

Environment and sustainable development

Introduction

- . The economic development that we have achieved so far has come at a very heavy price-at the cost of environment quality.
- . We have to bear in mind the adverse consequences of the past development path on our environment and consciously choose a path of sustainable development.

Environment

- According to Environment Protection Act, 1886 " Environment includes water, air and land and the relationship which exists among and between water, air, land and human being and other creatures, plants, micro organisms and property.

Function of Environment

- Environment supplies resources
- Environment assimilates (absorbs) waste
- Environment sustains life(by providing genetic and bio-diversity)
- Environment provides aesthetic services.

Environment crisis

- The environment is able to perform its functions without any interruption as long as the demand on these functions is within its carrying capacity.
- Carrying capacity means
- Extraction of resources should be less than the rate of regeneration of resources.
- Wastes generated are within the assimilating capacity of the environment.

Environment fails when

- The raising population of the developing countries and the affluent consumption and production standards of the developed world have placed a huge stress on the environment.
- Many resources have become extinct and the wastes generated are beyond the absorptive capacity of the environment

Reasons for environment crisis

- Global warming

- Ozone depletion
- Overuse and misuse of environmental resources.
- Opportunity cost of negative environmental impacts
- Supply demand reversal of environmental resources.

Environmental degradation

- Pollution
- Degradation of natural resources
- Biodiversity loss
- Management of fresh water and solid waste

Air pollution

• Vehicular emission are of particular concern since these are ground level sources and this, have the maximum impact on general population. The number of motor vehicles has increased from about 3 lakh in 1951 to nearly 67 crore in 2003. personal transport vehicles constitute about 80% of the total number of registered vehicles in 2003, contributing significantly to total air pollution load.

Degradation of Natural Resources

- Deforestation
- Land degradation (decline in fertility of land)

Bio diversity loss

- After independence, economic reforms caused rapid industrialization, growing townships and urbanization.
- this has led to destruction of habitats and bio-diversity sites.
- Per capita forests land in the country is only 0.08 hectare to meet basic needs, resulting in an excess felling of about 15million cubic meter forests over the permissible limit resulting in loss of habitats for animals and wild life.
- Estimate of soil erosion show that soil is being eroded at a rate of 5.3 billion tones a year for the entire country as a result of which a country loses 0.8 million tones of nitrogen,1.8 million tones of phosphorus ad 26.3 million tones of potassium every year. According to government of India the quantity of nutrients lost due to erosion each year ranges from 5.8 to 8.4 million tones.
- Some people did try to stop indiscriminate cutting of trees through some movement like Chipko and Appiko .

Management of fresh water and solid

waste • In Pakistan, availability of fresh and clean water is very low. Nearly 70% of water in Pakistan is polluted

• There is also lack of planning and management of solid waste, garbage is not properly collected and in some places the garbage is dumped in open areas or into landfills which is not only visibly ugly but also causes diseases like dengue, malaria etc.

Causes or factors of environmental degradation

- High growth rate of population
- Increasing urbanization
- Rapid industrialization
- Poverty
- Increase in pollution
- Increase in use of insecticides, pesticides and fertilizers
- Massive overuse and misuse of environmental resources.

Measures to control environmental degradation

- Population control
- Pollution control
- Eradication of poverty
- Creating awareness among masses
- Management of solid waste
- Developing urban areas
- Suitable pattern of economic growth
- Adopting sustainable development.

Sustainable development

The United Nations Conference on Environment and Development defined as "development that meets the need of the present generation without compromising the ability of the future generation to meet their own needs"

Features of SD

- Sustained rise in per capita income (real) and economic welfare
- Ability of future generations to meet their needs
- Rational use of environmental resources
- Control on pollution

Steps and strategies for sustainable development

- Limiting the human population to a level within the carrying capacity of the environment.
- Technological progress should be input efficient and not input consuming
- Renewable resources should be extracted on a sustainable basis, that is, rate of extraction should not exceed rate of regeneration.
- For non-renewable resources rate of depletion should not exceed the rate of creation of renewable substitutes
- Inefficiencies arising from pollution should be corrected.

Possible strategies to achieve SD in Pakistan.

- Use of non-conventional sources of energy
- Encouraging use of cleaner fuels
- Solar power through photovoltaic cells
- Setting mini hydel plants
- Traditional knowledge and practices
- Bio composting
- Biopest control
- Organic farming

Other measures

- Recycling the waste into compost and manure
- Creating awareness among masses about rational use of environmental resources
- Both producers and consumers should be conscious to be environment friendly.

All Credit goes to Prof Farah Aslam