Unit-7
Current Challenges Facing Indian Economy
"Sustainable Economic Development

- Points to Remember
- Environment is defined as the total planetary inheritance and the totality of all resources. It includes all the biotic and abiotic elements that influence each other.
- All living elements - the birds, animals and plants, forests, fisheries etc - are biotic elements.
- Abiotic elements of the environment include non-living elements like air, water, land, rocks and sunlight etc.
- Functions of the Environment :
  - i) Environment supplies resources (both renewable and non-renewable resources) for production.
  - ii) Environment assimilates waste.
  - iii) Environment sustains life.
  - iv) Environment enchances quality of life.
- The environment is able to perform these functions whitout any interruption as long as demand on these functions is within its carrying capacity.
- Carrying capacity implies two things :-
  - i) Resource extraction should remain below the rate of resource regeneration.
  - ii) Generation of wastes should remain within the absorption capactity of the environment.

  If these two conditions are not fulfilled, then environmental crises occurs.
- Absorptive capacity of the environment means the ability of the environment to absorb degradation.

- The various reasons for environmental crisis are as under :-

i) Population explosion and advent of industrial revolution.

ii) The intensive and extensive extraction of both renewable and non-renewable resources.

iii) The affluent consumption and production standards of developed countries.

- Renewable resources are those which can be used without the possibility of the resource becoming depleted or exhausted. That is, a continuous supply of resource remains available for e.g. trees in forest and the fishes in the oceans.
- Non renewable resources are those which get exhausted with extraction and use.

  For e.g. fossil fuel.
- Two basic problems related to environment are :
  - i) Problem of pollution.
  - ii) Problem of excessive exploitation of natural resources, or degradation of natural resources.
- Pollution is contamination of useful things such as air, water, land etc. with undesirable or harmful materials like foul gases, smoke, poisonous chemicals, etc.
- The major forms of pollution are as follows :
  - i) Air pollution
  - ii) Water Pollution
  - iii) Noise Pollution
  - iv) Land Pollution
- Global warming is a gradual increase in the average temperature of the earth's lower atmosphere and oceans.
- Global warming is caused by man-made increase in carbon dioxide (CO_2) and other greenhouse gases through the burning of fossil fuels and deforestation.

- Some of the long term results of global warming are as follows :
  i) Melting of polar ice with a resulting rise in sea level and coastal flooding.
  ii) Extinction of species as ecological niches disappear
  iii) more frequent tropical storms and ;
  iv) An increased incidence of tropical diseases.
- Ozone depletion refers to reduction in the amount of Ozone (a protective layer) in the stratosphere.
- The problem of Ozone depletion is caused by high levels of CFC used as cooling substances in air conditioners and refrigerators.
- As a result of depletion of the ozone layer, more ultra violet (UV) radiation comes to earth and causes damage to living organism.
- The threat to India's environment poses a dichotomy - threat of poverty - induced environmental degradation and, at the same time, threat of pollution from affluence and a rapidly growing industrial sector.
- Air Pollution, water contamination, soil erosion, deforestation and wildlife extinction are some of the most pressing environmental concerns of India.
- The priority issues identified in India are
  i) Land degradation
  ii) Biodiversity loss
  iii) Air pollution with special reference to vehicular pollution in urban cities.
  iv) Management of fresh water.
  v) Solid waste management.
- Land degradation refers to a decline in the overall quality of soil, water or vegetation condition, commonly caused by human activities.

- Some of the factors responsible for land degradation are
  - i) loss of vegetation occuring due to deforestation.
  - ii) Forest fires and over grazing.
  - iii) Improper crop rotation.
  - iv) Encroachment into forest lands.
  - v) Shifting cultivation.
  - vi) Indiscriminate use of agro-chemicals such as fertilizers and pesticides.
  - vii) Improper planning and management of irrigation systems.
  - viii) Extraction of ground water in excess of the recharge capacity.
  - ix) Poverty of the agriculture - dependent people.
  - x) Non-adoption of adequate soil conservation measures.
- Chipko and Appiko movements are related to protect forests.
- India's rapid economic developmet has made us aware of two realities :-
  - i) Economic development has lifted millions out from poverty.
  - ii) Economic development has been accompained by accelerated depletion of natural resources and rapid deterioration in environment quality.
- Sustainable development is that process of development which meets the needs of present generation without reducing the ability of future generation to meet their own needs.
- Main features of susainable development are as under :
  - i) Sustained rise in Real per Capita Income and Economic welfare.
  - ii) Rational use of natural resources.
  - iii) No reduction in the ability of the future generation to fulfill their own needs.
  - iv) No increase in pollution.

- To achieve sustainable development, the following needs to be done :
  - i) Limiting the human population
  - ii) Technological progress should be input efficient and not input-consuming.
  - iii) Renewable resources should be extracted on a sustainable basis, that is, the rate of extraction should not exceed rate of regenration.
  - iv) For non-renewable resources rate of depletion should not exceed the rate of creation of renewable substitutes.
  - v) Inefficiencies arising from pollution should be corrected.
- Strategies for Sustainable Development.
  - i) Use of non-conventional sources of energy.
  - ii) Use of cleaner fuels : LPG, Gobargas in rural areas and CNG in Urban areas.
  - iii) Use of Solar energy and wind power.
  - iv) Shift to organic farming
  - v) Recycle the wastes
  - vi) Public means of transport.
  - vii) Traditional knowledge and practices.
  - viii) Establishment of Mini-Hydel plants.

VERY SHORT ANSWER TYPE QUESTIONS (1 mark each)

1. Define environment.
2. Give two examples of biotic elements of environment.
3. What do you mean by carrying capacity of environment?
4. Give the meaning of renewable resources.
5. What do you mean by non-renewable resources?
6. What happens when the rate of resource extraction exceeds that of their regeneration?
7. Give the meaning of absorptive capacity of the environment.
8. Why have some resources become extinct?
9. What is global warming?
10. Give two examples of overuse of resources
11. Define sustainable development.
12. Give two examples of misuse of resources.
13. State the two major environmental issues the world is facing today:
14. Mention any one measure to control air pollution.
15. Give the name of two movement which aimed at protecting forests.
16. State two basic problems related to environment.

SHORT SHORT ANSWER TYPE QUESTIONS (3/5 marks each)

1. What are the functions of the environment?
2. Identify six factors contributing to land degradation in India.
3. Explain how the opportunity costs of negative environmental impact are high.
4. Outline the steps involved in attaining sustainable development in India.
5. Is environmental crisis a recent phenomenon? If so, why?
6. Keeping in view your locality, describe any four strategies of sustainable development.

7. Define the concept of sustainable development and state its features.

LONG ANSWER TYPE QUESTIONS (6 marks each)

1. Discuss the strategy of sustainable development.
2. Explain how India's environmental problems are both poverty induced as well as the consequences of affluence in living standards.
3. What is meant by sustainable economic development? Explain its main features.
4. How economic development causes environmental degradation? Explain.
5. Explain the supply - demand reversal of environmental resources.

ANSWER OF ONE MARK QUESTIONS

1. Environment is defined as the total planetary inheritance and the totality of all resources.
2. Animal and plants.
3. Carrying capacity of the environment implies that the resource extraction is not above the rate of regenration of the resources and the wastes generated are within the absorption capacity of environment.
4. Renewable resources are those which can be used without the possibility of being exhausted, such as trees, fishes etc.
5. Non-renewable resources refer to those resources which get exhausted with extraction and use such as fossil fuel, coal etc.
6. Then environment fails to perform its vital function of life sustenance and it leads to the situation of environmental crisis.
7. Absorptive capacity of the environment means the ability of the environment to absorb degradation.

8. Some resources have become extinct because their extraction has been above the rate of regeneration.
9. Global warming is a gradual increase in the average temperature of the earth's lower atmosphere and ocean.
10. i) Excessive exploitation of fossil fuel.
    ii) Excessive tree felling.
11. Sustainable development is that process of development which meets the needs of present generation without reducing the ability of future generation to meet their own needs.
12. i) Use of wood as a household fuel.
    ii) Use of rivers to absorb industrial efflvents.
13. i) Depletion of natural resources
    ii) Environmental degradation
14. Promotion of clearner fuel, like use of CNG, LPG
15. i) Chipko Movement
    ii) Appiko Movement.
16. i) Problem of Pollution.
    ii) Problem of excessive exploitation of natural resources.