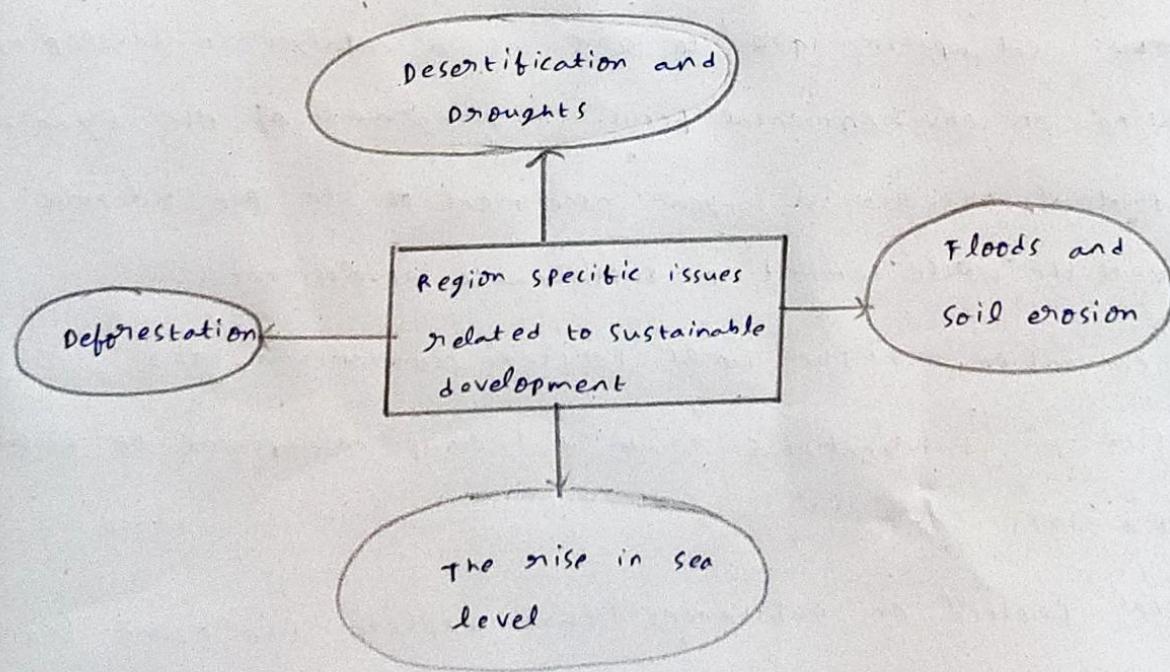


Assignment-1

i) Explain Sustainable development in detail with global issues and global initiatives?

- Ans:-
- Development which meets the needs of present without compromising the ability of future generations to meet their own needs.
 - This most widely accepted definition of sustainable development was given by the Brundtland commission in its report our common future.
 - Sustainable development calls for concerted efforts towards building an inclusive, sustainable and resilient future for people and planet.
 - Need for sustainable development is
 - 1) To control climate change
 - 2) To reduce the scarcity of resources
 - 3) To reduce overexploitation of Natural Resources.

Global issues related to Sustainable Development



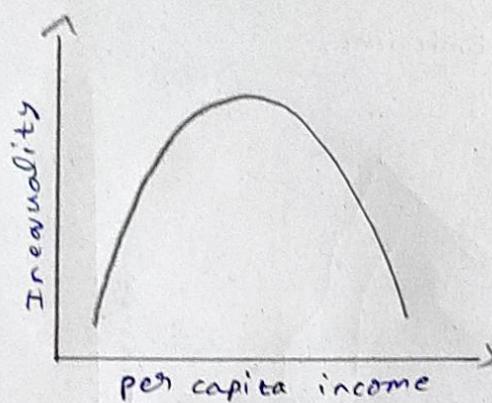
- Inequitable growth of national economies
- Loss of Biodiversity: Despite mounting efforts over the past 20 years, the loss of world's biodiversity continues.
- Climate change: As a global problem, climate change requires a global solution. Within climate change, particular attention needs to be paid to the unique challenges facing developing countries.
- Intellectual Property Rights: There is a need for welfare for all rich and poor to have affordable access to the results of innovation that can lead to sustainable development.

Global Initiatives on Sustainable Development

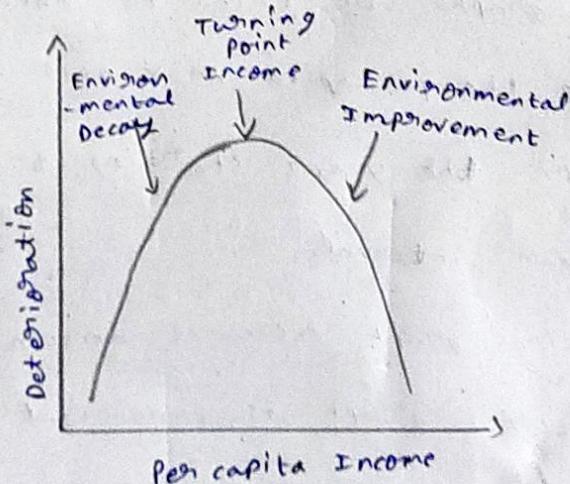
- The Stockholm Conference, 1972: It was the first step towards putting environmental concerns on the global agenda. It resulted in the Stockholm Declaration which contained principles and an action plan containing recommendations for environmental policy.
- UNEP was set up in 1972 to serve as a catalyst in developing and coordinating an environmental focus in programs of other organizations.
- Kyoto Protocol, 1997 Rio.: A 10-year assessment of the Rio outcomes took the shape of the World Summit on Sustainable Development.
- Ramsar Convention, 1971 The World Heritage Convention, 1972.
- Convention on International Trade in Endangered Species of Wild Fauna and Flora, 1973.
- Montreal Protocol on substances that deplete the ozone layer, 1987.
- The Earth Summit, 1992

2) Explain Kuznet curve with case study?

Ans: A Kuznets curve is the graphical representation of Simon Kuznets hypothesis that as a country develops, there is a natural cycle of economic inequality driven by market forces which at first increases inequality and then decreases it after a certain average income is attained.



When the Kuznets curve is applied to environment it is called the environmental Kuznets curve. Thus the Environmental Kuznets curve is an adaptation of Simon Kuznets curve.



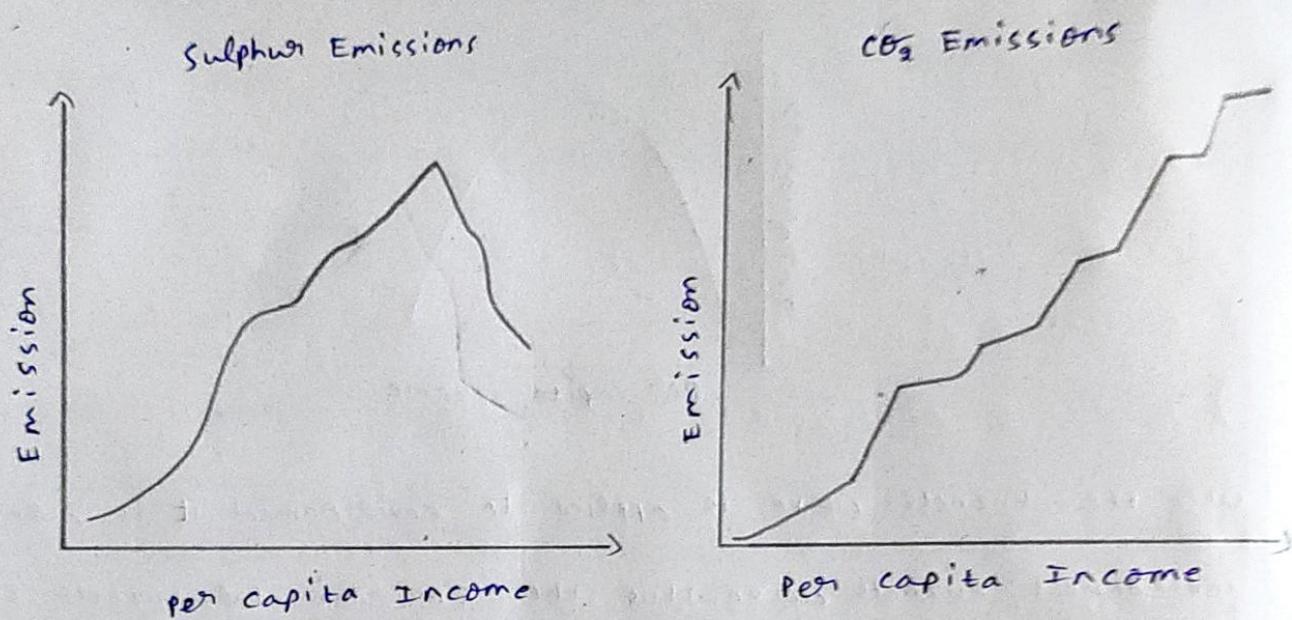
case study

Objective: To explain the environmental implication of Kuznet curve.

Procedure:

- With regard to USA the two major industrial pollutants are sulphur dioxide and carbon dioxide
- The data for the same along with the per capita income of USA for the years 1860 - 2005 was obtained.

- The data was plotted so as to verify whether these two sets of pollutants follow the relation as explained by the Kuznets curve.



- In the above graphs we tried to obtain Environmental Kuznets curve by plotting the per capita on x-axis and quantity of Sulphur & CO₂ emissions on the y-axis starting from the year 1850 to 2005 with a 10 year interval.

- The sulphur emissions graph assumes an inverted U-shape and whereas the CO₂ emissions graph is consistently increasing. This is because of the activities that had done like production, consumption of various materials.

Conclusion:

- the EKC has been criticized on the grounds that it is based upon the assumption that there is no feedback from environmental damage to economic production as income is assumed to be an exogenous variable. Environmental damage does not reduce economic activity sufficiently to stop the growth process. In other words, there is an assumption that the economy is sustainable.
- Thus though we have used the environmental Kuznets curve to depict the outsourcing of polluting industries it may not be the most reliable method.

③ Explain role of energy in economics in detail?

- Ans:-
- It is a ability to do work or to produce heat.
 - classifications of Energy
 - 1) primary and secondary forms of energy.
 - 2) Renewable and Non-Renewable forms of energy.
 - 3) commercial and non-commercial energies.
 - 4) conventional and non-conventional energies.

Energy Economics: An Introduction

- Energy issues have been analysed from an economic perspective for more than a century now.
- Energy economics did not develop as a specialised branch until the first oil shock in 1970s
- The dramatic increase in oil prices in 1973-74 highlighted the importance of energy in economic development of countries.

- Researchers, academics & policymakers have taken a keen interest in energy studies and today energy economics has emerged as a recognised branch on its own.

Energy Economics

- Energy economics or more precisely the economics of energy is a branch of applied economics where economic principles and tools are applied to "ask the right questions" and to analyze them logically and systematically to develop a well-informed understanding of the issues.
- Energy economics studies energy resources and energy commodities and includes: Forces motivating firms and consumers to supply, convert, transport, use energy resources and to dispose of residuals; market structures and regulatory structures, distributional and environmental consequences; economically efficient use

Key Role of Energy in Economic Activities

- Economy arises because of the mutual interdependence b/w economic activities and energy.
- These interrelations influence
 - The demand for energy, possibilities of substitution within the energy and with other resources (capital, land, labour & material)
 - Supply of energy and other goods and services, investment decisions

- The macro-economic variables of a country (economic output, balance of payment situations, foreign trade, inflation, interest rate)
- Also, the national level institutions (including the rule and organisations like government, judiciary etc) both influence and get influenced by these interactions.
- The energy sector uses inputs from various other sectors (industry, transport, households, etc) and also a key input for most of the sectors.

Energy data

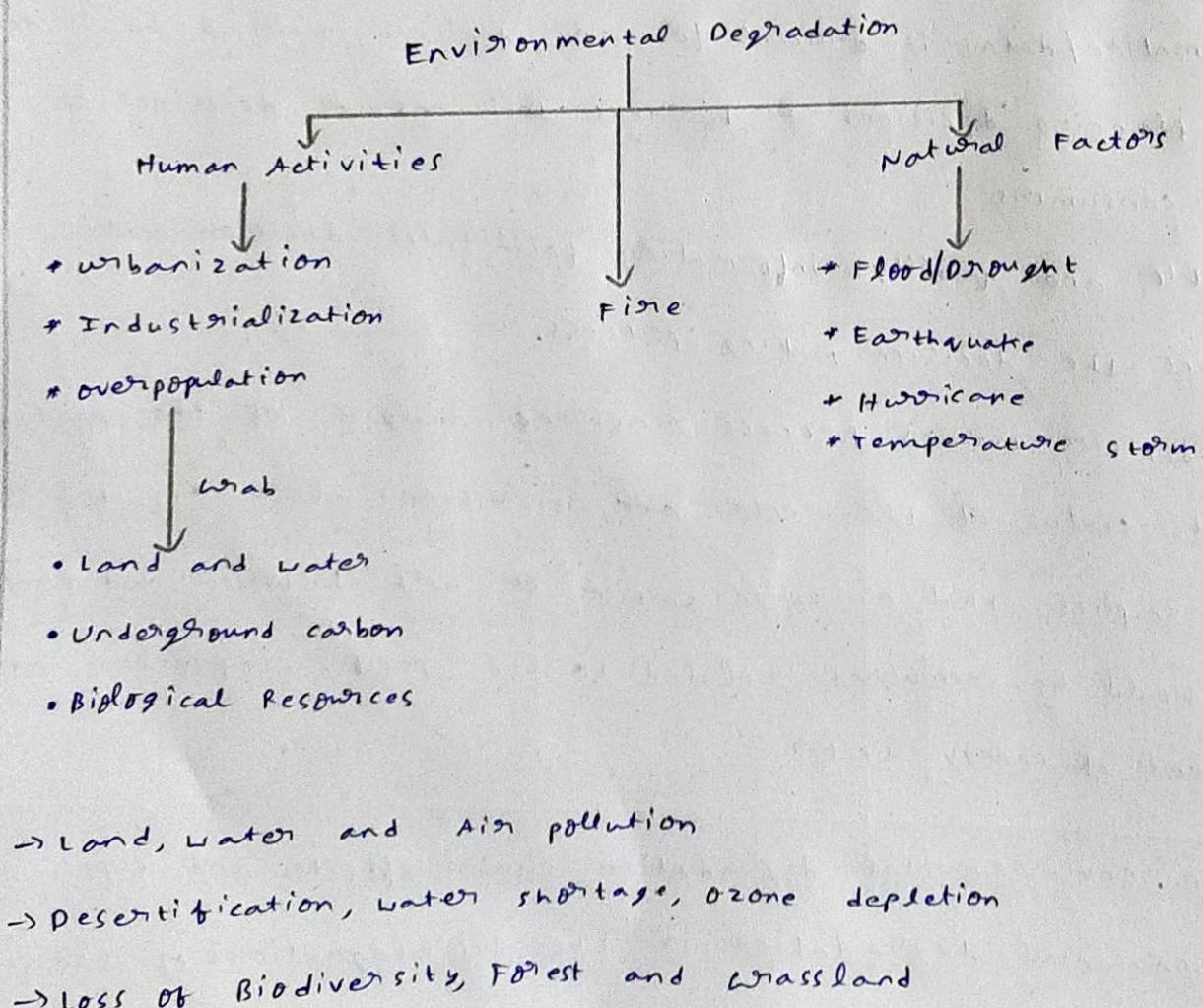
- Information/data is crucial for any decision-making: be it development planning decisions or business decisions or decisions by individual consumers.
- Reliable and quality information facilitates decision making and improves the decision-making process.
- Any decision-making process requires analysis of the past and present status of the sector and a vision about the future.
- This implies that a large amount of both historical and projected data would be required related to the specific components and subsystems of energy sector.

④ Explain environmental degradation causes, effects and types.

- Ans-
- Environmental degradation is the disintegration of the earth or deterioration of environment through the consumption of

assets, for example, water and soil; the destruction of environment and the eradication of wildlife.

- It is characterized as any change or aggravation to nature's way seen to be pernicious or undesirable.
- Ecological effect or degradation is created by the consolidation of an effectively substantial and expanding human populace, constantly expanding monetary development or per capita fortune and the application of asset exhausting and polluting technology.



Types of environmental degradation

- Land and soil degradation: Degradation of soil quality from poor farming practices excessive use of fertilizers and pesticides, leakage from landfills etc.
- Water degradation: pollution of water from trash dumped in oceans, illegal dumping disposal of large amounts of industrial waste into nearby rivers or lakes etc.
- Atmospheric degradation: This includes air degradation, particle pollution and the depletion of ozone layer.
- Several other kinds of pollution: Apart from land, water and atmospheric degradation, many other kinds of pollution such as noise pollution, light pollution that are part of environmental degradation.

Causes of Environmental Degradation

- 1) Land disturbance
- 2) Pollution
- 3) overpopulation
- 4) Landfills
- 5) Deforestation
- 6) Natural causes.

Effects of Environmental Degradation

- 1) Impact on Human Health.
- 2) Loss of Biodiversity.
- 3) Ozone Layer Depletion.
- 4) Economic Impact.

Solutions to Environmental Degradation

1. Stop Deforestation
2. Government Regulations
3. Fines and punishment for illegal dumping
4. Reduce consumption levels
5. Reuse and Reduce waste generation
6. Avoid Plastic.

⑤ Explain Externalities in detail!

Ans: Externality

- An externality is a cost or benefit that is caused by one party but financially incurred or received by another.
- Externalities can be negative or positive.
- A negative externality is the indirect imposition of a cost by one party onto another.
- A positive externality, on the other hand, is when one party receives an indirect benefit as a result of actions taken by another.
- Externalities can stem from either the production or consumption of a good or service.
- An externality is an event that occurs as a byproduct of another event occurring.
- An externality can be good or bad. It can also be generated when something is made or used.
- Pollution caused by commuting to work or a chemical spill caused

by improperly stored waste are examples of externalities.

• governments and companies can rectify externalities by financial and social measures.

Types of Externalities

1) Negative Externalities:

→ most externalities are negative. pollution is well-known negative externality.

→ A corporation may decide to cut costs and increase profits by implementing new operations that are more harmful to the environment.

2) Positive Externalities:

→ some externalities are positive. positive externalities occur when there is a positive gain on both the private level and social level.

→ R&D conducted by a company can be positive externality. R&D increases the private profits of a company but also has the added benefit of increasing the general level of knowledge within a society.

3) Production Externalities:

→ A production externality is an instance where an industrial operation has a side effect.

→ This is often the type of externality used as example, as it is easy to envision an environmental catastrophe caused by improperly stored chemical by a chemical company.

4) consumption Externalities:

→ Externalities may also occur based on when or how a consumer base utilizes resources. consider the example of how you get to work.

→ Those who choose to drive are creating a pollution externality, by driving their own car. Those who choose to take public trans or walk are not causing the same externality.

How do externalities affect the economy?

- Externalities may positively or negatively affect the economy although it is usually the latter.
- Externalities create situations where public policy or government intervention is needed to detract resources from one area to address the cost of exposure of another.
- consider the example of an oil spill; instead of those funds going to support innovation, public programs, or economic development, money may be inefficiently put towards fixing negative externalities.