

CHAPTER – 2

Land, Soil, Water, Natural Vegetation and Wildlife Resources

❖ Let's do Pg-9

Question 1

Observe the land, type of soil and water availability in the region you live. Discuss in your class, how it has influenced the lifestyle of people there.

Answer:

The land, type of soil and water availability in the region influence the life style of people living there. They affect the economic activities of the people. In the region that we live, there are not enough open lands and soil is also not fertile. The water is available. Because of this, many people in my area work in service sector and very few people do agriculture or dairy farming.

❖ Let's do Pg-11

Question 1:

Study the table given below and answer the following:

Countries	Percentage of area in			
	Cropland	Pasture	Forest	Other Use
Australia	6	56	14	24
Brazil	9	20	66	5
Canada	5	4	39	52
China	10	34	14	42

France	35	21	27	17
India	57	4	22	17
Japan	12	2	67	19
Russia	8	5	44	44
UK	29	46	10	16
USA	21	26	32	21
World	11	26	31	32

(i) Name the countries having the highest percentage of land under cropland, forest, pasture and other uses.

(ii) How would you relate the land use pattern of these countries with the probable economic activities?

Answer:

(i) Cropland – India

Forest – Japan

Pasture – Australia

Other Uses – Canada

(ii)

(a) India is an agricultural country so most of its land is used for crop production or plantation.

(b) The mountainous land of Japan is covered mostly with forests. It has many wood processing industries.

(c) Australia has 56% of area in pastures; so the major economic activity is related to cattle rearing and dairy farming.

(d) Canada's maximum land is covered mainly with coniferous forests. So the main industry is paper and pulp industry as its raw materials are easily available.

❖ Exercise

Question 1 A:

Which are the two main climatic factors responsible for soil formations?

Answer:

The two main climatic factors responsible for soil formation are:

- a. Rainfall.
- b. Temperature.

Temperature and rainfall affect the rate of weathering of rocks and humus.

Question 1 B:

Write any two reasons for land degradation today.

Answer:

Land degradation is the result of excess agricultural and economic activities. Reasons for land degradation are:

- a. Deforestation:** Deforestation leaves the land more vulnerable to climatic conditions. It loosens the top soil which leads to increased land erosion.
- b. Landslides:** Landslides are both cause and effect of land degradation. Landslides result in erosion of top soil which leaves the lower levels of soil vulnerable.

c. Flood (Any two): Floods render huge patch of land waste. When floodwater enter into open areas or agricultural lands, it degrades the quality of soil.

Question 1 C:

Why is land considered to be an important resource?

Answer:

Land is considered to be an important resource because:

- a. It supports all kinds of living things including humans. It enables agriculture and plantations which gives humans and other species their food.
- b. It is used for various needs of human beings, i.e., for constructing buildings, roads, railway lines etc.

Question 1 D:

Name any two steps that government has taken to conserve plants and animals.

Answer:

In the face of various climatic changes, plants and animals have been most affected. Our government has taken various measures to conserve plants and animals.

- a. Our government has constructed **national parks, wildlife sanctuaries, biosphere reserves** to protect our natural vegetation and wildlife.
- b. Awareness programs like social forestry and **Vanamahotsava** are encouraged at the regional and

community level to educate people about how putting plants and animals into dangers disturbs the whole ecosystem and would in turn also impact humans.

Question 1 E:

Suggest any three ways to conserve water.

Answer:

Water degradation is one of the most urgent environmental problems that we are facing today. The ways to conserve water are:

- i. The **impurities of water should be treated** before releasing them into water bodies.
- ii. **Rainwater harvesting** should be done to save surface runoff.
- iii. **Wastage** of water should be checked at home also.

Wastewater of kitchen and washing can be used for gardens and toilets. Bucket bath should be done instead of using showers or bathtubs.

Question 2 A:

Which one of the following is NOT a factor of soil formation?

- a. Time
- b. Soil texture
- c. Organic matter

Answer:

Soil is formed irrespective of the texture of soil or rocks. However, if the soil is low in organic content, it might not be fit for agriculture or plantation.

Question 2 B:

Which one of the following methods is most appropriate to check soil erosion on steep slopes?

- a. Shelter belts
- b. Mulching
- c. Terrace cultivation

Answer:

Terrace farming decreases both erosion and surface run off. It is mostly used in hilly areas.

Question 2 C:

Which one of the following is NOT in favour of the conservation of nature?

- a. Switch off the bulb when not in use
- b. Close the tap immediately after using
- c. Dispose poly packs after shopping

Answer:

Plastic is non- biodegradable compound. Plastic produces toxic substances which lead to water and land degradation.

Question 3:

Match the following:

- | | |
|-----------------|---|
| i. Land use | a. prevent soil erosion |
| ii. Humus | b. narrow zone of contact between lithosphere, hydrosphere and atmosphere |
| iii. Rock dams | c. productive use of land |
| iv. Arable land | d. organic matter deposited on top soil |

contour ploughing.

e. contour ploughing

Answer:

i. (c) ii. (d) iii (a) iv. (b)

i. Land use refers to productive and suitable use of land in a way that the health of the soil and land remains intact.

ii. Humus is formed by decomposition of leaves and other weathered plant parts by microorganisms found in the soil. Humus is deposited on the topmost layer of soil.

iii. Rock dams are built across a drainage way to collect the eroded sediments. Rock dams are temporary structures.

iv. arable land- the which is good for ploughing and have a good amount of minerals and carbonic compound.

Question 4:

State whether the given statement is true or false. If true write the reasons.

i. Ganga-Brahmaputra plain of India is an overpopulated region.

ii. Water availability per person in India's declining.

iii. Rows of trees planted in the coastal areas to check the wind movement is called intercropping.

iv. Human interference and changes of climate can maintain the ecosystem.

Answer:

- i. True. It is because here the land very fertile and suitable for cultivation. People prefer to live in fertile areas since it offers lucrative economic benefits.
- ii. True. Population of India is on the rise. The available water resources are drying up because of increase in temperature due to global warming. The available water resources are becoming polluted by human activities. All these reasons together result in decline of water fit for human consumption.
- iii. False, it is called shelter-belt. Intercropping is growing a crop amongst different kinds of plants.
- iv. False, it will deteriorate the ecosystem. Human activities and industrialization result in over use of natural resources like land and water and release in ecosystem harmful gases which disturb the natural balance of ecosystem.

Question 5:

Discuss some more reasons which are responsible for changes of land use pattern. Has your place undergone any change in the land use pattern in recent years?

Find out your parents and elderly people. You can conduct an interview by asking the following questions.

Place	When your grandparent'	When your	Why do you think	Are common area and
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	s were in their 30s	parent s were in their 30s	this is happenin g	opens space disappearing ?
Rural Number of cattle and poultry owned				
Number of Trees and ponds in the village				
Main occupation of the head of the family				
Urban Number of cars owned				
Number of rooms in the house				
Number of metaled roads				
Number of flyovers in the city				

Number of parks and playgrounds				
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Based on the table you have just completed, draw a picture of land use patterns that you foresee in your neighbourhood after 20 years. Why do you think that land use patterns change over the years?

Answer:

There is a great change in the land-use pattern. The reasons are as under:

Place	When your grandparent's were in their 30s	When your parents were in their 30s	Why do you think this is happening	Are common area and opens space disappearing ?
Rural Number of cattle and poultry owned	Many people owned cattle and poultry as it was an important source of livelihood.	People started moving to cities and cattle rearing and poultry farming was not an attractive	This is happening because people are moving to urban areas for better employment opportunities	Yes, Urban areas do not have enough open space because of which cattle rearing is difficult.

		means of livelihood.		
Number of Trees and ponds in the village	Villages had lot of trees and at least 2 fresh water ponds.	Trees were cut to make more houses because of population increase. Pond water was polluted.	Population increase and industrialization are main causes	Villages do not have as much big open field as they had earlier.
Main occupation of the head of the family	Main occupation was agricultural farming or dairy farming.	As families started moving to urban areas, people began working in service sector or in industries.	Agriculture was no longer a profitable source of livelihood.	With the coming up of more concrete structures, agricultural land is depleting.
Urban Number of cars owned	Very few people owned cars	The number of car owners began increasing	There was a rise in income and standard of living because of	Huge building came up at the places where open

			economic growth.	grounds or common areas existed.
Number of rooms in the house	The number of rooms were less as people shared spaces	The numbers of rooms began increasing as every members wanted their personal space in the house	With the change in civilization, individualism increased and people became more aloof from their near one.	In order to make more rooms, open spaces in the houses were used.
Number of metalled roads	Metalled roads were rare. 'Kaccha' roads were more common	In order to facilitate economic activities, metalled roads were constructed	This is happening because good quality roads have become important to sustain industries.	
Number of flyovers in the city	There were one or two flyovers in the city because traffic was less	Flyovers started increasing because there was a rise in traffic congestion.	More and more people are owning vehicles	Flyovers are being made on open spaces

Number of parks and playgrounds	There were many parks and playgrounds	Parks and playgrounds were less in number as building came up in those areas	The space occupied by parks were used in build house, industries etc. to fulfill needs of increasing population	The open spaces were used to build houses.
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