STATE COUNCIL OF EDUCATIONAL RESEARCH AND TRAINING

TELANGANA, HYDERABAD.

ACADEMIC YEAR 2020-21 LEVEL - 2

Class: X **Medium: English** **Subject: Social Studies**

Name of the chapter: 2. Ideas of Development **Worksheet No: 14**

Name of the topic/concept: Development, Income and other goals

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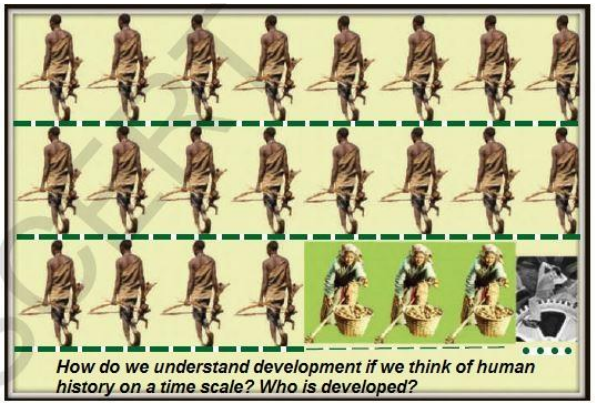
LEARNING OUTCOMES: The Student

- Explains the term development
- Analyses different development goals/ aspirations
- Explains his/her own developmental goals.

CONCEPTS:

- ***Development*** is a process that creates growth, progress, positive change
- Development is the process by which a nation improves the economic, political, and social well-being of its people.
- Different persons can have different developmental goals and what may be development for one may not be development for the other. It may even be destructive for the other.
- People have a mix of goals for development.
- A goal is something that one plan to do or accomplish in a specific period of time.



- There are many developmental goals which are ***other than income***. Besides seeking more income – one-way or the other, people also seek things like equal treatment, freedom, security and respect from others. They resent discrimination. All these are important goals.
- Money or material things that one can buy with it are just one factor on which our life depends. But the quality of our life also depends on non-material things mentioned above.

- Income is measurable goal in terms of money.
- There are many things that are not easily measured but they mean a lot to our lives.
- Therefore, it will be wrong to conclude that what cannot be measured is not important.
- For development people look at a mix of goals it is true that if women are engaged in paid work, the family income increases and their dignity in the household and society increase. However, at the same time if there is respect for women, there would be more sharing of housework and a greater acceptance of women working outside. A safe and secure environment may allow more women to take up a variety of jobs or run a business.

Activity: Prepare a table on the developmental goals of people belonging to different sections of the society (Students, farmers, land owners, workers, industrialist, hospital management, doctors and patients, lawyers etc.)

Table 1 : **Developmental Goals of Different Categories of Persons**

Category of Persons	Developmental Goals/ Aspirations

ASSESSMENT:

1. "People have conflicting developmental goals". Give reasons.
2. State any two goals of development other than income
3. Mention any two developmental goals of a landless rural laborer.
4. Apart from income, what other goals do you have while taking up a new job? Explain.
5. List few examples of environmental degradation that you may have observed around you.
6. Why do some people oppose construction of dams? Give two reasons
7. **Read the following paragraph and comment**

   For development people …….. variety of jobs or run a business.
8. Choose the correct answer and write it in the bracket provided

   This can be easily measured ( )

   a) Income b) Equal treatment c) Security d) freedom

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ACADEMIC YEAR 2020-21 LEVEL - 2

Class: X **Medium: English** **Subject: Social Studies**

Name of the chapter: 2. Ideas of Development **Worksheet No: 15**

Name of the topic/concept: How to Compare Different Countries or States, Income and other criteria

LEARNING OUTCOMES: The Student

- Compares higher income developed countries with less developed countries
- Uses averages for comparison in daily life
- Analyses the development of the different Indian states.
- Explains per capita income and GSDP of various states of India.
- Differentiates national income and per capita income.

CONCEPTS:

- The income of the country is total of the income of all the residents of the country. This is also called as national income.
- We compare the average income which is total income of the country divided by total population. The average income is also called per capita income.
- Per capita income, also known as average income per person, this means an income of the people in an economic unit such as a country or city.
- Per Capita Income is calculated in US Dollars for all countries.
- Countries with per capita income of US $12,055 and above per annum in 2017 are called high income countries or rich countries.
- Those with per capita income of US $995 or less per annum in 2017 are called low-income countries. India falls under the category of middle income countries.

Table : 3 **Per Capita Income per annum of Selected States**

State	Per Capita GSDP for 2016-17 (in Rs.Lakhs)	Per Capita GSDP ranking 2016-17	HDI ranking for 2015
Haryana	2.15	7	9
Himachal Pradesh	1.82	12	3
Bihar	0.66	33	21

- This criterion is used in the World Development Report brought out by the World Bank to classify countries.
- We use Averages for comparison. Averages are used to compare different countries, states, or regions. Averages have some limitations.
- Averages don't give the true information regarding the distribution of income and hide many disparities
- When we think of a nation or a region, we may think of other equally important attribute beside average income such as life expectancy, literacy rate, infant mortality rate, net attendance ratio, Human development index.

Observe the following table.

Table : 4 **Some Comparative data of Selected States**

State	IMR per 1000 (2016)	Literacy Rate (%) (2011)	Net Attendance Ratio for Secondary Stage (2013-14)
Haryana	33	77	61
Himachal Pradesh	25	84	67
Bihar	38	64	43

Terms used in the Table 4: **IMR** - Infant Mortality Rate. Out of 1000 live children born. (the number of children who die within one year)
Literacy Rate: It measures the percentage of literate population in the 7 and above age group.
Net Attendance Ratio for Secondary Stage (NAR) : NAR is taken for classes IX and X.

Activity 1: Collect the recent year Per Capita income data of Indian States.

Activity 2: Observe table 4 and analyze

ASSESSMENT:

1. What is meant by per capita income?
2. Give three examples where an average is used for comparing situations.
3. Besides the per capita income, what other attributes are taken into consideration while comparing two or more states?
4. Write few measures taken by present government to improve net attendance rate of school students in your state.

Choose the correct answer and write it in the bracket provided

5. The number of deaths of children less than one year of age per 1000 live births is referred as

   a) Infant Mortality b) Maternal Mortality c) Life expectancy d) All the above

6. Proportion of Literate population in the 7 years and above age group is taken into consideration to calculate

   a) Knowledge rate b) Literacy rate c) Mortality Rate d) Attendance Rate

7. Which classes are included to calculate Net Attendance Ratio for Secondary Stage

   a) VI to X b) VII and VIII c) IX and X d) only VIII

8. Match the following

i)	Rich countries	( )	a.	World Bank
ii)	Low income countries	( )	b.	above US $ 12055
iii)	Per capita income	( )	c.	Less than US $ 995
iv)	Middle income countries	( )	d.	between US $ 995 - 12055
			f.	RBI

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Class: X **Medium: English** **Subject: Social Studies**

Name of the chapter: 2. Ideas of Development **Worksheet No: 16**

Name of the topic/concept: Public Facilities, Development as progress over time

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LEARNING OUTCOMES: The Student

- Collects the information on human development index of Indian states
- Explains the importance of public facilities in the development
- Interprets the paragraph on gender bias
- appreciates the role of Himachal government in the development of education
- Prepares pamphlet on importance of girl's education.
- Suggests measures to be taken towards achieving gender equality
- Comments on the participation of women in 'Mahila mandals'.

CONCEPTS:

- Human Development Index is prepared by UNDP (United Nations Development Program) based on life expectancy, literacy rate and Gross Enrolment Ratio.
- A community also needs public facilities for education and training, affordable healthcare, and provisions for adequate food and nutrition for development.
- We need public facilities because we are unable to purchase all the things. Like public transport, public health centers, ration shops, govt. schools.

Schooling revolution in Himachal Pradesh:

- Both the government of Himachal Pradesh and the people of the state were keen on access to better education.
- The government started schools and made sure that education was largely free or cost very little for parents. Further, it tried to ensure that these schools had at least the minimum

- Facilities like teachers, classrooms, toilets, drinking water etc. As the years went by, these facilities were improved and expanded. More schools were opened and teachers were appointed so that many more children could study easily. Of course, to open schools and run them well, the government had to spend money. Among the Indian states, Himachal Pradesh has the distinction of one of the highest spending from the government budget on education of each child.
- Students in Himachal Pradesh come to school enthusiastically. Schooling, therefore, comes naturally and it's become a social norm.

Gender Bias:

- In many parts of the country, girls' education is still given less priority by the parents as compared to boys' education. While girls may study for a few years, they may not complete their schooling. A welcome trend in Himachal Pradesh is the lower gender bias. Himachali parents have ambitious educational goals for their girls, just as for their boys.
- One may wonder why the gender bias is less in Himachal Pradesh as compared to other states. Besides education, this can be seen in other areas as well. Child mortality (children dying within a few years of birth) in Himachal Pradesh is lower for girls than for boys, in contrast to most other states.
- One major consideration is that many Himachali women are themselves employed outside the home. Women who work outside the homes are economically independent and self-confident. It has been seen that Himachali women have a comparatively high involvement in social life and village politics. Active mahila mandals can be found in many villages.

Activity:

- Collect the information of public facilities provided in your areas. Comment on their maintenance
- Prepare a poster on Gender Equality

ASSESSMENT:

1. Prepare a pamphlet on the importance of girls education in the development of the country
2. Read following paragraph and Write a comment on it.

   In many parts of the country ……. ambitious educational goals for their girls, just as for their boys.
3. Asses the role of Mahila Mandals in your area.
4. Observe the below table and analyze

Table : 5 **Some data regarding India and its neighbours for 2017**

Country	Per Capita income in $	Life expectancy at birth	Literacy Rate	Human Development Index (HDI)
Sri Lanka	11,326	75.5	92.6	76
India	6,386	68.8	74.04	130
Pakistan	5,331	66.6	60.0	150
Myanmar	5,567	66.7	93.1	148
Bangladesh	3,677	72.8	61.5	136
Nepal	2,471	70.6	64.7	149

Notes to Table 5

Per Capita Income is calculated in US Dollars for all countries so that one can compare. It is also done in a way so that every dollar would buy the same amount of goods and services in any country.

Life expectancy at birth denotes the average expected length of life of a person at the time of birth.

Literacy Rate The number of people aged 7 years and above who can read and write with understanding in any language per 100 members.

HDI stands for Human Development Index. HDI ranks in the above table are out of 189 countries in all.

Choose the correct answer and write it in the bracket provided

5. Which international organization compiles the Human Development Index?

   a) World Bank b) United nations c) IMF d) Oxford university
6. Which one of the following is NOT one of the dimensions to the Human Development Index?

   a) Health b) Education c) political freedom d) Life expectancy

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ACADEMIC YEAR 2020-21 LEVEL - 2

Class: X **Medium: English** **Subject: Social Studies**

Name of the chapter: 3. Production and Employment **Worksheet No: 17**

Name of the topic/concept: Sectors of economy, Gross Domestic Product

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LEARNING OUTCOMES: The Student

- Explains GDP and explain the shares of three sectors in GDP.
- Differentiates intermediate goods and final goods
- Classifies occupation under different sectors.

CONCEPTS:

Sectors of economy:

- People are engaged in different activities to earn their livelihoods. These activities are broadly categorised as follows –
  a) Agriculture and related activities such as fishing, forestry, mining where nature has a dominant role in the production process;
  b) Manufacturing processes & other industries, where goods are produced by people using tools or machines; and
  c) Those activities that do not result in a good but provide services that are required in production and other services for people.
- **Intermediate Goods:** Intermediate goods are used as inputs to make the final good

  Ex: Tyres for manufacturing of cars
- **Final Goods:** The good becomes final if it is not used further in producing goods to be sold.

  Ex: Car
- Gross Domestic product is the value of all final goods and services produced within a country during a particular year.

- The following table shows the percentage of workers employed in different sectors in India in 1972-73 and in 2015-16, i.e. after 43 years.

Year	Agriculture	Industry	Services
1972-73	74%	11%	15%
2015-16	47%	22%	31%

(i) What are the major changes that you observe from the above table?

(ii) From what you have read before, discuss what could be some of the reasons for these changes.

Activity 1: Fill the table by using given words in brackets:

(Car, husk, tree, dosa, iron ore, rice, paddy, notebook, brawn, iron sheets, glass, paper pulp, idly)

Intermediate	Final Goods

ASSESSMENT:

1. What is meant by GDP?
2. Classify sectors of economy and mention two examples for each.

Choose the correct answer

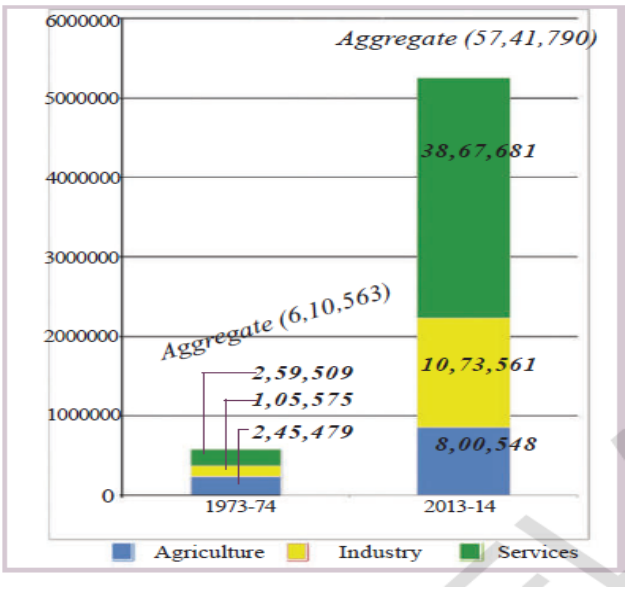
3. Example for intermediate good. [ ]

   A) Idli B) Dosa C) Rice D) vada

4. It is the example for Primary sector? [ ]

   A) Farming B) Transport C) Banking D) Police

5. Observe the given graph and analyse: GDP by Agriculture, industry and service sectors (Rs. In Crores)



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ACADEMIC YEAR 2020-21 LEVEL - 2

Class: X **Medium: English** **Subject: Social Studies**

Name of the chapter: 3. Production and Employment **Worksheet No: 18**

Name of the topic/concept: Changes in the economic sectors

LEARNING OUTCOMES: The Student

- Analyses the changes in the importance of sectors
- Categories service activities.

CONCEPTS:

- As the methods of farming changed and agriculture sector began to prosper, it produced much more food than before. Many people could now take up other activities, as essential food requirements were met by other producers. There were increasing number of craft-persons and traders. Buying and selling activities increased many times, further increasing the demand for goods and services. Besides, rulers employed large number of people as administrators, army etc. However, at this stage, in an overall context, most of the goods produced were from agriculture and related sector and most people were also employed in this sector.
- As new methods of manufacturing were introduced, factories came up and started expanding. Those people who had earlier worked on farms now began to work in factories in large numbers. People began to use many more goods. There was mass production by factories at much lower rates and these goods reached the markets all over the world. Hence, over time, a shift took place. The industrial sector became the dominant sector and the importance of the agriculture sector both for employment and production declined.
- In the past 50 years, there has been a further shift from industry to service sector for developed countries. The service sector has become the most important sector in terms of total production. Most of the working people have also made a shift and are now employed in the service sector and most of the production activities are those of services and not manufactured goods.

What do services comprise of?	
Community, social and personal services	Public Administration, Defence, Education, Health, Veterinary activities, Media, Library, archives, museums and other cultural activities etc.
Finance, insurance and real estate	Services of banks, post-office savings accounts, non-bank financial companies, Life Insurance and General Insurance Corporation, services of brokers and real estate companies etc.
Trade, hotels, transport and communication	

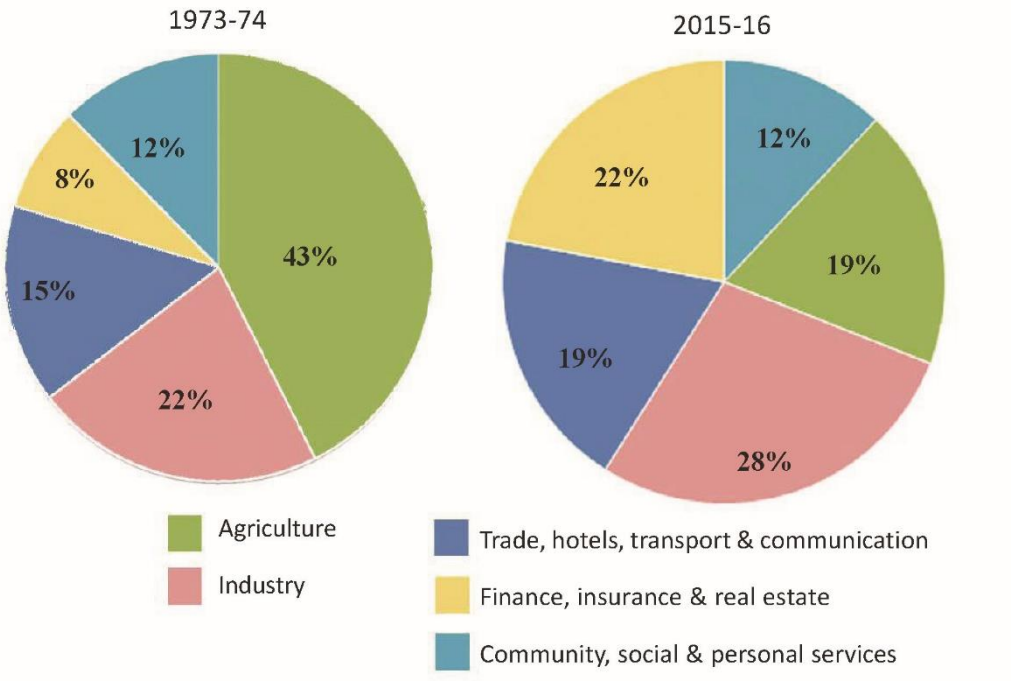
- Can you find out some examples of trade, hotels, transport and communication?

Activity 1: Prepare a list of activities done in your area. Do you observe any shift from one sector to another compares to previous years? Analyze the reasons

ASSESSMENT:

1. How is the service sector different from other sectors? Illustrate with a few examples?
2. "Agriculture is an important sector" give reasons.
3. Why did the contribution agriculture to the GDP declined?
4. Categories service activities. Mention any two examples.
5. Analyze the given graph

Graph 2: Share of different sectors in Gross Domestic Product



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Class: X **Medium: English** **Subject: Social Studies**

Name of the chapter: 3. Production and Employment **Worksheet No: 19**

Name of the topic/concept: The working life in India

LEARNING OUTCOMES: The Student

- Differentiates disguised unemployment and under employment
- Analyzes the reasons for the growth of service sector.
- Analyzes the distribution of workers in India.
- Suggests measures to increasing employment opportunities in rural area.

CONCEPTS:

- The Gross Domestic Product of a country has a close relationship with the total number of working people in that country.
- According to the Census of India 2011, out of 1210 million persons in India, 460 million people are workers i.e. people engaged in some productive activities.

  (Distribution of workers in India, 2011-12 (%).

Sector	Place of Residence		Sex		All workers
	Rural	Urban	male	female	
Agriculture	67	9	44	63	49
Industrial	16	31	26	20	24
Service	17	60	30	17	27
Total	100	100	100	100	100

- The agriculture sector continues to be the largest employer even now. Why didn't employment shift out of agriculture sector? It is because not enough jobs were created in the industry and service sectors.
- Disguised unemployment: There are more people in agriculture but everyone may not be fully occupied. So, even if a few people move out, production will

not be affected. In this way, more number of people are engaged than required in agriculture. This is called as disguised unemployment.

- Underemployment: The situation of people who are underemployed, where people are apparently working but all of them are made to work less than their potential. This kind of underemployment is hidden in contrast to someone who does not have a job and is clearly visible as unemployed.
- While service sector has grown, all service sector activities are not growing equally well. Service sector in India employs many different kinds of people. At one end, there are a limited number of services that employ highly skilled and educated workers. At the other end, there are a large number of workers engaged in services such as small shopkeepers, repair persons, transport persons, etc. These people barely manage to earn a living and yet they perform these services because no alternative opportunities for work are available to them. Hence, only a part of this sector is growing in importance.

Activity 1: Suggest measure to overcome the problem of disguise unemployment and underemployment

Activity 2: Prepare the list of a) Crops cultivated in your area b) industries located in your area c) service activities taken up in your area.

ASSESSMENT:

1. What is meant by under employment?
2. Do you think the three sectors are interdependent? Give reasons
3. Observe the below pie chart and analyze it.

Graph 3 : Sectoral shares of employment

4. Read the given text and write your opinion

While service sector …….. only a part of this sector is growing in importance.

Choose the correct answer and write the answer in the bracket provided

5. The sector that continues to be give more employment even now is: [ ]

A) Agriculture B) Industrial C) Service D) None

6. Disguised unemployment is. [ ]

A) Work less than their potential B) under employment

C) Doesn't affect the production D) All the above

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Class: X **Medium: English** **Subject: Social Studies**

Name of the chapter: 3. Production and Employment **Worksheet No: 20**

Name of the topic/concept: Organized and unorganized sectors, creation of employment

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LEARNING OUTCOMES: The Student

- Differentiates Organized and unorganized sectors.
- Suggests measures to provide better conditions of employment.

CONCEPTS:

- Organised sector covers those enterprises or places of work where the terms of employment are regular and therefore, people have assured work. They are registered by the government and have to follow its rules and regulations which are given in various laws such as the Factories Act, Minimum Wages Act, Shops and Establishments Act etc. It is called organised sector because it has some formal processes and procedures. Workers in the organised sector enjoy security of employment. They are expected to work only for a fixed number of hours. If they work more, they have to be paid overtime by the employer. They also get several other benefits from the employers. They get paid leave, payment during holidays, provident fund etc. They are supposed to get medical benefits and under the laws,
- the employer has to ensure facilities like drinking water and a safe working environment. When they retire, many of these workers get pensions as well. People who work in the government or with companies or large establishments are all in the organised sector.
- The unorganised sector is characterised by small and scattered units which have remained largely outside the control of the government. There are rules and regulations but these are not followed or enforced. Jobs here are low-paid and not regular. There is no provision for overtime, paid leave, holidays, leave due to sickness etc. Employment is not secure. People can be asked to leave without any reason. When there is less work during some seasons, some

people may be asked to leave. A lot also depends on the whims of the employer or changes in the market situation.

- The organised sector offers jobs that are most sought-after. But the employment opportunities in the organised sector have been expanding very slowly. As a result, a large number of workers are forced to enter the unorganised sector jobs which pay a very low salary. They are often exploited and not paid a fair wage. Their earnings are low and not regular. When workers lose their jobs in the organized sector, they are forced to take up jobs in the unorganised sector with low earnings. Besides the need for more work, there is also a need for protection and support of the workers in the unorganised sector. Excess workers working in agriculture sectors can be employed in other sectors
- The activities like constructions of dams, digging of canal could lead to this could lead to a lot of employment generation within the agricultural sector itself reducing the problem of underemployment.
- If the government invests some money in transportation and storage of crops, or makes better rural roads so that mini-trucks reach everywhere several farmers have access to water, can continue to grow and sell these crops. This activity can provide productive employment to not just farmers but also others such as those in services like transport or trade.
- To cultivate the land, farmers also need seeds, fertilizers, and agricultural equipments and pump sets to draw water. Being poor, they cannot afford many of these. So they will have to borrow money from moneylenders and pay a high rate of interest. If the local banks give them credit at a reasonable rate of interest, they will be able to buy all these in time and cultivate their land. This means that along with water, we also need to provide cheap agricultural credit to the farmers for farming to improve.
- Another way by which we can tackle this problem is to identify, promote and locate industries and services in semi-rural areas where a large number of people may be employed. Activities such as Setting up a flour mill Opening a cold storage start honey collection centres set up industries that process vegetables and agricultural produce will provide employment in industries located in semi-rural areas and not necessarily in large urban centres

Activity:

Observe the given table and answer the given questions:

a. What is the percentage of people working in organized sector?

b. Why the contribution of unorganized sector to the GDP is less?

Table 2 Contribution of organised and unorganised sectors

Sector	Contribution (% of total)	
	Employment	Gross Domestic Product
Organised	8	50
Unorganised	92	50
Total	100	100

ASSESSMENT:

1. Differentiate organized and unorganized sectors.
2. Suggest measures to protect workers in unorganized sector.
3. In which sector would you like to work? Why
4. Write a letter to the concerned authority for the proper implementation of labour laws in your area.

Choose the correct answer and write the answer in the bracket provided

5. The following is not related to organized sector laws. [ ]

   A) Factories Act B) Minimum Wages Act

   C) Right to Education Act D) Shops and Establishments Act

6. Which is the following not related to Organized sector? [ ]

   A) It has some formal processes and procedures

   B) Workers in this sector enjoy security of employment

   C) No payment during holidays

   D) They get medical benefits.

7. Match the following

I.	Organised sector	( )	A.	Local banks
II.	Unorganised sector	( )	B.	assured work
III.	Credit facilities	( )	C.	Strengthen rural areas
IV.	Employment opportunities	( )	D.	Small Units

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Class: X **Medium: English** **Subject: Social Studies**

Name of the chapter: 4. Climate of India **Worksheet No: 21**

Name of the topic/concept: Climate and Weather, Climographs

LEARNING OUTCOMES: The Student

- Differentiates climate and weather
- Analyses the climographs of Delhi, Jaipur, Leh and Chennai.

CONCEPTS:

Weather and Climate

Weather: The state of atmospheric conditions of elements like sunshine, temperature, atmospheric pressure, winds, humidity, clouds and precipitation over an area at a particular time refers to weather. These weather conditions fluctuate very often even in a short period.

- **Climate:** climate refers to such conditions over a large area and follows a similar general pattern over 30 or more years. There will be variations from year to year but the basic pattern remains the same.
- On the basis of these generalised conditions, the year is divided into seasons.
- **Climographs:** The pattern of the elements of weather and climate for a place can be shown using pictures called climographs or climatographs. Climographs show average monthly values of maximum temperature, minimum temperature and rainfall for a given place

Climographs of a few places in India. The climographs below show that temperature and rainfall vary in different parts of the country.

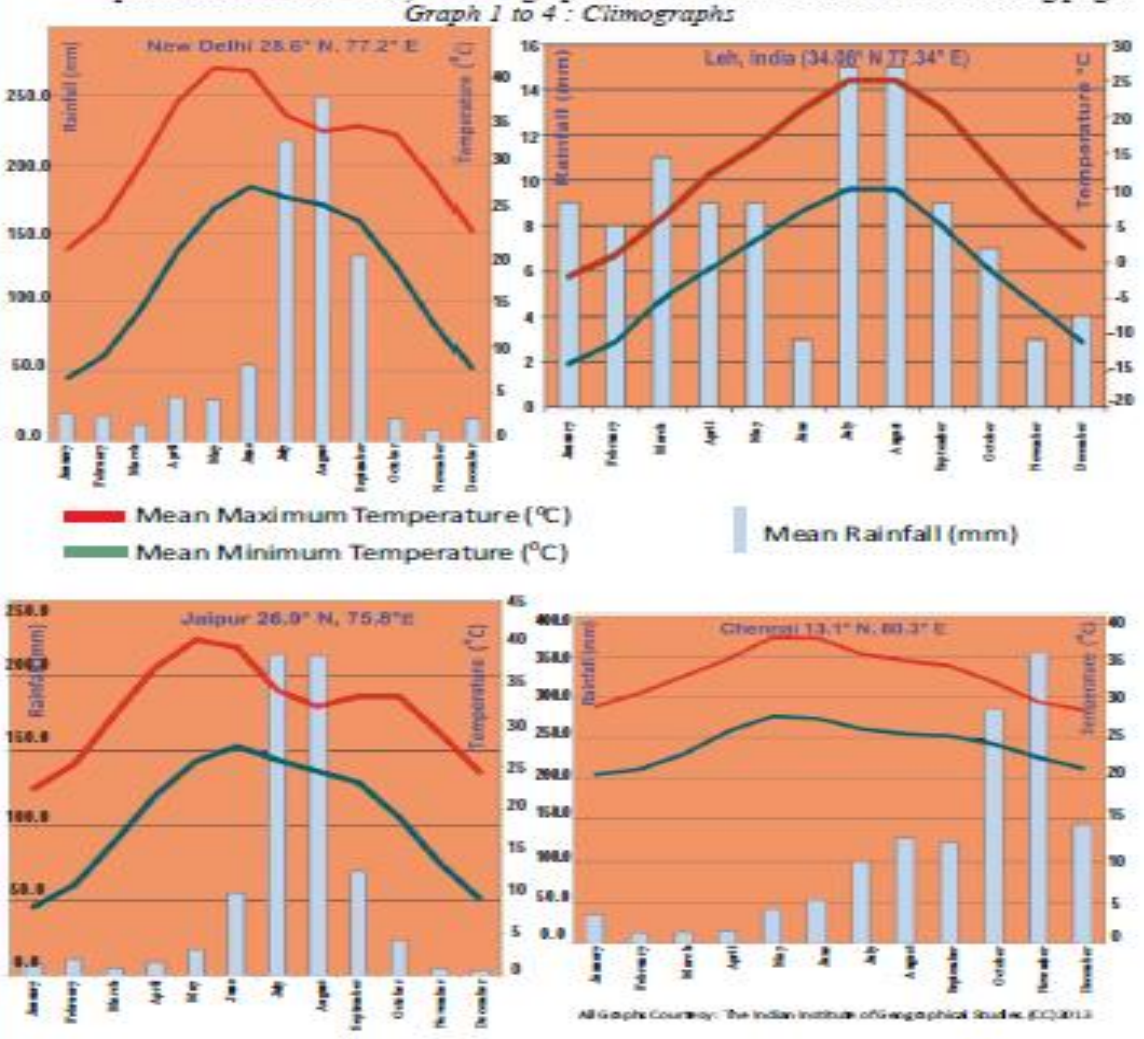
Activity 1: Collect the weather report of the months May and June from the newspaper and observe the changes in the elements of weather. Record your observations and discuss in your classroom

Activity 2: Observe the following climographs and complete the table that follows

Climographs of a few places in India.

The climographs below show that temperature and rainfall vary in different parts of the country. Refer to your atlas and identify the relief region where these places are located. Also, read the graphs below and fill the table on following page.

Graph 1 to 4 : Climographs



Place	Relief region	Range of maximum temperature, during the year	Rangeofminimum temperature, during the year	Name the wettest month and the rainfall (mm) for that month	Name the driest month and the rainfall (mm) for that month
Jaipur					
Leh					
New Delhi					
Chennai					

ASSESSMENT:

1. What are the elements of weather?
2. Differentiate weather and climate
3. How is the pattern of weather and climate of a place shown?
4. Locate the following on India map ( )

   a) Leh b) Delhi c) Chennai d) Jaipur

7. Match the following

a)	New Delhi	( )	i)	Rajasthan
b)	Leh	( )	ii)	Tamilnadu
c)	Chennai	( )	iii)	Delhi
d)	Jaipur	( )	iv)	Ladakh

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Class: X **Medium: English** **Subject: Social Studies**

Name of the chapter: 4. Climate of India **Worksheet No: 22**

Name of the topic/concept: Factors influencing climate and weather

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LEARNING OUTCOMES: The Student

- explains the factors that influence the climate and weather.
- locates important hill stations on India map.

CONCEPTS:

Factors influencing climate and weather

It has been observed that for some places (e.g. Chennai), there is not much difference in the temperature across months. Some places (e.g. Delhi) have wide differences in temperature across the months. India experiences wide variations in temperature. The northern portion is bound by the Himalayas whereas southern peninsula is surrounded by seas. Some places are far from the coasts; they are inland. Some places are at high altitude, whereas others are on the plains. The factors that affect climate are called climatic controls. These include:

1. Latitude 2. Land-water relationship 3. Relief 4. Upper air circulation

1. **Latitude or distance from the equator:** The average temperatures for the year drops as you go further away from the equator. Intensity of temperature depends on the latitude. The temperature of the atmosphere at a particular place near the Earth's surface depends upon the insolation (heat from sun rays) received at that location. This is more intense in the low latitudes than in the high latitudes. As we move away from the equator towards the poles, the average annual temperature decreases. In India, the southern part lies in the tropical belt closer to the equator. Therefore, this region has higher average temperature than the northern part. India is divided into almost two equal parts by the Tropic of Cancer. The part that is on the south of the Tropic of Cancer lies in the tropical zone. The part that is on the north of the Tropic of Cancer lies in the temperate zone.

2. **Land water relationship:** The amount of sunlight that is first absorbed and then radiated back or directly reflected depends on the nature of the surface. Darker areas such as heavily vegetated regions, tend to be good absorbers; lighter areas, such as snow and ice-covered regions, tend to be good reflectors. The ocean absorbs and loses heat more slowly than land. This affects climate in many ways. One of this is the formation of land and sea breezes. A large part of southern India, because of its long coast line, comes under the moderating influence of the sea. As such, the difference between the temperature of day and night and that of summer and winter is not much. This is known as equable climate.

3. **Relief:** Temperature decreases as altitude increases. Hence, hills and mountains will have lower temperature than locations on the plain. Therefore, relief or altitude of a region influences the climate of the area. Several hill stations of the Himalayan region like Shimla, Gulmarg, Nainital, Darjeeling and Kodaikanal and Udagamandalam(Ooty) have a cooler climate even during the peak summer months compared to places near the coast.

4. **Upper atmospheric circulation:** In the northern hemisphere, subtropical high pressure belt gives rise to permanent winds. They blow toward the equatorial low pressure belt by reflecting towards the west and are called trade winds. The German word ‘trade’ means ‘track’ and stands for blowing steadily in the same direction and in a constant course. India lies in the belt of dry north-east trade winds. The climate of India is also affected by the movement of upper air currents known as ‘jet streams’. An easterly jet stream develops at about 250N latitude. A jet stream causes the neighbouring atmosphere to cool. This cooling effect of the easterly jet stream causes rain from clouds already found over this latitude (250N).

Activity 1: Collect the weather report of Mumbai, Thiruvanantapuram, Delhi and Shimla (Similar places as it may be available to you) for the month of June and record the differences in the weather conditions

Activity 2: Does our life style get affected by weather conditions? Give reasons

ASSESSMENT:

1. What are the climatic controls? Explain any two.

2. Mention any two places that have equable climate.

3. Locate the following on India map
   a) Tropic of Cancer
   b) Kanyakumari
   c) Himalayan hill stations
   d) Hill stations in South India

Choose the correct answer and write in the bracket provided

4. This lies in the temperate zone ( )

   A) Darjeeling B) Panaji C) Kodaikanal D) Bangalore

5. Identify the correct statement ( )

   A) India lies in the belt of south east trade winds belt.

   B) Temperature increases as the altitude increases.

   C) Intensity of temperature depends on the latitude.

   D) Hyderabad has equable climate.

6. The German word ‘trade’ means ( )

   A) monsoon B) temperature C) track D) season

7. Jet streams are ( )

   A) aeroplanes B) clouds C) air currents D) cyclones

8. This absorbs and loses heat more slowly ( )

   A) ocean B) plateau C) plain D) island

STATE COUNCIL OF EDUCATIONAL RESEARCH AND TRAINING

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ACADEMIC YEAR 2020-21 LEVEL - 2

Class: X **Medium: English** **Subject: Social Studies**

Name of the chapter: 4. Climate of India **Worksheet No: 23**

Name of the topic/concept: Seasons in India

LEARNING OUTCOMES: The Student

- Explains the weather conditions during summer and winter
- Explains the impact of Western Disturbances
- Draws India outline map
- Locates places mentioned in the worksheet on India map.

CONCEPTS:

SEASONS:

Winter

The temperature in the Indian land mass considerably reduces from mid November and this cold season continues till February. January is usually the coldest month - However, the cold weather is more pronounced in northern India. South India, especially the coastal areas, enjoy a moderate climate. During winter, the weather is generally pleasant with clear sky, low humidity and cool breeze. Cyclone depressions coming from Mediterranean Sea called Western Disturbances cause low to moderate rainfall over northern India. This rainfall is a boon to wheat crop which is generally cultivated in 'Rabi' season.

India lies in the trade wind belt of Northern Hemisphere – north-east trades blow over India from land to sea and are therefore dry. However, some amount of rainfall occurs on the Coramandel coast of Tamil Nadu from these winds, as they pick up moisture from the Bay of Bengal while crossing it.

Summer

During the hot season, as we move from southern to northern part of the country, the average temperature increases. Starting in April, the temperature rises and slowly the

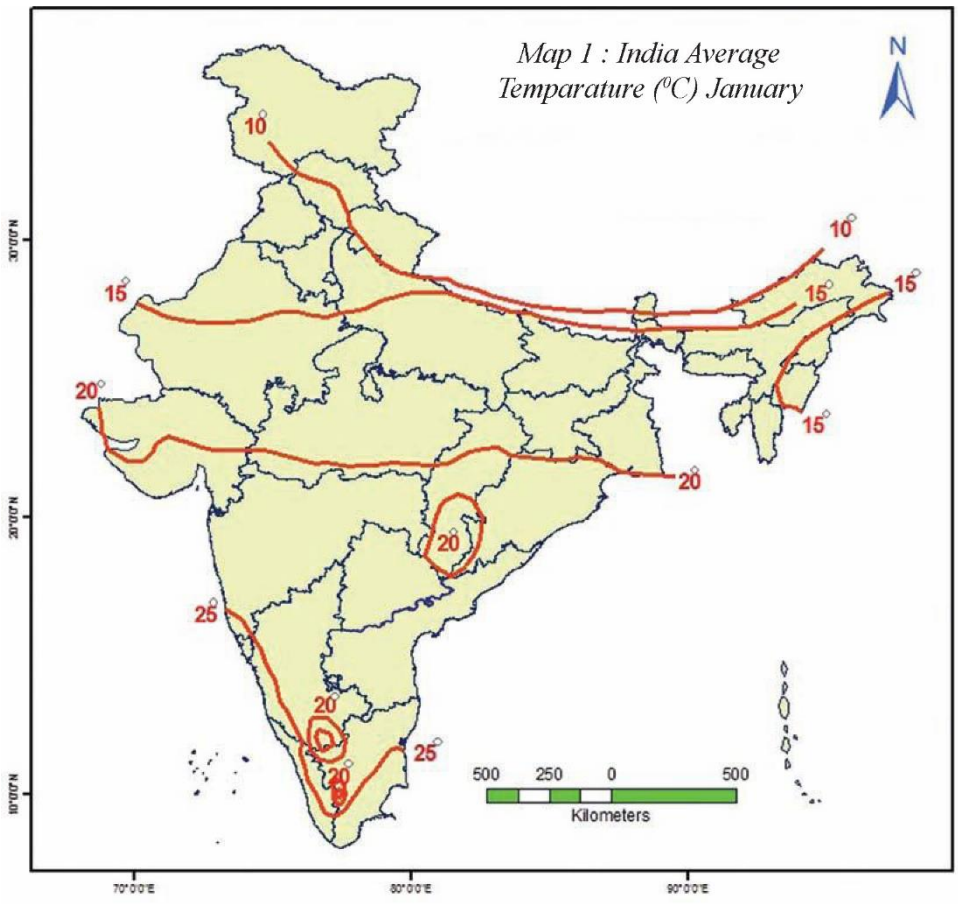
maximum day temperature exceeds 370 C in northern plains of India. The northern plain experiences dry and hot winds called ‘Loo’.

Towards the end of the summer season, pre-monsoon showers (‘bursting monsoon’) are common in the Deccan Plateau. These help in the early ripening of mangoes and other plantation crops in peninsular India. Hence, they are locally known as mango showers in Telangana and Andhra Pradesh.

Activity: Draw the outline map of India and shade the region where Loo winds blow

ASSESSMENT:

1. How is the weather during winter?
2. Why are pre monsoon showers important?
3. Observe the map given and answer the questions



a) Name any two states that record highest temperature.

b) Why is the temperature less in northern states?

Choose the correct answer and write in the bracket provided

4. Identify the wrong statement ( )

   A) Western Disturbances cause rainfall

   B) North east trade winds blow over India from sea to land

   C) January is the coldest month in India

   D) Mango showers occur in Telangana

5. The northern plain experiences dry and hot winds called ( )

   A) Mistral B) Puna C) Pampero D) Loo

6. Match the following

i)	Rabi	( )	a)	summer
ii)	North east trades	( )	b)	Western Disturbances
iii)	Pre monsoon showers	( )	c)	winter
iv)	Pleasant weather	( )	d)	Coromandel coast
			e)	Deccan plateau

7. Locate the following on India map

   1) Coromandel coast 2) Bay of Bengal

   3) Deccan Plateau 4) one state where mango showers occur

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Class: X **Medium: English** **Subject: Social Studies**

Name of the chapter: 4. Climate of India **Worksheet No: 24**

Name of the topic/concept: Advancing monsoon, Retreating monsoon

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LEARNING OUTCOMES: The Student

- Explains the mechanism of the monsoons
- Analyses the reasons for the oppressive weather conditions during retreating monsoon period
- Names the branches of the monsoons
- Locates the places mentioned in the worksheet on the India map.

CONCEPTS:

Advancing monsoon

- The climate of India is strongly influenced by the monsoon winds. The sailors who came to India during olden days noticed the regular periodic reversal of winds. They used these winds to sail towards the Indian coast. Arab traders named this seasonal reversal of wind system as ‘monsoon’.
- The monsoon forms in the tropical area approximately between 200 N and 200 S latitudes. The south-east monsoon winds from the southern hemisphere carry moisture as they flow over the Indian Ocean and towards the equatorial low pressure zones. After crossing the equator, these winds deflect towards the low pressure formed in the Indian sub-continent. The heating of land creates low pressure on the land mass of Indian sub-continent, especially over central India and the Gangetic plain. Along with this, the Tibetan plateau gets intensely heated and causes strong vertical air currents and the formation of low pressure over the plateau at above 9 kms altitude. They then flow as the southwest monsoon. The Indian peninsula divides them into two branches - the Arabian Sea branch and the Bay of Bengal branch. The Bay of Bengal branch strikes the Bengal coast and the southern face of the Shillong plateau. Then, it gets deflected and flows westward along the Gangetic valley. The Arabian Sea branch arrives at the west coast of India and moves north ward. Both the branches reach India by the beginning of June, which is

known as the ‘onset of monsoon’. They gradually spread over the entire country in four to five weeks. The bulk of annual rainfall in India is received from south-west monsoon. The amount of rainfall is very high along the west coast due to the Western ghats, and in northeast India due to the high peaked hills. Tamil Nadu coast (Coramandel), however, remains mostly dry during this season as it is in the rain shadow area of the Arabian Sea branch and is parallel to the Bay of Bengal branch.

Retreating Monsoon

- October - November is a period of transition from hot wet conditions to dry winter conditions. The retreat of the monsoons is marked by clear skies and rise in temperature. The land is still moist. Owing to the conditions of high temperature and humidity, the weather becomes rather oppressive. This is commonly known as “October heat”. The low pressure conditions which once prevailed over north-western India move far South to the centre of the Bay of Bengal by early November. During this period, cyclonic depressions are common which originate over the Andaman area. These tropical cyclones are often very destructive. Bulk of the rainfall of the Coromandel coast is derived from depressions and cyclones.

Activity 1: Hold a discussion on the impact of good monsoons and bad monsoons

Activity 2: Did you face any calamities like floods/cyclones? Share your experience with your friends

Activity 3: Prepare a list of crops cultivated during Kharif and Rabi in your area

ASSESSMENT:

1. Explain the mechanism of monsoon.
2. Name the two branches of south west monsoon.
3. What is meant by onset of monsoon?
4. Why does the Tamilnadu coast remains dry during south west monsoon period?
5. Write a brief note on Retreating monsoon.
6. Mark the following on the outline map of India

   a) Arabian Sea b) Andaman and Nicobar Islands c) Gangetic plain

   d) Coromandel coast e) Shillong plateau

Choose the correct answer and write in the bracket provided

7. The Arabian sea branch arrives at the west coast and of India and moves towards ( )

   A) East B) West C) North D) South

8. The state that is in the rainshadow area of Arabian sea branch is ( )

   A) Kerala B) Goa C) Maharastra D) Tamilnadu

9. The retreat of the monsoon is marked by ( )

   A) cloudy skies and fall in temperature

   B) low pressure an Indian mainland

   C) clear skies and rise in temperature

   D) less temperature and less humidity

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ACADEMIC YEAR 2020-21 LEVEL - 2

Class: X **Medium: English** **Subject: Social Studies**

Name of the chapter: 4. Climate of India **Worksheet No: 25**

Name of the topic/concept: Global warming and climate change, Impact of climate change

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LEARNING OUTCOMES: The Student

- Analyzes the causes for anthropogenic global warming.
- Explains the Green House Effect.
- Suggests measures to reduce global warming
- Creates slogans on afforestation.

CONCEPTS:

Global Warming and Climate Change

As Earth started to take its shape from a fire ball to a planet, many gases were released. These gases did not escape into outer space because of the Earth's gravitational pull and it still holds them back. A thin layer of gases surrounds the Earth and provides us several important benefits. For example: the oxygen that we breathe, the ozone that protects us from harmful ultraviolet rays from the sun, the nitrogen that our plants use to make proteins that we need. This layer of gases is the medium through which fresh water is circulated and it also keeps us warm

Keeping us warm is one of the most important things that the atmosphere does for us. It is like a light, but effective, blanket enveloping Earth. The atmosphere traps a lot of solar energy that reaches the Earth by preventing it from totally escaping back into space. This is called Green House Effect. This is important and vital for life to survive on this planet. If the Earth did not have this atmosphere, it would be very cold indeed.

Earlier, cycles of cooling and warming happened over very long periods of time. This allowed most of the life on Earth the time to adapt to the changes. The problem now is that the heating is much more rapid and could lead to catastrophic changes. Much of the warming that has been occurring since the Industrial Revolution is because of human

activities. Hence, the current global warming trend is called AGW (Anthropogenic Global Warming; anthropogenic means caused by humans).

As global temperature increases, the ice in the tundra melts more. The methane that is trapped under the ice escapes into the atmosphere, increasing the global temperatures. In turn, this causes even more ice to melt, releasing even more methane and so on. Methane is said to be even more powerful than Carbon dioxide as a greenhouse gas.

AGW and climate change

AGW is causing many changes in the distribution of heat in the Earth system. AGW disturbs atmospheric and oceanic circulations system.

An international effort to form an agreement whereby all countries try to reduce their emission of greenhouse gases has so far not been achieved. An international organization called Inter-governmental Panel on Climate Change (IPCC) was formed to address this issue. It has held many conferences to work out a treaty among the nations of the world to reduce AGW and try to slow down the process of climate change. The IPCC 2015 Paris Summit came to an agreement to reduce greenhouse gas emissions in order to limit the rise in global average temperature to well below 20C above preindustrialisation level.

Broadly, the disagreements are between the ‘developed’ countries (mainly industrialised, economically more advanced countries of the West) and ‘developing’ countries (countries that are not as industrialised). Developed countries want developing countries to cut down on burning coal and other activities that add greenhouse gases to the atmosphere. Developing countries argue that developed countries developed precisely by burning fossil fuels when they were developing. Developing countries say that their economic development will be seriously damaged if they don’t burn fossil fuels (mainly coal), and that developed countries should do their fair share of work to help find alternatives that can help the developing countries to progress.

Impact of climate change on India

Though a rise of 20 C in average temperature may appear to be small, it would result in a rise of one meter in sea levels by early next century. This would affect large portions of our coastal areas and millions of people would have to be shifted. They would lose their livelihood.

The other effect would be on rainfall. This is likely to be more erratic and lead to greater imbalances: some places are likely to receive excess rainfall whereas others would get

less than normal. Hence droughts and floods are expected to increase. This would affect the agriculture pattern and people's livelihood to a great extent.

The faster melting of Himalayan glaciers would disturb the livelihood of fresh water fisher folk as their natural habitat of fish is affected. Similarly, freak weather conditions that you read about are likely to increase. Climate change is something that happens at a global level. Therefore, it affects all of us.

Activity :

- Prepare a poster on the use of green energy
- Prepare for a role play or sing songs for the celebration of "Earth Day"

ASSESSMENT:

1. What is green house effect?
2. Explain the impact of climate change on India.
3. Read the given paragraph and comment

> Earlier, cycles of cooling and warming happened over very long periods of time. This allowed most of the life on Earth the time to adapt to the changes. The problem now is that the heating is much more rapid and could lead to catastrophic changes. Much of the warming that has been occurring since the Industrial Revolution is because of human activities. Hence, the current global warming trend is called AGW (Anthropogenic Global Warming; anthropogenic means caused by humans).

4. What are the disagreements between the developed countries and developing countries about AGW?

5. Prepare a pamphlet to highlight the need to reduce global warming.

Choose the correct answer and write in the bracket provided

6. Identify the false statement ( )

   A) Atmosphere is a thin layer of gases

   B) Ozone is not a part of atmosphere

   C) Atmosphere traps solar energy

   D) Without atmosphere it would be very cold.

7. The Inter-governmental Panel on Climate Change was formed to address the issue of ( )

   A) Increasing the use of fossil fuels

   B) Reducing methane levels only in polar regions

   C) Reducing the emissions of greenhouse gases

   D) Increasing the emissions of greenhouse gases.

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ACADEMIC YEAR 2020-21 LEVEL - 2

Class: X **Medium: English** **Subject: Social Studies**

Name of the chapter: 5. Indian Rivers and Water Resources **Worksheet No: 26**

Name of the topic/concept: The Himalayan Rivers, Indian Peninsular Rivers

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LEARNING OUTCOMES: The Student

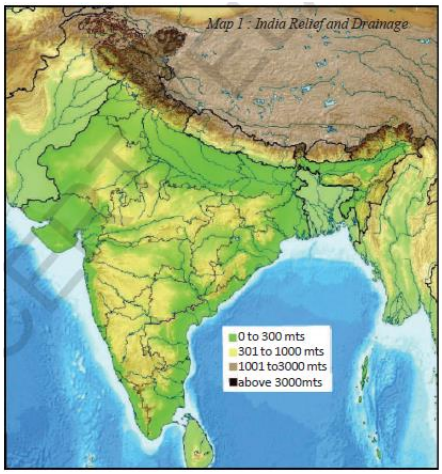
- Classifies Indian drainage system
- Differentiates Himalayan Rivers and peninsular rivers
- Explains the formation of v shape Valley
- Locates major rivers and there tributaries on India map.

CONCEPTS:

- The drainage system in India can be broadly divided into two categories: i) The Himalayan rivers and ii) The Peninsular rivers.
- The Himalayan Rivers belong to the three principal systems: the Indus, the Ganga and the Brahmaputra.
- These rivers originate from almost the same region within few kilometers of each other and are separated by water divides.
- They first flow parallel to the main axis of the mountains.
- Then, they take a sudden bend towards the south cutting through the massive mountain chain to reach the north Indian plains.
- In the process, they have carved out deep ‘v’ shaped valleys.
- The Himalayan Rivers are perennial. This is because the rivers are supplied on rainfall as well as the melting snow.
- The Indus originates in the northern slopes of the Kailash range in Tibet near Lake Manasarovar.
- It follows a north-westerly course through Tibet. It enters Indian Territory in Jammu and Kashmir.
- The main tributaries of the Indus in India are Jhelum, Chenab, Ravi, Beas and Sutlej.

- They cover Jammu and Kashmir, Punjab and Himachal Pradesh states of India.
- The Ganga has twin sources. The main source is the Gangotri glacier where it is called the Bhagirathi.
- The other is the Satopanth glacier towards the north-west of Badrinath where it is called the Alakananda.
- The two join at Devprayag to form the Ganga river.
- The Brahmaputra (known as the Tsangpo in Tibet) rises from the snout of the Chemayungdung glacier of the Kailas range near Manasarovar. It enters in a great loop southwest through Arunachal Pradesh in India, first as the Siang and then as the Dihang.
- Emerging into the Assam valley, it is joined by two tributaries-The Dibang and the Lohit. From here, the river is known as the Brahmaputra.
- The Western Ghats are the water divide between the major peninsular rivers, discharging their water in the Bay of Bengal and as small rivulets joining the Arabian Sea.
- Most of the major Peninsular Rivers, except Narmada and Tapati, flow from west to east.
- The Chambal, Sind, Betwa, Ken, and Son originating in the northern part of the peninsular, belong to the Ganga river system.
- The major river systems of the peninsular drainage are Mahanadi, Godavari, Krishna and Cauveri. Peninsular rivers are characterised by a fixed course, absence of meanders and largely non-perennial flow of water.
- The Godavari is the largest peninsular river system.
- The source of this river is at the Triambak near Nasik in Maharashtra and discharges its water into the Bay of Bengal.

Activity 1: Observe the map given using the color code identify the height range in which the Indian rivers originate



Activity 2: Using the Atlas prepare a table on Indian rivers

Name of the river	source	states it flows	tributaries	merge into (sea)

ASSESSMENT:

1. Why are the Himalayan Rivers perennial
2. Differentiate Himalayan Rivers and peninsular Rivers
3. How are V shaped valleys formed?
4. Observe the map and answer the questions given below

   i. Name any two tributaries of Ganga that join from Northern part of the peninsular India

   ii. What are the sources of river Ganga

5. Locate major Indian rivers and their tributaries on the map

Choose the correct answer and write in given bracket

6. This river is also fed by melting of snow ( )

   A) Krishna B) Narmada C) Indus D) Cauvery

7. This is a west flowing river ( )

   A) Godavari B) Mahanadi C) Penna D) Tapti

8. The river that has a fixed course ( )

   A) Ganga B) Krishna C) Indus D) Brahma Putra

9. Math the following

I.	Indus	( )	a.	Devprayag
II.	Ganga	( )	b.	Triambak
III.	Brahmaputra	( )	c.	Ravi
IV.	Godavari	( )	d.	Tsangpo.

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ACADEMIC YEAR 2020-21 LEVEL - 2

Class: X **Medium: English** **Subject: Social Studies**

Name of the chapter: 5. Indian Rivers and Water Resources **Worksheet No: 27**

Name of the topic/concept: Water Use

LEARNING OUTCOMES: The Student

- Explains the use of water for different purposes.
- Explains about the measurements of water in a tank at a particular time.
- Suggests the measures to recharge the aquifers.

CONCEPTS:

Water flowing out via surface flows and groundwater:

- During monsoon months, this surface flow would increase substantially.
- A portion of the rainfall percolates into the soil and travels to the underground strata and re-charges the aquifers.
- Some of it flows into and becomes available for use through wells and bore wells and a portion of it goes into very deep aquifers that do not become available.
- Some of the underground water becomes part of flows that eventually appear in streams or rivers.

Water for agriculture:

- Water reaches the root zone of crops either through rainfall or the process of irrigation.
- There's a capacity of the soil to store moisture. If there's excess water, such as a flood, and this isn't able to percolate below, it would damage the roots.
- On the other hand, in a drought situation, if there isn't enough moisture in the root zone, the crops will wither/ wilt.

Water use for domestic purpose and for animals:

- Water used for drinking, cooking, washing, cleaning and for animals is vital.

- Planning is needed for this component to increase the availability so that a minimum amount is actually made available to all, irrespective of their income.

Water for industrial use:

- Water is required for manufacturing processes and this demand often competes with domestic and agricultural uses. This needs to be taken into account as this conflict is on the increase.
- The challenge areas that industrial use face are recycling of water and control of pollution.
- What is available to a region or a village does not only depend on the inflows but also on what is already available as ‘stock’ that we use.
- We often have to keep this distinction between stock and flow clear in our analysis.
- We can measure the inflow as the amount of water liters/ minute and the outflow similarly as the water liters/ min that flow out.
- Most villages in India draw water from wells and tube wells. They are dependent on ground water storage.
- These inflows and storage are connected.
- While some of the water flowing in is used directly, one part of this is recharging or replenishing the storage.
- Similarly, the use of tube wells draws water from storages and lowers the water available in them.
- Depending on comparative rates of inflow and outflow, we can judge what is happening to the stock of water over many years.
- The annual flows and stocks that recharge wells and tube wells is the water that is available for use.
- We should keep our needs in this range. When we dig into deeper aquifers - this is like mining water that has collected over thousands of years.

Activity 1: Collect information about the watershed program taken up by the present government.

Activity 2: Are there any watershed programmes taken up in your area? If yes, write a brief note on them.

ASSESSMENT:

1. How is the water getting polluted?
2. How is the stock of water calculated?
3. Suggest measures to recharge aquifers
4. Create two slogans on water conservation
5. Math the following

I.	Aquifers	(	)	a.	inflow and storage
II.	Stock of water	(	)	b.	rainfall
III.	Excess water	(	)	c.	drought
IV.	Less Water	(	)	d.	floods

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Class: X **Medium: English** **Subject: Social Studies**

Name of the chapter: 5. Indian Rivers and Water Resources **Worksheet No: 28**

Name of the topic/concept: Water use in the Tungabhadra river basin

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LEARNING OUTCOMES: The Student

- Classifies the Tungabhadra basin
- Interprets the paragraph on the encroachment of the catchment area of a river
- Analyses the causes for the interstate disputes over the sharing river water
- Analyses the mismatch between the provision of water to domestic purpose and commercial purpose.

CONCEPTS:

- Tungabhadra, shared by the three southern states, Karnataka, Telangana and Andhra Pradesh, is a tributary of the larger river system Krishna. It originates in the Western Ghats
- The Tungabhadra basin has two parts: 1) the upper and middle catchment in Karnataka, and 2) the lower portion of the catchment in Telangana & Andhra Pradesh.
- The lower portions of the basin in Telangana & Andhra Pradesh are characterised by lower rainfall and drought conditions.
- Some regions depend on rainfall and underground water (wells and tube wells). Other areas depend on surface flows by canals that carry water from dams built along Tungabhadra.
- There is a lot of difference in water availability between these two types of regions.
- Encroachment of public lands for cultivation is common. It results in more land being brought under cultivation at the expense of tree cover. Rampant felling of trees and mining activity is resulting in forest degradation along with the destruction of the habitat of highly threatened flora and fauna. Inflows of groundwater depend

on the tree cover in the catchment areas. Inadequate tree cover leads to water run-off at surface flow without getting a chance to recharge the underground system. Moreover, this also causes flash floods.

- Tungabhadra dam has gradually lost its water storage capacity over the decades.
- About 50 years ago, the capacity of the reservoir was 3,766 million cubic meters, now with accumulation of silt due to mining, dust, soil erosion and debris, the reservoir has lost its storage capacity by as much as 849 million cubic meters of water.
- As one study says, “Proper mining standards are not followed in iron ore extraction.
- Conflicts between Karnataka, Telangana and Andhra Pradesh are generally related to availability of water for use.
- Although the area is ideal for semi-arid crops, the major crops grown demand a lot of water (paddy and sugarcane).
- Cultivation of such crops throughout the basin has dramatically altered the water sharing balance. When all the areas desire water for these crops, conflict becomes inevitable.
- Hence, there is a significant difference between farmers with access to land and irrigated water, and those without access.
- For a fair use of water for all, a change in cropping pattern would have to be encouraged throughout the basin.
- During the last two decades, there has been an increasing trend in the number of small towns and industrial areas. This has made the competing demands for water more complex. While increased industrialisation and growth of urban areas have improved standards of living for some, the same activities have caused pollution especially by industrial units.
- There has been a mismatch between keeping pace with development activities on various fronts and providing sanitation and drinking water supply for all sections of society, both in small towns and rural areas. Some say that drinking water and sanitation are basic needs and a minimum amount has to be provided irrespective of the ability to pay for these. When we experiment with metered water, we have to

allow that a certain section of society would not be able to afford the water that they must get as a basic requirement.

- Thus, the socio-economic aspects are very important for water use management.
- Conflicts within communities in a region and across sectors such as use for agriculture, industry or drinking water are common.

Activity: Is there any encroachment of catchment area of tanks/rivers in your area? How does that affect the storage capacity.

ASSESSMENT:

1. Read the paragraph and write your opinion
   I. Encroachment of public …… flash floods.
   II. During the last two decades …….. industrial units
   III. There has been mismatched ……. basic requirements
2. Suggest measures to retain the storage capacity of tanks/rivers

Choose the correct answer

1. The state that does not share the water of river Tungabhadra is ( )
   a) Karnataka b) Tamil Nadu c) Andhra Pradesh d) Telangana
2. The lower portion of the catchment area of river Tungabhadra is ( )
   a) Karnataka b) only in Andhra Pradesh
   c) in Karnataka and Andhra Pradesh d) in Telangana and Andhra Pradesh
3. The missing of manganese in sandur has ( )
   a) Seriously reduced the storage capacity of Tungabhadra reservoir
   b) Increased inflow into Tungabhadra reservoir
   c) Helped in the growth of aquatic life in the Tungabhadra reservoir
   d) increased storage capacity of the reservoir
4. This is the tributary of River Krishna ( )
   a) Manair b) Son c) Betwa d) Tungabhadra
5. Locate the following in India map
   A) Karnataka B) Andhra Pradesh C) Telangana D) river Tungabhadra
   E) river Krishna

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ACADEMIC YEAR 2020-21 LEVEL - 2

Class: X **Medium: English** **Subject: Social Studies**

Name of the chapter: 5. Indian Rivers and Water Resources **Worksheet No: 29**

Name of the topic/concept: Rational and equitable Use of water – an example

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LEARNING OUTCOMES: The Student

- Explains water conservation works taken up in Hiware Bazar.
- Taken up in Hiware a bazar
- Mentions the four bandis taken by the people of Hiware Bazar
- Suggests the measures taken up by the government to conserve water
- Explains the need for concerted efforts to control the extraction of ground water.

CONCEPTS:

- The need to look at all the inflows and outflows so that a judicious and fair use of water can be worked out.
- Such plans and implementation schemes are possible. Hiware Bazar village is an example.
- Hiware Bazar is located in Ahmednagar district in Maharashtra. It is situated on the eastern (rain shadow) side of the Sahayadri mountain ranges.
- The soil and water conservation works in Hiware Bazar were implemented on common lands and on private grasslands. Continuous contour trenches (CCTs) were dug on the hill slopes to arrest the erosion of soil, harvest water and encourage growth of grass. A number of water harvesting structures were also built in the village - check dams, percolation tanks, and loose boulder structures. Plantations on forest lands and roadsides were also part of the programme.
- When Adarsh Gram Yojana was launched in Maharashtra, there were also some pre-conditions set for selection of villages. Most important were the four bandis (or bans) made famous by the Ralegaon Siddhi experience. The four bandis were kurhad bandi (ban on felling trees), charai bandi (ban of free grazing), nasbandi

(family planning), and nashabandi (ban on liquor). People also had to agree to a certain amount of shramdaan (voluntary physical labour), except for the landless who were exempt from it.

- There are other bans in the village which were added later. Most significant was the ban on bore wells for irrigation, growing sugarcane and banana and selling one's land to any outsider. These measures illustrate those issues of long-term sustainability (especially in terms of water use) were very much central to the strategy. The bandis were not mere proclamations but ways of community building aimed at people identifying with the common purpose.
- In a year of normal rainfall, there is enough water in the wells to irrigate not only the kharif bajra, but also the rabi jowar and some summer vegetable crops. Even in unirrigated land, the improvement in soil moisture level has helped to increase productivity. The range of crops is also considerably more diverse than in the past with people growing cash crops such as potatoes, onions, fruits (grapes and pomegranates), flowers, and wheat. Perhaps the most significant development is that increased water availability has made a second crop possible and hence migration elsewhere has reduced.
- The main thing is the social control over ground water extraction and use – no bore wells for irrigation (only for drinking water), no water- intensive crops like sugarcane. Water for irrigation should be taken only through dug wells. They have also worked out certain thumb rules like if they get good rainfall then they can take full rabi crop, if the rainfall is less then they bring down the area under rabi etc. They keep rainfall data meticulously and use it for crop planning and water use prioritisation. Because of this, even in years of continuous drought, there was no drinking water shortage. This is mainly because they plan according to the water available.
- The improvement of the livestock economy has also helped marginal and small farmers significantly. Concerted efforts have been made to promote Hiware Bazar's dairy industry as a means to improve the livelihood of all. Loans have been given to many small farmers. As a result, the number of milch animals in the village has increased. These developments are clearly linked to the fact that fodder availability has increased due to better productivity. Milk production in the village has also witnessed a more than 20 fold increase from 140 to 3,000 litres per day.

- One of the learnings has been that groundwater extraction cannot be controlled at a small unit or within a village boundary. Neighboring villages started going for deep borewells and started extracting groundwater over which Hiware Bazar had no control. Hence, we need institutional norms and understanding at a much larger unit like sub-basin or river basin.

Activity 1: Draw the outline map of India and locate Maharashtra.

Activity 2: With the help of your teacher or elders repair list of crops that need more water and crops that need less water.

Activity 3: Do any of the following on water conservation sing song/ paint /sketch or role play.

ASSESSMENT:

1. What were the four bandis imposed in Hiware bazar
2. Write a brief note on the social control over ground water extraction in Hiware bazar
3. Why do we need institutional norms to control groundwater extraction?
4. How were the soil and water conservation works implemented in Hiware bazar
5. What are the results of water conservation in Hiware bazar
6. Match the following

I.	Kurhad bandi	( )	a.	family planning
II.	Shram daan	( )	b.	ban on felling trees
III.	Nasha Bandi	( )	c.	ban on free grazing
IV.	Charai Bandi	( )	d.	voluntary physical labour
			e.	Ban on liquor

STATE COUNCIL OF EDUCATIONAL RESEARCH AND TRAINING

TELANGANA, HYDERABAD.

ACADEMIC YEAR 2020-21 LEVEL - 2

Class: X **Medium: English** **Subject: Social Studies**

Name of the chapter: 5. Indian Rivers and Water Resources **Worksheet No: 30**

Name of the topic/concept: Water as common pool resource

LEARNING OUTCOMES: The Student

- Analyses the existing laws on groundwater
- Explains the need to formulate new laws on the use of groundwater
- Suggests measures for the proper implementation of the current laws on groundwater
- Uses water judiciously.

CONCEPTS:

- Over the past few decades, groundwater has become the main source of water especially for domestic use and agriculture. This tremendous increase in the use of groundwater has significant impact on water availability and access to it.
- The current laws about groundwater in many states are both outdated and inappropriate. They were developed at a time when groundwater was a marginal source of water.
- Current laws on ground water use are inappropriate because the basic link between access to groundwater and land ownership on which these rules are based are flawed. Since groundwater has to be extracted from the land above, a link was established between land ownership and control. The water drawn from the underground system was assumed to be ‘owned’ by the landowner. This implies that groundwater is mostly controlled by individuals that own the land. Land owners were not restricted in the amount of water they can take out.
- Underground water does not obey human land ownership boundaries that are made on the surface. Water is a flowing resource and what is extracted from an individual tube well or well depends on the underground rock formation, the recharge from

rainfall or surface water. All these factors are happening over a large area. Hence, the actions of others in the region will affect this particular well.

- Since these wells are interconnected by the underground structures in the region. It is therefore inappropriate to think of 'ownership' of a flowing resource such as water.
- Where control over groundwater is linked to land rights, there are no pressures on individual landowners to use water in a fair manner. Nor is there any way to implement policies that take into account the welfare of a broader community and the environment.
- Therefore, water should be thought of as a collective pool resource that is meant for all people. Similar to roads, rivers, and parks, underground water is also a 'public property', it belongs to all.
- Regulation is not easy. This is also because for some resources like water, electricity, oil, natural gas etc consumption by one person or a sector affects what is available for others. In fact, in a number of states, the answer to falling water tables has not been to address the issue itself. State governments have thus often chosen to increase power subsidies to make extraction of ever deeper layers of groundwater possible. The limits of an approach that not only refuses to control access to groundwater but seeks to encourage it with specific subsidies have been clearly understood. The political thinking has to change to make these regulation works. This is the only way to stop the negative competition to finish off the common pool resource since each person wants their share before someone else does.
- Drinking water is the first priority as well as a human right and that panchayati raj institutions must have control over the use of groundwater.

Activity 1: Prepare a table of the amount of water used by you per day for different activities. Total the water you use and check your ranking.

- Economy Hero > less than 200 liters
- Saver > 200 - 400 liters
- Water spender > 400-600 liters
- Water villain above > 601 liters

Activity 2: Prepare a poster on rainwater harvesting.

ASSESSMENT:

1. Read the paragraph and write your opinion

   Current laws on groundwater……. owned by the land owner

2. Suggest measures to stop negative competition for the use of water
3. Write a letter to the concerned authority highlighting the excessive utilization of groundwater in in your area
4. Prepare a pamphlet on the importance of judicious use of water.