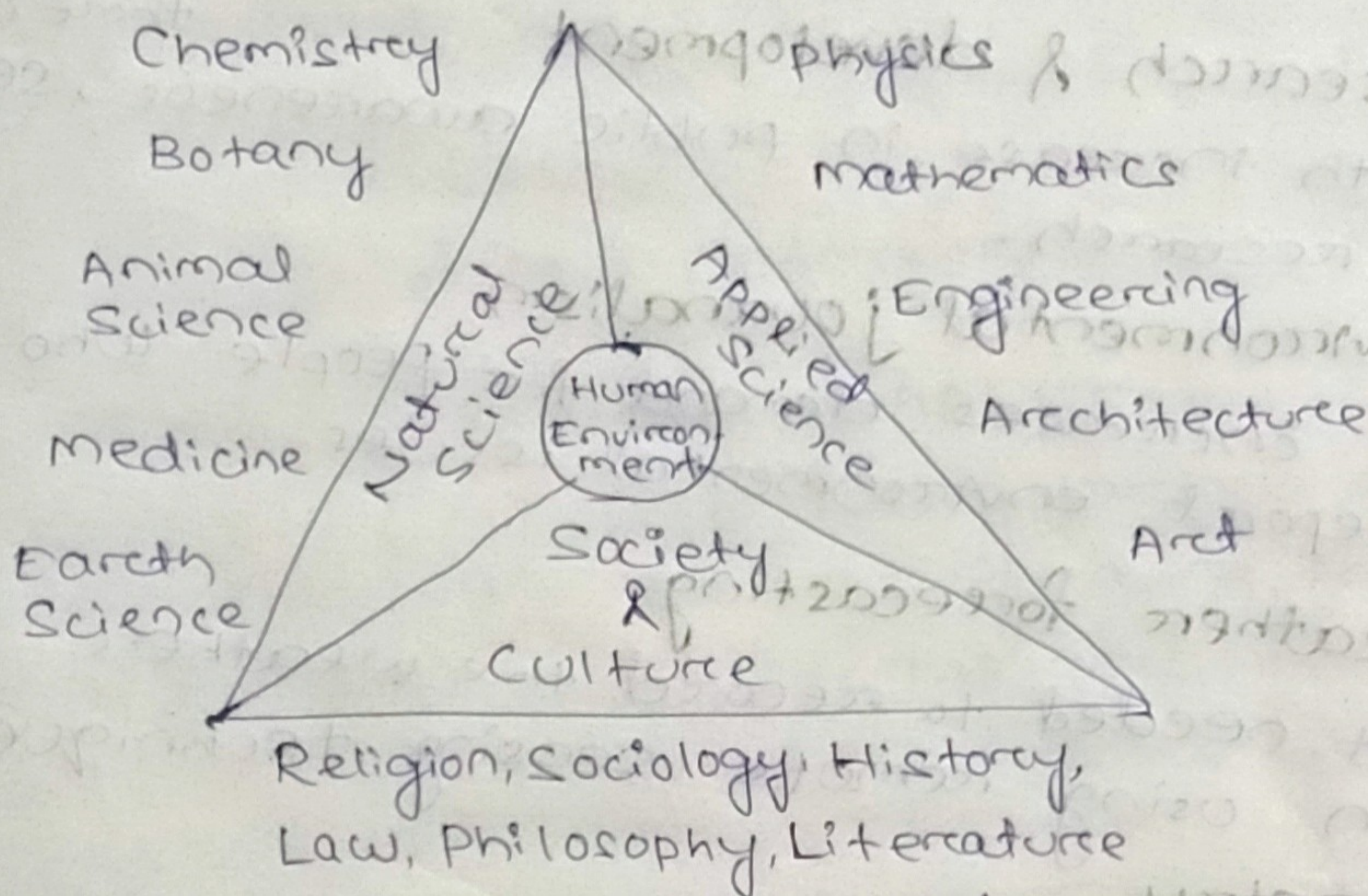


CHAPTER-1

THE MULTIDISCIPLINARY NATURE OF ENVIRONMENTAL STUDIES

DEFINITION

- Environmental science is the systematic study of our environment and our place in it.
- Environment is the information from social, cultural conditions, biological, chemical, geographical, agricultural and other fields which constitute the surroundings of living organisms.



~~→ One is the natural world~~

→ One is the natural world of plants, animals, soil, air and water that preceded us by billions of years and of which we are a part.

→ The other is the world of social institutions that we create for ourselves using science, technology, political organization.

SCOPE

(1) Natural Resources Conservation

It contribute towards maintaining of forest & wild life.

(2) Environmental Pollution & Control

It looks for methods to control pollution & manage waste effectively.

(3) Environmental Management

It is work with control and state pollution control, maintenance of ecological balance.

(4) Research & development

With increase in public awareness, ^{there is} scope for research.

(5) Environmental journalism

It increases demand for people who can report environmental issues.

(6) Weather forecasting

It needed to record the weather condition using remote sensing techniques.

(7) Forestry

It ~~manag~~ manages the forest, and cover issues of global warming, climate change.

(8) Green marketing

It refer to purchase of ecofriendly product and service.

IMPORTANCE

- The production of more and better quality food.
- The invention of various systems of communication.
- The building of fast and reliable means for transportation.
- The creation of housing for protection from climate.
- The protection from the worst effects of natural disasters such as floods, earthquakes, cyclone etc.
- High productivity, cultural activities.
- The supply of safe water and the disposal of wastes.
- Elimination of the waterborne diseases.

NEED FOR PUBLIC AWARENESS

→ Currently we are facing various environmental challenges such as growing population, poverty, ~~en~~ agricultural growth, need of ground water, development & forests, air & water pollution.

→ ~~Environmental pollution can't be prevented by laws alone~~

→ Environmental education is a process of learning by giving an overall prospective of knowledge & awareness of the environment.

→ Mass media such as news paper, radio, television, strongly influence public opinion. This can be used as great source of public awareness.

→ Among the large no. of institutions that deal with environmental protection & conservation a ~~few~~ well known organizations includes govt. organisations such as BS I (Botanical Survey of India.)

and ZSI (Zoological Survey of India)

→ Both formal and informal education on the environment will give the interested individuals the knowledge, values, skills and tools needed to face environmental challenges on a local & global level.

→

CHAPTER - 2

NATURAL RESOURCES

RENEWABLE & NON-RENEWABLE RESOURCES

Natural resources are classified into 2 types

- 1) Renewable
- 2) Non-renewable

→ Renewable resources are generally living resources, which can renew themselves if they are not over harvested.

→ Non-living renewable natural resources include soil as well as water, wind and solar radiation.

→ Non-renewable resources take billions of years for their formation, hence their cautious and economic use is the only option left for mankind.

→ ~~Non-renewable~~ eg - fuels, coal, natural gas, petroleum etc.

NATURAL RESOURCES & ASSOCIATED PROBLEMS

Natural resources exist without any action of human. It includes all the natural sources such as land, water, wind, rain.

PROBLEMS

(1) Unequal consumption of natural resources

All the nations don't consume same amount of natural resources. Some development countries should be rational consumption of natural resources.

(2) Water Crisis

Water table is declining day by day so there is crisis of drinking water availability.

(3) Energy Crisis

It is also rising day by day due to non availability of non-renewable resources.

(4) Global Warming

There is continuous increase in temperature due to more and more emission of CO_2 , green house gas.

(5) Deforestation

→ Continuously cutting of ~~plant~~ forest for various commercial purposes is a major problem.
→ So, we need to plant more and more trees.
We should go for various reforestation programme.

(6) Environmental Pollution

It is also a big issue i.e. air pollution, water pollution etc.

FOREST RESOURCES

→ Forest is important renewable resources of our environment and economy. Forest reduces air pollution, soil erosion and wind erosion, prevent land slides.

→ They are the resources of wood, fuel, fodder and minor forest produces.

→ In India, 11% of land under forest but the ideal requirement of forest cover is 33%.

USE OF FOREST RESOURCES

(1) Regulation of global climate & temperature

→ Forest ~~play~~ play a vital role in global climate as forest ~~can~~ absorb the solar radiation.
→ Transpiration of plants increase the atmosphere humidity which affects the rainfall, cools the atmosphere and thus regulate the hydrological cycle.

(2) Reduction of global warming

CO_2 is used by forests, if forests is more then we reduce the green house effect due to CO_2 .

(3) Production of oxygen

Forest releases oxygen, which is important for human beings.

(4) Conservation of soil

We prevent soil erosion by binding the soil particles tightly in their roots. They reduce the soil erosion.

(5) Improvement in fertility of soil

Fertility of soil increases with increase of production of food grains

(6) Absorption of Noise and air pollution

→ Forest absorb the noise, many toxic gases and air pollutants.
→ So it helps to prevent noise pollution and can help in keeping pure air.

(7) Economical Use

- Forest provide raw material for various wood base industries.
- Used as fuel for cooking.
- Used as commercial purposes like making furnitures.
- Miscellaneous products like ~~resin~~ resin, gum, oils, medicines etc. is comes from forests.

(8) Habitat for Wild Life

Forest can provide the habitat for high wild life species.

OVER-EXPLOITATION

- The term over-exploitation means the rate of cutting down of forest species is much more than the rate of growth of tree species.
- Utilization of forest products including timber and fuel wood have played a key role in human societies comparable to roles of water, and cultivable land.
- Short term economic gains made by conversion of forest to agriculture are over-exploitation of wood products typically leads to loss of long term income & biological productivity.
- Over-exploitation is mainly due to deforestation.

EFFECT OF DEFORESTATION

- Loss of cultural diversity
- loss of biodiversity
- loss of carbon storage capacity
- ~~loss of hydrological~~ balance
- ~~forest~~
- Deforestation affect climate changes
- Rainfall irregularity

CASE STUDIES

On going projects of many areas raised a lot of controversy not only from the point of view of loss of forests and inundating large areas, but also on the rehabilitation of the tribals and local people. ☹

~~Dam~~

DAMS & THEIR EFFECTS ON FORESTS & TRIBAL PEOPLE

- All ~~the~~ major dams are constructed in mountainous regions, where there is plenty of rainfall. These places are clothed with rich vegetation and forests. Besides, the water spread, the space for residences of staffs, for machinery and for roads are also acquired from the forest areas.
- As more and more people occupy the dam sites, forests are destroyed for getting fuel and timber to the developers.
- The tribal and local people who have been occupying the watersheds and displaced to remote areas. Many of them are not properly rehabilitated by the Govt. authorities.