



# ENVIRONMENTAL SCIENCE AND SUSTAINABILITY

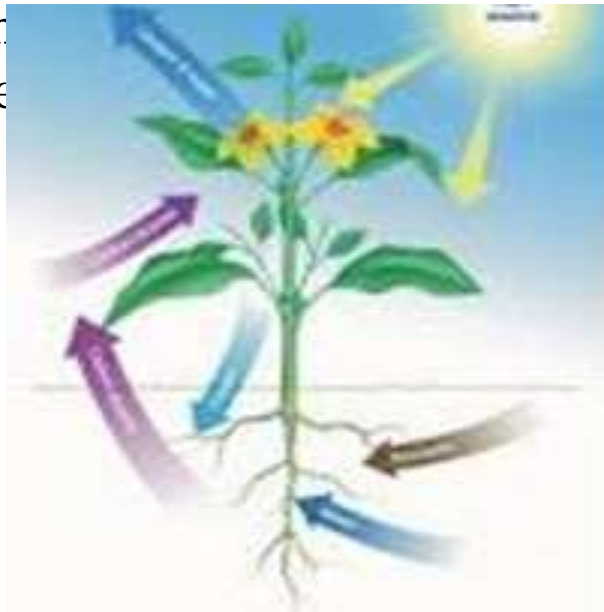
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## UNIT 1 : ENVIRONMENT, ECOSYSTEM AND BIODIVERSITY

# INTRODUCTION - ENVIRONMENT

“Environ” =  
‘Surroundings’

- Every organism is surrounded by materials and forces, constitute its environment.



**Environment creates favourable conditions for living and development.**



Hence we (humans), animals, plants and/or microbes requires environment for living.

# INTRODUCTION

What is the problem?

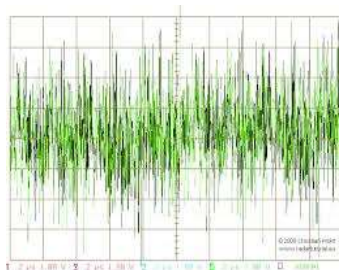
Degradation/decrease in quality of environment has become a serious problem.

## Definitions

1. **Environment:** Sum of living and non-living things around us influencing one another.
2. **Environmental Science:** Study of environment, its biological (biotic) and non-biological (abiotic) components and their interrelationship.
3. **Environmental Engineering:** Application of engineering principles for the protection and enhancement of quality of the environment and thus to the development and protection of public health and welfare.
4. **Environmental - studies or education:** Process of educating people for preserving quality environment.

# INTRODUCTION - TYPES OF ENVIRONMENTS

## 1. Natural



Etc.

## 2. Man made or artificial



Etc.



# SCOPE OF ENVIRONMENTAL STUDIES

It is an important tool to educate the people for maintaining quality environment.

1. To get **awareness** of environment and its problems.

2. To develop **skills** for **identifying** and **solving** environmental





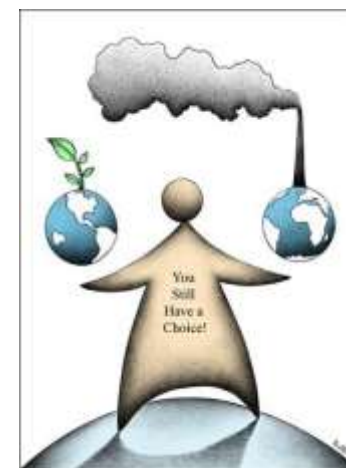
# SCOPE OF ENVIRONMENTAL STUDIES

3. To motivate the active participation of people in environmental protection and improvement.

4. To know the necessity of conservation of natural resources.



5. To evaluate environmental programs in-terms of social, economical, ecological and aesthetic factors.



# IMPORTANCE OR SIGNIFICANCE OF ENVIRONMENTAL STUDIES

1. **Understanding** the concept “need of development without destruction of environment”.
2. **Knowledge** of different types of environments and effects of different types of environmental hazards.
3. Peoples **effective** role in protecting environment by demanding changes in laws and enforcement systems.
4. Direct relation to the **quality** of our life.
5. **Develops a concern and respect** for the



# RISK AND HAZARD

**Risk:** Frequency of events causing losses.

**Hazards:** Any substance than can hurt or make you/us ill.

**Expression** – Degree

**Hazard** =  $f(\text{risk} \times \text{exposure} \times \text{response} \times \text{vulnerability})$

Types:

1. Physical hazards
2. Chemical hazards
3. Biological or Bio-hazards

