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**SAI RAM**  
ENGINEERING COLLEGE  
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**SAIRAM**  
DIGITAL RESOURCES

YEAR  
**II**

SEM  
**IV**

**GE8291**

**ENVIRONMENTAL SCIENCE AND ENGINEERING**



## UNIT NO 3

### NATURAL RESOURCES

- 3.5.1 Role of an individual in conservation of natural resources
- 3.5.2 Equitable use of resources for sustainable lifestyles.
- 3.5.3 Field study of local area to document environmental assets – river / forest / grassland / hill / mountain.

### SCIENCE & HUMANITIES

### 3.5.1 Conservation of Natural Resources:

Role of an individual in different natural resources like forests, water, soil, food, mineral and energy resources play a vital role in the development of a nation. While conservation efforts are underway at national as well as international level, the individual efforts for conservation of natural resources can go a long way.

#### I. Conservation of Water :

- Don't keep water taps running while brushing, shaving, washing or bathing.
- Check for water leaks in pipes and toilets and repair them promptly. A small pinhole sized leak will lead to the wastage of 640 liters of water in a month.
- Use drip irrigation and sprinkling irrigation to improve irrigation efficiency and reduce evaporation.

- Install a small system to capture rainwater and collect normally wasted used water from sinks, cloth-washers, bathtubs etc. which can be used for watering the plants.
- Build a rainwater harvesting system in your house.

## II. Conservation of Energy

- Turn off lights, fans and other appliances when not in use.
- Obtain as much heat as possible from natural sources.
- Dry the clothes in the sun instead of the dryer if it is a sunny day.
- Use a solar cooker for cooking your food on sunny days which will be more nutritious and will cut down on your LPG expenses.

- Grow deciduous trees and climbers at proper places outside your home to cut off intense heat of summers and get a cool breeze and shade.
- This will cut off your electricity charges on coolers and air-conditioners.
- Try riding a bicycle or just walk down small distances instead of using your car or scooter.

### III. Conservation of Soil

- While constructing your house, don't uproot the trees as far as possible.
- Plant the disturbed areas with a fast growing native ground cover.
- Make compost from your kitchen waste and use it for your kitchen-garden or flower-pots.
- Do not irrigate the plants using a strong flow of water, as it would wash off the soil.

- If you own agricultural fields, do not over-irrigate your fields without proper drainage to prevent waterlogging and salinisation .
- Use mixed cropping so that some specific soil nutrients do not get depleted.

#### **IV. Conservation of Food Energy**

- Do not waste food.
- Take as much as you can eat Reduce the use of pesticides.
- Fertilize your crop primarily with organic fertilizers.
- Eat local and seasonal vegetables. This saves a lot of energy on transport, storage and preservation.
- Control pests by a combination of cultivation and biological control methods.

## V. Conservation of Forest

- Use non-timber products.
- Plant more trees and protect them
- Grassing and Fishing must be controlled
- Minimise the use of papers and fuel wood.
- Avoid executing developmental work like dams, roads and construction in forest areas.

### 3.5.2. Equitable Use of Resources for Sustainable Lifestyle:

#### **Sustainable Development:**

Sustainable development is the development where the natural resources must be used in such a way that it must be available for the future generation also.

#### **Unsustainable development**

Unsustainable development is the degradation of the natural environment due to over utilization and over exploitation of the natural resources.



## Lifestyle in different countries

### 1. Lifestyle in most developed countries:

- The MDC's(Most Developed Countries) have only 22% of the world's population, but they use 88% of its natural resources, 73% of its energy and command 85% of its income.
- As the rich nations continue to grow, they will reach a limit. If they have a growth rate of 10% every year, they will show 1024 times increase in the next 70 years.
- Will this much of growth be sustainable? The answer is 'No' because many of our earth's resources are limited and even the renewable resources will become unsustainable if their use exceeds their regeneration.



- Thus, the solution to this problem is to have a more equitable distribution of resources and wealth.
- We cannot expect the poor countries to stop growth in order to check pollution because development brings employment and the main problem of these countries is to tackle poverty.

## 2. Lifestyle in less developed countries:

The poor in the LDC's (Less Developed Countries) are at least able to sustain their life. Unless they are provided with such basic resources, we cannot think of rooting out the problems related to dirty, unhygienic, polluted, disease infested settlements of these people-which contribute to unsustainability.

Thus, the two basic causes of unsustainability are overpopulation in poor countries who have under consumption of resources and over consumption of resources by the rich countries.

which generate wastes. In order to achieve sustainable lifestyles it is desirable to achieve a more balanced and equitable distribution of global resources and income to meet everyone's basic needs.

The rich countries will have to lower down their consumption levels while the bare minimum needs of the poor have to be fulfilled by providing them resources.

A fairer sharing of resources will narrow down the gap between the rich and the poor and will lead to sustainable development for all and not just for a privileged group.

## Causes of unsustainability

1. Overpopulation in poor countries consume too low resources with low income.
2. Rich countries consume more resources with more income.

## Condition for sustainable development:

In order to achieve sustainable lifestyles,

1. It is essential to achieve a more balanced and equitable distribution of land resources and income to meet everyone's basic needs.
2. The rich countries should lower down their consumption levels, while the minimum needs of the poor should be fulfilled by providing them resources.

Thus more balanced and equitable use of resources will reduce the difference between the most developed countries and less developed ones and leads to sustainable development.

Field study of local areas to document environmental assets – river / forest / grassland / hill / mountain.

*Sairam*

**Role of an individual in conservation of natural resources**

[https://youtu.be/HK8L\\_zcPHPI](https://youtu.be/HK8L_zcPHPI)

**Equitable use of resources for sustainable lifestyles.**

<https://youtu.be/Dmx5NYGTmv4>

**Field study of local areas to document environmental assets – river / forest / grassland / hill / mountain.**

<https://youtu.be/tl15n9IPBh4>

*Sairam*  
**THANK YOU**