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## MAN-ENVIRONMENT INTERACTION

**E**nvironment is a very broad concept. Everything that affects us during our life-time is collectively known as environment. As human beings we are often concerned with surrounding conditions that affect people and other organisms. Today, all over the world there is growing concern about the deteriorating quality of environment and efforts are being made to stop the widespread abuse of environment and improve its quality.

The first worldwide meeting of heads of state in response to the concerns for the environment took place at the Earth Summit, formally known as the United Nations Conference on Environment and Development (UNCED) in Rio de Janeiro in 1992. This conference reflects world-wide concern about the quality of our environment. International Environment Education Programme is the outcome of the 1992 conference and efforts are being made globally to educate people at all levels of society about the environmental concerns. The environment in which we live and work affects our thoughts, feelings, and behaviours. The relationship of man and environment is, however, bi-directional. That is, human beings are affected by the environment and they also affect the environment. The study of environmental psychology emphasises this interaction. In this lesson we will learn about various aspects of the man-environment interaction.



### OBJECTIVES

After studying this lesson, you will be able to :

- explain the concept of environment;
- describe the various facets of human-environment interaction;
- explain the environmental effects of human behaviours;
- indicate the effects of human behaviour on environment; and
- describe the future threats to environment.



**Notes**

## **23.1 MAN-ENVIRONMENT INTERACTION**

We know that physical environment directly or indirectly affects our behaviour. For example, it has been observed that people become more irritable and aggressive when the weather is hot and humid, in comparison to cold weather. You must have read in the daily newspapers about the increase in “road rage” cases during the summer months. Our interest in such environmental variables has led to the development of a field known as **Environmental Psychology**.

This field of psychology is dedicated to the study of reciprocal relationships between psychological processes and physical environments, both natural and man made. Reciprocal relationship deals with two-way process in which environment influences human behaviours and human beings affect environment. In order to understand various aspects of this interaction it would be useful to understand various types of environment which we encounter. A brief description of major types of environment is given below.

Physical environment : It includes both physical reality and social-cultural phenomenon that surround us. The noise, the temperature, the quality of air and water, and various objects and things constitute the physical world around us.

The social and cultural environment: It includes the aspects of social interaction including its products such as beliefs, attitudes, stereotypes, etc. The material and non-material aspects of environment are included in it.

Psychological Environment: It includes the perceptions and experiences pertaining to any environmental setting. Some environments may be stimulating and exciting while others may be dull and boring. Expression of psychological is often used in the organizational context.

Environment is a theme relevant to many other disciplines, such as geography architecture, urban planning, etc. It is indeed multidisciplinary in nature. It is labeled as Environmental Science.

The human-environment interaction has five major components. These components are briefly described below:

1. **Physical Environment:** It includes aspect of natural environment such as climate, terrain, temperature, rainfall, flora, fauna, etc.
2. **Social –Cultural Environment:** It includes all aspects of cultural environment such as norms, customs, process of socialization, etc. It includes all the aspects dealing with other people and their creations.
3. **Environmental Orientations:** It refers to the beliefs that people hold about



their environment. For example, some people hold environment equivalent to God and therefore they perceive all its aspects with respect and reverence and try to maintain it in a perfect form and donot degrade it.

4. **Environmental Behaviour:** It refers to the use of environment by people in the course of social interactions. For example, considering the environment as personal space, where the individual identifies himself with it.
5. **Products of Behaviour:** These include the outcomes of people's actions such as homes, cities, dams, schools, etc. That is, these are products or outcomes dealing with the environment.

All the above aspects of environment depict the important constituents of the study of interaction between environment and the human beings. It is very important to understand that human beings are part of the environment and degrading environment will result in extinction of human beings and other forms of life. Therefore, it is the prime responsibility of human beings to maintain the environment in trim condition, its destruction means destruction of human life.



### INTEXT QUESTIONS 23.1

Give one term for the following:

1. Use of environment by people in the course of social interaction\_\_\_\_\_.
2. Outcomes of people's actions like dams, schools, houses\_\_\_\_\_.
3. Beliefs that people hold about the environment \_\_\_\_\_.
4. All aspects of culture \_\_\_\_\_.
5. Aspects of natural environment \_\_\_\_\_.

### 23.2 PHYSICAL VS PSYCHOLOGICAL ENVIRONMENT

It is important to understand the difference between physical environment and psychological environment. Physical environment is what is out there in physical terms, like house, tree, mountain etc. On the other hand psychological environment consists of all that exists in one's mind.

It may have some relationship or correspondence with the physical environment or not. For example you may be sitting on the sea shore, where physically there



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are ships, boats, sea gulls, and ripples in the sea (all constitute physical environment). However, you may be sitting there and all that is in front of you but you may not be aware of that and may be thinking about something else. The existing physical environment is not influencing the person. It is what constitutes the psychological environment.

Kurt Lewin, a German Psychologist, differentiated between physical environment and psychological environment. Lewin has introduced the concept of **life space** to explain the relationship between person and environment. According to Lewin, life space is the whole psychological reality that determine the behaviour of an individual. Life space (L) includes everything present in the environment (E) that influences an individual's behaviour. The environment (E) contains everything outside the person (P), including physical, psychological, and social aspects. Lewin calls the person (P) in the environment (E) as life space.

Mathematically, life space can be described as:  $B = f(L) = f(P, E)$ .

That is behaviour of an individual at a particular time is a function of life space, which contains the person (P) and environment (E). the environment (E) in the life space influences individual's behaviour and other physical environment that does not directly influence behaviour that is called **Foreign hull**. At some other time the events or objects in the foreign hull can influence the behaviour of an individual, in that event the part of the foreign hull influencing the behaviour becomes the part of E and E expands to include some part of the foreign hull.

### **23.3 ENVIRONMENTAL EFFECTS ON HUMAN BEHAVIOUR**

We have earlier discussed that environment affects human behaviour and human behaviour affects environment, the two interact. Environment has both nourishing as well as destructive effects on human beings.

Throughout human history, people have been threatened by floods, earthquakes, and other natural disasters. In spite of enormous scientific development, we have not been able to control the effect of natural calamities and we have not been able to control natural disasters either. In recent times, technological innovations and advances have brought us new potential threats from the environment, which are man made. These threats are physically harmful and stressful. People have to cope with these stressors. Such man made environmental stressors are many. These stressor are called pollutants and basically there are four: air pollution, water pollution, noise pollution and Crowding.

We find many natural disasters that affect human behaviour in many ways. These

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natural disasters include earthquake, volcanic eruptions, wind storm, tornado, cyclone, famine, flood etc. The earth quakes at Latoor and Bhuj (2001) and Super cyclone in Orissa (1999) not only caused extensive damage to property and physical environment (uprooting of trees etc) but also had long-term effect on the lives of the people.

There are various man-made disasters also. The technological disasters such as three Mile Island (1979), Chernobyl (1986) and Bhopal Methy Iso Cynide (MIC) Disaster (1984) etc. are some of the major man-made disasters that have intense and long-term adverse effects on the lives of the people. In the Bhopal disaster more than 8,000 people died and over 2,00,000 were physically affected. Thousands of gas victims are still suffering from mental and physical health problems. Research studies indicate that the survivors of such disasters suffer from anxiety, withdrawal symptoms, depression, stress, anger and nightmares.

### **23.4 EFFECTS OF HUMAN BEHAVIOUR ON ENVIRONMENT**

As indicated earlier human activities also affect the environment. In fact, almost every human being adds, through his activities, some effect that contributes cumulatively and negatively to the environment we live in. Whenever, some one drives a scooter, motor cycle or car, uses hair spray, cooks food, etc. the environment is affected. We do not perceive the role our simple activities play in degrading our environment. Imagine that billions of people living on our planet in some way or the other affect the environment and the cumulative effect is tremendous. The effect of human activity (e.g. polluting air) is long-term and irreversible and will affect the lives of generations that were follow.

Fortunately, after playing havoc with our environment, people all over the world have become conscious of this disaster that the mankind has already made. Now, the efforts are being made to somehow control the onslaughts of the disaster.

### **23.5 PLANNING FOR THE FUTURE**

As stated earlier, the United Nations is working seriously to control the harmful activities of people affecting our environment around the world. Environment is a naturally given capital having certain limits and we have to learn to use the resources judiciously. Air, water, food, fuel, etc. are all gifts of this environment to the human kind and we have to learn to judiciously use and conserve them. We have to pay greater attention to conserve water and air. Disposal of waste material we produce, ranging from sewage to garbage needs special attentions.



**Water:** We are using natural resources that we are not replenishing, and water is one such resource. On our planet, there are now at least 80 countries having serious water shortage with serious threat to agriculture. India is one among these countries where water shortage is adversely affecting the agriculture. The water shortage in Karnataka and Tamil Nadu is an example. The water shortage is assuming serious threat to the big cities also. For example, during the summer months there is serious shortage of water in Delhi region and due to population influx from the neighbouring cities the problem is getting worse day-by-day. The solution lies in harvesting rain water and efforts are being made to use rain water to augment water supply.

**Air:** The quality of air has been adversely affected by automobile and industrial emission. Large quantities of emissions from such sources have increased the presence of harmful and toxic gases like carbon monoxide, nitrogen dioxide, sulphur dioxide etc. in the air that we breathe. Serious efforts are required in stemming the rot and save the public health. In this direction Delhi administration has taken serious steps in introducing CNG (Compressed Natural Gas) as a fuel for public transport system and it has made a significant improvement in the quality of air in Delhi. Such innovative intervention is required to restore the quality of air.

**Waste Material:** Perhaps the most obvious by- product of human activity is waste material we produce. This waste product of our activity range from sewage to garbage. It is a very serious problem for municipalities, corporations, and local governments to manage them. So far, much of our sewage disposal is flushed untreated into the rivers. This has created serious problem of water pollution. This makes our river water unfit for human consumption. There is now awareness of this serious problem and efforts are being made in pre-treating the sewage disposal before throwing it in the rivers and sea.

Another serious problem emanates from the tremendous amount of garbage we produce. The disposal of the garbage, especially of non-bio-degradable material (e.g., plastic bags) is a serious problem. We must take care not to use such material, like plastic bags for daily use. Recycling the waste should be undertaken to save the land from the polluting effects of such garbage.



### **INTEXT QUESTION 23.2**

1. Give any one suggestion for reducing water shortage.
2. What should be done to reduce air pollution?
3. Give suggestions for treatment of waste materials?

**Notes****WHAT YOU HAVE LEARNT**

- Environment is made of two parts: Physical (such as noise, temperature, air, water, etc.) and psychological environment (perception and experiences of the environment by an individual).
- Human behaviour is the result of interactions between the person and the environment.
- Changes in the environment, whether natural such as earthquake, tsunami, etc., or man-made disasters such as Bhopal MIC disaster, influence human behaviour.
- Human beings also influence environment by their activities such as driving car, cooking food, etc.
- There is a need for developing effective mechanisms for protecting the environment.

**TERMINAL EXERCISE**

1. What are the various facts of human-environment interaction? Explain environmental effects on human behaviour.
2. What are future threats to environment? What we should do to remove these threats?

**ANSWER TO INTEXT QUESTIONS****23.1**

1. Environmental behaviour
2. Products of behaviour
3. Environmental orientations
4. Social cultural environment
5. Physical environment

**23.2**

1. Harvesting rain water
2. Introduction of CNG
3. pre treating sewage and recycling the waste

**HINTS TO TERMINAL EXERCISE**

1. Refer section 23.1 and 23.3
2. Refer section 23.4 and 23.5