging to deprived communities, women empowerment and so forth. Thirdly, formulating laws, principles and policies, it is essential to formulate laws, principles and policies in order to carry out the tasks and functions in an organized manner in any institution or organization. Fourthly, implementation of steps to protect his existence, interest and social well-being. In an organized and an effectual manner, it is necessary to implement the procedures and the policies that are favourable in the protection of the interest, survival and social well-being of the individuals.

Economic interests of the individuals are essential for their effective existence. The economic man derives and utilises the resources from the physical and biotic environment with his services, skills, abilities and technologies. The economic function makes the man an environment, geomorphic process, as he transports matter and energy from one component of the ecosystem to the other. The situations that may take place have been stated as, the exploitative functions of the individuals, may be in harmony with the natural resources. The individuals obtain materials from the environment, which they require. The individuals, whether they are educated or skilled or possess the information are aware that natural environmental conditions are essential for their survival, hence, it is vital to implement the measures that are necessary to protect the environmental conditions.

Environmental education

Environmental science is a comprehensive field and is truly interdisciplinary in nature. The area of environmental education takes into consideration various areas of the environment, these are, significance of the environment, concepts, types, elements, means to preserve the environment and so forth.

Irrespective of the background, category and occupation, the individuals need to acquire an understanding of all the elements within the environment and should have respect for them. For instance, in urban areas, individuals throw waste materials on the roads and other public places. Individuals throw waste materials into the water resources, these should be avoided and efforts should be made to keep the environment clean. This is one of the main areas that is of utmost significance in environmental education [4].

Education and learning of an individual begins with play in nursery schools. When a person gets enrolled in a play school, he is given playthings and another concept that is taught at this level of education is, environmental education, concepts, such as, trees, plants, flowers, animals, birds, vehicles, modes of transportation, and so forth. They are always taught to keep the environment clean, the individuals should always throw waste materials in the garbage cans. As the individual grows and gets enrolled in junior, middle and high schools, he learns more advanced concepts regarding the environment. The uses of the environment and the ways to preserve it are taught in higher classes. Environmental education normally gets extended to the post-secondary level. Practitioners will include, scientists, engineers, managers, planners, policy makers, environmental lawyers, etc. Almost every human action will affect the environment and it is not possible to limit the disciplines. The fundamental analysis of the environmental effort is focused upon public health, conservation and resource management but even this organization is too basic [4].

Environmental education is a comprehensive area and involves multiple aspects and dimensions. The individuals, who choose this field in higher educational institutions has to acquire more broad knowledge. Environmental health is also a concept that needs to be understood, when understanding environmental education. It incorporates the concepts that are known as, environmental engineering and sanitation, public health engineering and sanitary engineering. It is concerned with the control of all those factors, within the physical environmental conditions of the individuals, which may have a detrimental impact upon the physical development, health and survival of the individuals. Consideration needs to be taken of the physical, economic and social influence of the control measures applied. Included is the application of engineering principles to the control, adjustment or revision of the physical, chemical, and biological factors of the environment in the interest of man's health, comfort, and social well-being. In addition, environmental health involves the maintenance of an environment that is in accordance to the individual's effectual performance, and to the preservation of well-being and satisfaction of living in the present and in future [4].

Need for public awareness

It is vital for the public to be aware of the consequences of environmental degradation. The challenges within the environment, should be adequately taken care of, otherwise it would impose detrimental consequences upon living organisms. Some of the challenges have been stated as follows: [1].

Growing Population - A population of over thousands of millions is increasing at 2.11 percent every year. There has been an increase in around 17 million people each year. It puts substantial pressure on its natural resources and leads to a decline in the advances of development. Hence, the greatest challenge, before us is to limit the growth of population. Although population control does automatically lead to progress, yet the development leads to a decrease in the population growth rates. For this purpose, it is essential to focus upon the development of women, their education and generation of awareness amongst them. There should be enhancement of education and skill development amongst women, belonging to all categories and backgrounds.

Poverty – There are number of people in India, who are residing in the conditions of poverty and backwardness. The vast majority of the individuals directly depend upon the natural resources of the country for the fulfilment of the basic needs of food, fuel, fodder and shelter. About 40 percent of the people are still below the poverty line. Environment degradation has unfavourably affected the poverty stricken individuals, who depend upon the resources from their immediate surroundings. Thus, the challenge of poverty and the challenge of environment degradation are two facets of the same challenge. The population growth is fundamentally a function of poverty. Because, to the poverty stricken individuals, every child is an earner and helper and global concerns have less significance for them.

Agricultural Growth - The people must be accustomed with the methods to withstand and increase agricultural growth with imposing detrimental effects upon the environment. To facilitate agricultural growth, certain disadvantageous effects are, high yiel-

ding varieties have caused soil salinity and damage to the physical structure of the soil. In order to enhance agricultural productivity, farmers and agricultural labourers depend upon the physical environmental conditions. In the present existence, there has been usage of technology and innovative methods in irrigation and other farming practices. But previously, rain and natural resources were used for the purpose of improving agricultural growth.

Need to Ground Water - It is important to understand the use of ground water. Factors like community wastes, industrial effluents and chemical fertilizers and pesticides have polluted the surface water and have an effect upon the quality of the ground water. It is vital to re-establish the water quality of the rivers and other water bodies, as lakes are an important challenge. It is vital to put into practice the appropriate strategies for consecration of water, provision of safe drinking water and keeping the water bodies clean. These are difficult challenges, but are essential to sustain the living conditions.

Development and Forests – Forests are considered as essential for meeting the needs and requirements of the individuals residing in rural and tribal communities. These individuals depend upon the forests to a large extent for multiple purposes. In case of illnesses and health problems, they obtain medicinal herbs and plants, they obtain fruits and other food items from them, and they serve to be habitations for animals and birds. The tribal communities, inhabiting forests give regards to the natural resources that contribute in the sustenance of their living conditions. The modern knowledge and skills of the forest department should be integrated with the traditional knowledge and experience of the local communities. The strategies for the joint management of forests should be progressed in a well-organized manner.

Degradation of Land – In the present, out of the total land, there is a limited potential that is available for production. Of this, some portion of land is used for agricultural purposes and nearly and 85 percent experiences from the varying degrees of soil degradation. Of the remaining, 40 percent is completely unproductive. There is a considerable proportion of land, i.e. forest land, of which over half is uncovered to various degrees. Nearly 406 million head of livestock have to be supported on less than four percent of the land classified as pasture land, most of which is overgrazed, thus, 66 percent is degraded to varying degrees. Water and wind erosion leads to further degradation and it is necessary to curb degradation of land.

Reorientation of Institutions - The people should be awakened to orient institutions, attitudes and infrastructures, to suit their needs and requirements in the present world. The transformation has to be brought in keeping in view India's traditions for the use of resources, practices, procedures, management and education. Transformations should be brought in education, in approaches, in administrative procedures and within institutions. The reason being, it affects the way people's perceptions regarding technology, resources and development. It is vital for the individuals to realize the significance of education and generate awareness amongst themselves to make use of innovative techniques and methods.

Reduction of Genetic Diversity - Proper measures need to be implemented to conserve genetic diversity. In the present existence, most wild genetic stocks have been disappearing from nature. Wildlife including the Asiatic Lions are facing problem of loss of genetic diversity. The protected areas of network such as, sanctuaries, national parks, bio-sphere reserves are isolating populations. So, they are leading to decline in the changes of one group breeding with another. It is vital to put into operation, curative measures to check the decline in the genetic diversity.

Disadvantages of Urbanization – The number of Indians that reside in urban areas are 27 percent. Urbanization and industrialization give rise to the number of environmental problems that require a great deal of attention. Over 30 percent of the Indians in urban areas, reside in slums. There are number of problems that individuals experience within the slum areas, unhygienic living conditions, scarcity of clean drinking water, lack of proper civic amenities and so forth. Out of the 3,245 towns and cities, only 21 have partial or full treatment facilities. Hence, coping with rapid urbanization is stated to be a major challenge. With the lack of facilities and civic amenities, it is difficult to meet the needs and requirements of the increasing population.

Air and Water Pollution – Air and water pollution are the major problems that impose unfavourable effects upon the living organisms. Air pollution is caused by the eviction of harmful gases from the industries and factories. Water pollution is caused by throwing of waste materials into the water resources. Majority of the industrial plants are making use of outdated and population technologies and improvised facilities, lacking of any provision of treating their wastes. Acts are enforced in the country, but their implementation is not easy. The reason is their implementation needs abundant resources, technical expertise, political and social will. The individuals need to be made aware of these rules and their support is essential to implement these rules.

Conclusion

Individuals since the ancient times have acquired understanding of the environment. Environmental science is referred to the study of the earth and the life it supports must deal with procedu-

re and transformation. The earth and life sciences also deal with process and change, but environmental science is especially concerned with the changes brought about by human activities, and their direct and long term implications for the well-being of living organisms, including human beings. At this point, environmental science obtains political overtones and leads to disagreement. If it suggests that a particular activity imposes detrimental effects upon the individuals and the natural environmental conditions, then adjustment of that activity may require national legislation or an international treaty and, almost certainly, there will be an economic price that not everyone will have to pay or pay on an equal basis.

Environmental science exists most apparently as a body of knowledge in its own right when a team of specialists participating to address a particular issue. The inclusive study of an important estuary, for example, involves mapping the solid geology of the fundamental rock, recognizing the covering sediment, measuring the flow and movement of water and the sediment it carries, outlining coastal currents and tidal flows, analysing the chemical composition of the water and observing changes in its distribution and temperature at different times and in different parts of the area, sampling and recording the species living in and adjacent to the area and measuring their productivity. Atmosphere, hydrosphere, lithosphere and biosphere are the areas that need to be understood well, when studying the fundamentals of environmental science.

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