

ENVIRONMENTAL STUDIES

LECTURE-1

What is Environment?

The word 'environment' is derived from the old French word 'environer' – which means to 'surround, enclose, and encircle'. Environment refers to an aggregate of conditions or surroundings in which living beings such as humans, animals, and plants live or survive and non-living things exist.

All living beings including man and their environment are mutually reactive, affecting each other in a number of ways. It is generally equated with nature wherein physical components of the planet earth such as earth, air, water, etc. support and affect life in the biosphere.

Environment represents the physical components of the earth, wherein 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.

Components of Environment

The four major components of environment include lithosphere, hydrosphere, atmosphere and biosphere, corresponding to rocks, water, air and life respectively.

- ❖ **Lithosphere** is the outermost layer of earth called crust, which is made of different minerals. Its depth can reach up to 100 kilometers and is found on both land (terrestrial crust) and oceans (oceanic crust). The main component of lithosphere is earth's tectonic plates.
- ❖ **Hydrosphere** comprises of all forms of water bodies on earth including oceans, seas, rivers, lakes, ponds, streams etc. It covers 70% of earth's surface. 97.5% of water found on Earth is in the oceans in the form of salt water. Only 2.5 % of water on Earth is freshwater. Out of this, 30.8% is available as groundwater and 68.9% is in frozen forms as in glaciers. Amount of 0.3% is available in rivers, reservoirs and lakes and is easily accessible to man.
- ❖ **Atmosphere** is gaseous layer enveloping the Earth. The atmosphere with oxygen in abundance is unique to Earth and sustains life. It mainly comprises 78.08% nitrogen, 20.95% oxygen, 0.93% argon, 0.038% carbon dioxide, and traces of hydrogen, helium, and noble gases. The amount of water vapour present is variable.
- ❖ **Biosphere** refers to all the regions on Earth where life exists. The ecosystems that support life could be in soil, air, water or land. The term Biosphere was coined by Geologist Edward Suess who used this term for place on Earth where life can be found. Biosphere refers to the sum total of all living matter, the biomass or biota. It extends from the polar ice caps to the equator, with each region harbouring some life form suitable to the conditions there.

Components of Environment can also be classified as follows:

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.

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