Fig. 3.1

Observe Fig. 3.1 and answer the following questions :

1) Where are human settlements likely to develop : A, B, C, D or E? Why?
2) In the above figure in which place human settlement is not likely to develop and why?
3) Looking at figure above, what factors do you think could contribute to the development of human settlements?
4) Can economic factors be important along with physical factors for the development of human settlements?
5) Do physical factors affect the economic activities of human settlements?
6) Make a list of factors which affect development of settlements in an area.

Geographical explanation

Man being a social animal, likes to live in groups. Further, social bonding and social needs are developed. Due to the social needs, many people come together at a particular place and construct houses in a particular way, which is known as settlement.

Human habitat is in the form of settlements. This may range from one house to a city. It shows that a group of people are using some territory to build houses as well as for their economic support. Man stays here, lives and carries out economic activities.

Physical, cultural and economic factors affect the human settlements. Settlements are developed due to the co-relation between man and environment. Physical Factors like relief,

altitude, soils, climate, drainage, groundwater level, etc. influence the type and spacing of settlements. For example, in dry regions, water is a crucial factor and therefore, houses are situated along the water source.

Sometimes, social factors can also lead to fragmentation of settlements. In the past, areas were conquered or attacked frequently by outsiders. For a long time, therefore, security concerns favoured the evolution of nucleated settlements.

Types of Settlement :

Settlements vary in size and type. They range from a hamlet to metropolitan cities. With size, the economic character and social structure of settlements change and so do its ecology and technology. Settlements could be small and sparsely spaced; they may also be large and closely spaced. On the basis of spacing between the houses, settlements can be divided into the following four types :

1) Compact or clustered or nucleated settlement.
2) Semi-clustered or fragmented settlement.
3) Dispersed settlement.
4) Isolated settlement.

Try this.

Observe different images in Fig. 3.2 A to F. They show various patterns of settlements. Try to understand the difference between them. Carefully read their characteristics in second column. According to the applicable characteristics, write the alphabet of the image settlement in the place provided below the characteristics.

Satellite images of the settlements	Characteristics of settlements
A 	**Linear pattern :** a) Settlements occur along a road, railway, canal or river. b) They are in a straight line or take the shape of the road or the river. ☐
B 	**Rectangular pattern :** a) Settlements are in a straight line. b) Such lines are parallel to each other. c) These days planned cities may take such a shape. ☐

C

Patternless :

a) With the development of the settlement, the size of the population also increases.

b) Increasing population leads to haphazard development of settlements.

c) Houses are built as per convenience and space available.

D

Radial pattern :

a) Settlements grow around a central object or center.

b) This central point plays an important role in development of the settlements around it.

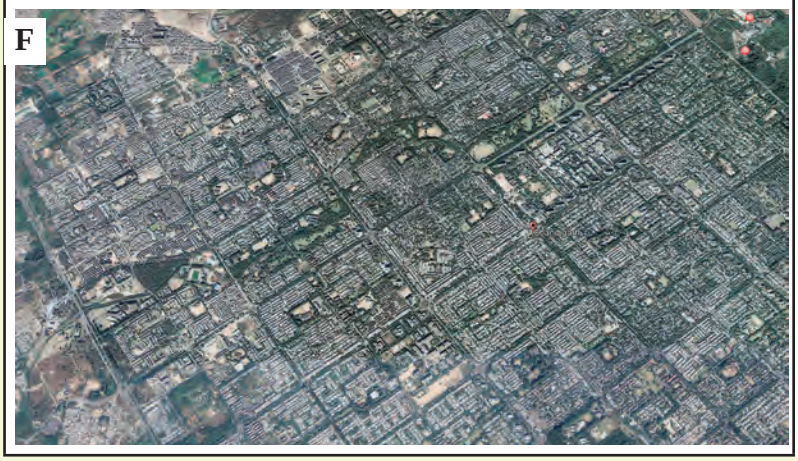
E

Circular pattern :

a) Settlements take shape around a lake.

b) Houses are closely spaced because of availability of water.

F



Triangular pattern :

a) Found at the confluence of two rivers or roads.

b) The settlements can grow in all three sides due to physical or social reasons.

Fig. 3.2

Always remember

'Type' refers to a category of things having some common features, where as 'pattern' refers to a regular form or order in which a series of things occur. When we say settlement pattern, the term is strictly applied to the spatial arrangement or distribution of settlements within a given area.

Compact settlement is a type of settlement while linear settlement is a pattern. It can be compact or dispersed.

Let's recall.

Can you differentiate between urban and rural settlements?

Geographical explanation

One can also divide settlements according to their functions. On the basis of their functions, settlements can broadly be divided into two types – rural and urban. Unlike rural settlements, urban settlements are generally compact and larger in size. Based on their functions and types, cities can be classified.

Types of Urban Settlements :

Visit http://censusindia.gov.in/2011-prov-results/paper2/data_files/India2/1.%20Data%20Highlight.pdf to know how cities are divided into various types in India on the basis of their populations. Also look for examples from Maharashtra. Refer to the website and complete the table as given below :

Table 3.1

Classification	Population	Classification	Population
Class I		Class II	
Class III		Class IV	
Class V		Class VI	
Town		City	
Metropolitan cities		Mega Cities	
Urban Agglomeration		Outgrowth	

As cities perform various functions, they can be divided on that basis. Some towns and cities specialise in certain functions and they are known for some specific activities, products or services. However, each town performs a number of functions. On the basis of dominant or specialised functions, Indian cities and towns can be broadly classified as follows. Complete the table 3.2 with examples from Maharashtra and India.

Table 3.2

Functions	Name of the cities from Maharashtra	Name of the cities from outside Maharashtra
Administrative		
Industrial		
Transport		
Commercial		
Mining		
Cantonment		
Educational		
Religious		
Tourism		

Think about it.

Can a town have only one function ? Why do the cities become multi-functional?

Geographical explanation

Looking at the cities above, we realise that cities do not carry out only one function. They generally carry out more than one function as they grow. One of these functions may be a major one. As towns become cities and cities

become metro cities, with time, complexity in a city increases. Generally, cities become bigger and lots of changes can be seen in them. These changes are in the form of change in land use and structure of a city. These changes also result in the change in skyline of the city. See the image at the end of the Exercise.

Land Use :

Try this.

Do the following activity in class with your teacher.

1) Obtain a map of your city or village. You can also use Google Earth and select an image of your area. Alternatively, you can also make a map of your college and surrounding area.
2) The map should include your school and nearby streets.
3) On a Xerox machine, enlarge the area on the map that surrounds your school/ college.
4) Take a short walk around the area that is represented on the map with your teacher. Mark the areas according to the key with a specific colour given below.

Land use in my city/village	Suggested colour scheme
Parks/ open spaces	Green
Houses/ apartments	Dark Red
Shops/ stores/ commercial establishments/ malls	Light blue
Public buildings/ offices/ schools/ colleges/ bus station/ railway station	Light Red
Agricultural	Yellow
Water bodies/rivers/	Dark blue
Transportation (roads / railways, highways, etc.)	Black

5) You may add more descriptions if required by using more colours.
6) This will help you to get an idea of what type of buildings and land use exists around the neighbourhood.
7) After coming back to the class, discuss which land use occupies more land than the others.

Geographical explanation

You must have observed that the land around you is put to different uses. Some land is occupied by rivers, some may have trees and on some parts roads and buildings have been built. Different types of lands are suited to different uses. Human beings, thus, use land as a resource for economic activities, production, as well as residence and recreation.

Land Use Classification :

You know that the land use in rural areas is different from that in urban areas. Generally, in rural areas, land use revolves around agriculture. In urban areas, it revolves around residential and other economic activities . The classification of land use in rural areas is done according to the Land Record Department. It is as follows :

1) **Forests :** The land under forest.
2) **Non-agricultural Uses :** Land under settlements (rural and urban), infrastructure (roads, canals, etc.), industries, shops, etc. are included in this category. An expansion in the secondary and tertiary activities would lead to an increase in this category of land-use.
3) **Barren and Wastelands :** The land which may be classified as a wasteland such as barren hilly terrains, desert lands, ravines, etc. normally cannot be brought under cultivation with the available technology.
4) **Area under Permanent Pastures and Grazing Lands :** Most of this type land is owned by the village 'Panchayat' or the Government. Only a small proportion

of this land is privately owned. The land owned by the village Panchayat comes under 'Common Property Resources.'

5) **Area under Miscellaneous Tree Crops and Groves (Not included in Net sown Area) :** The land under orchards and fruit trees are included in this category. Much of this land is privately owned.

6) **Culturable Waste-Land :** Any land which is left fallow (uncultivated) for more than five years is included in this category. It can be brought under cultivation after improving it through reclamation practices.

7) **Current Fallow :** This is the land which is left without cultivation for one or less than one agricultural year. Fallowing is a cultural practice adopted for giving the land rest. The land recoups the lost fertility through natural processes.

8) **Fallow other than Current Fallow :** This is also a cultivable land which is left uncultivated for more than a year but less than five years. If the land is left uncultivated for more than five years, it would be categorised as culturable wasteland.

9) **Net Area Sown :** The physical extent of land on which crops are sown and harvested is known as net sown area.

Land use in urban areas :

1) **Residential Areas :** Any of those lands which man uses for his dwelling. He builds up (land cover) and carries out construction.

2) **Industrial Areas :** The land, where any of the manufacturing activity exists (land cover), where people work for their livelihood. (land use.)

3) **Institutional Areas :** The space over which the educational centres, universities, insurance offices, cantonments and similar to these activities exist and are used for the activities associated with all these land uses.

4) **Recreational Areas :** The place (land cover) where people visit to seek entertainment (land use) like parks, playgrounds, open or close theatres, etc.

5) **Transportation :** The space (land cover) used for moving around by man. It includes airports, railway stations, roads, railways, harbours, etc.

6) **Commercial Areas :** These are business centres where selling of finished products is carried out for day-to-day usage in urban areas. These areas are intermixed with residential areas. At few places, commercial areas can aggregate to form definite clusters, especially at the core i.e. CBD (Central Business District).

7) **Plot Layouts :** These are vacant lands mostly developed for construction of buildings. These are usually located on the periphery of the urban areas. These lands encroach the agricultural land due to the pressure of the increasing population.

8) **Mixed Land Use :** It is an area where various types of land uses exist together. These may include residential, commercial and industrial land use in an integrated manner. In such areas, one can find houses, businesses, shops, schools, clinics and open spaces at one place itself.

Always remember

Land use is distinct from land cover. They are sometimes used synonymously but mean different things. Land cover describes the physical surface covering the land such as forest, water, ice, bare rock, sand, etc. Land use describes the use that the land has been put to by people. For example, the land use might be 'recreational' but the land cover might be vegetation or forest.

Understanding both the land use and land cover provides a comprehensive

picture of a particular area. Land cover can be determined by analysing the satellite imagery. Land use cannot be determined from satellite imagery alone.

Find out !

Compare the cover page of Std. XII textbook with Std. XI Geography textbook. Discuss in class and write a short paragraph about the changes in land use/land cover in your own words.

Rural-Urban Fringe :

Can you tell ?

You know what is urban and what is rural. What will you call the area that lies between them? Discuss this in the class.

Geographical explanation

The area between urban and rural area is called urban- rural fringe. It has characteristics of both urban as well as rural areas. It is not a separate zone as such, but is a transition between the two and merges into both of them. People using automobiles make their daily trips to perform their jobs, from these areas to its central area, where their offices and economic institutions are generally located. When large urban areas develop, the span of urban areas increases. This is called 'urban sprawl'. The term 'rural-urban fringe' has been used to designate such areas, where we have a mixture of rural and urban land use.

The rural-urban fringe has a complex structure. The city and surrounding areas consist essentially of two types of administrative areas- the Municipal Councils and Gram Panchayats. The smaller municipal towns close to the main city tend to lose their identity and are, in reality, a part of the geographical city. The quality of services in these towns is comparable to those of the main city.

The towns away from the main city maintain their distinct identity and have a distinct set of problems relating to urban amenities and transportation. The quality of these services are generally inferior. The areas in the rural areas also exhibit a certain level of diversity— agricultural land may have been converted to residential or industrial areas or the whole area may be entirely rural, the only link with the city being the daily commuters. Beyond the urban fringe lies the rural fringe, consisting of villages only and partly affected by urbanisation.

Suburbs :

Outside the metro city, there may occasionally be a small town or a number of well-established towns or small cities. These are often called suburbs. For example, Bhandup, Kalyan, Virar, etc. are considered to be the suburbs of the main city of Mumbai. They are all cities in themselves but developed as a result of growth in Mumbai. Hence, they are the suburbs of Mumbai. Similarly, Wakad, Hinjawadi, are suburbs of Pune.

Try this.

Can you identify the problems faced by your city / town / village in terms of any one of the following?

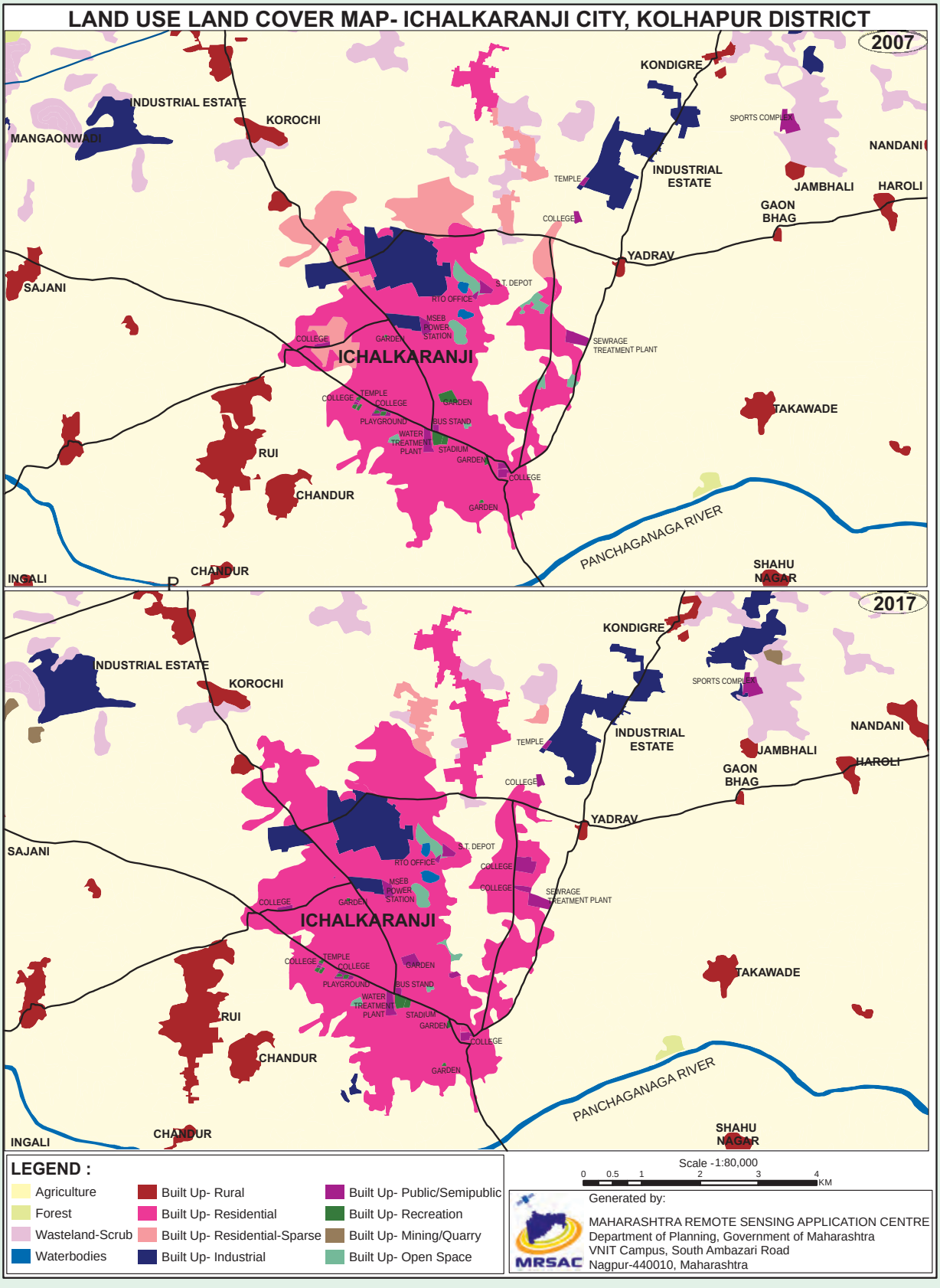
Sr. No.	Types of problems	Problems / issues
1	Economic	
2	Social	
3	Cultural	
4	Environmental	
5	Infrastructural	
6	Governance and Administrative	
7	Others	

Can you think of the solutions to these problems?

Make friends with maps!

See maps of Ichalkaranji city given below and observe how changes have occurred in the city over the years. Answer the questions that follow :

A)



B)

LEGEND :

- Agriculture
- Forest
- Wasteland-Scrub
- Waterbodies
- Built Up- Rural
- Built Up- Residential
- Built Up- Residential-Sparse
- Built Up- Industrial
- Built Up- Public/Semipublic
- Built Up- Recreation
- Built Up- Mining/Quarry
- Built Up- Open Space

Scale -1:80,000

0 0.5 1 2 3 4 KM

Generated by:

MAHARASHTRA REMOTE SENSING APPLICATION CENTRE
Department of Planning, Government of Maharashtra
VNIT Campus, South Ambazari Road
Nagpur-440010, Maharashtra

1) Enlist the colours used for showing land uses in the index.
2) What do the blue and the black lines show?
3) What is the name of the river in the map?
4) Name any two villages shown on the map.
5) Which city is shown on the map?
6) Which periods do the maps belong to?
7) Which land covers have reduced? What are their colours?
8) Which land covers seen to have increased? What are their colours?
9) Which land covers have been replaced by the increased land covers?
10) Write a conclusive note comparing both the maps.

Geographical explanation

Both the maps show land use land cover from two different periods – 2007 and 2017 – for the city of Ichalakaranji in Kolhapur District. The maps show the main city and the surrounding regions. Various colours shows types of land uses and land covers.

When we see the maps carefully, we find that the area under wasteland scrubs has transformed into industrial areas. Also, few parts in the city which show built-up has increased from sparse to dense. In some parts in rural areas, area under mining has increased. Some quarries have come up. Some areas under recreation have also reduced and denser urban growth is seen in this area. It is also found that areas along the roadways in the fringe of the city have urbanised during this period.

Exercise

Q. 1) Identify the correct correlation :

A : Assertion; R : Reasoning

1) A : Settlements can be of various types.

R : Various physical factors affect the growth of settlements.

1) Only A is correct.
2) Only R is correct.
3) Both A and R are correct and R is the correct explanation of A.
4) Both A and R are correct but R is not the correct explanation of A.

2) A : When cities grow, their functions also grow.

R : Cities can have only one function.

1) Only A is correct.
2) Only R is correct.
3) Both A and R are correct and R is the correct explanation of A.
4) Both A and R are correct but R is not the correct explanation of A.

Q. 2) Give geographical reasons :

1) Not all rural settlements change into urban settlements.
2) In rural settlements, land use is related to agriculture.
3) Rural-urban fringes have the characteristics of both urban and rural settlements.
4) Growth of urban areas is linked to land use.

Q. 3) Write short notes on :

1) Interrelationship between rural and urban settlements.
2) Problems of urban settlements.
3) Suburbs.
4) Mixed land use.

Q. 4) Answer the following questions :

1) Explain the characteristics of rural settlements.
2) What factors are responsible for development of various patterns in a settlement? Give examples.

Q. 5) Differentiate between :

1) Land use and Land cover

2) Barren and Non-agricultural land

3) Radial pattern and Circular pattern

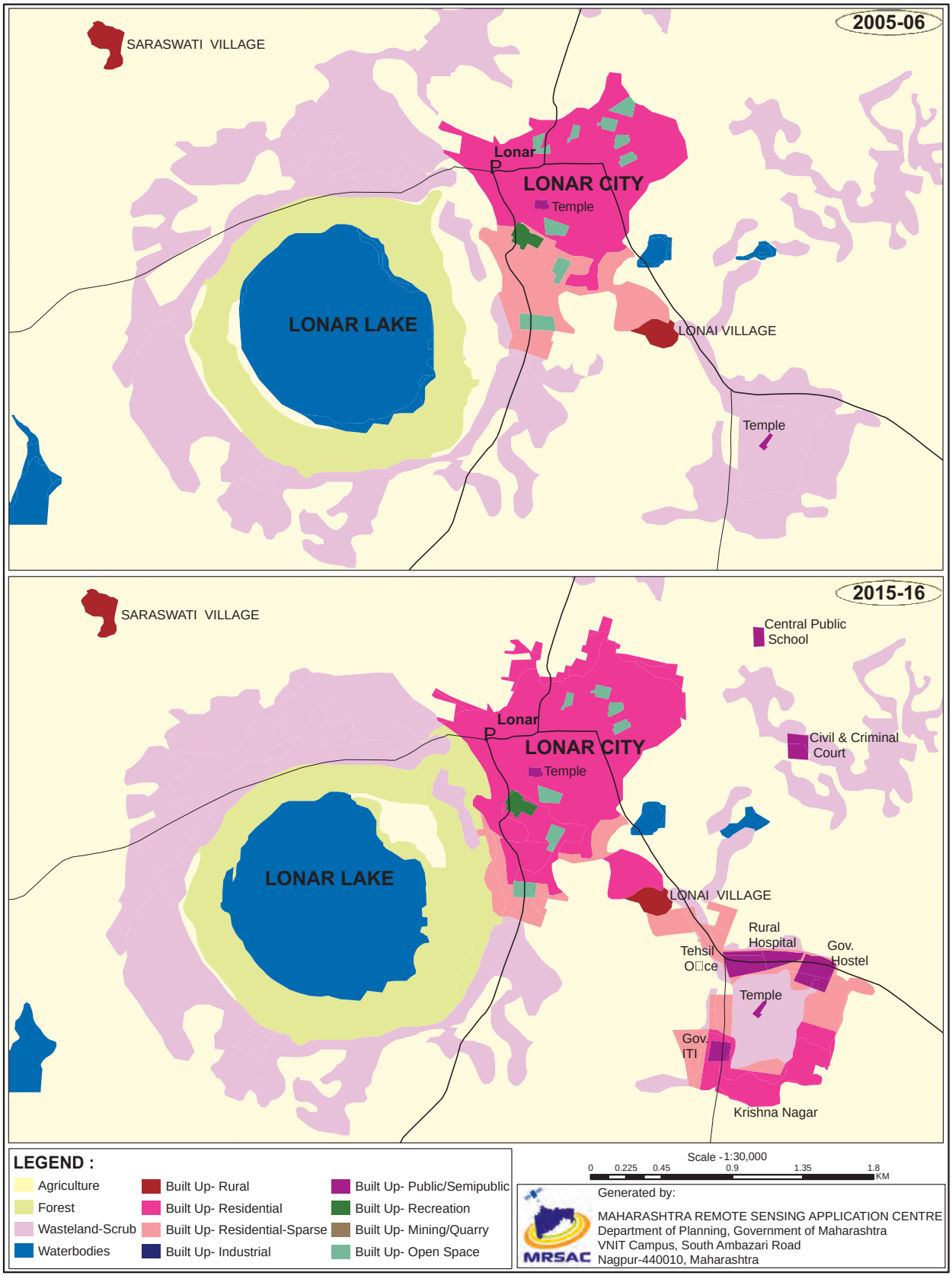
4) Nucleated and Dispersed settlement

Q. 6) Draw a neat and well-labelled diagram for :

1) Linear settlement 2) Radial settlement

3) Compact settlement 4) Dispersed settlement

Q. 7) Write a note in your own words about how land use in Lonar city has evolved over time.



Q. 8) Read the given passage and answer the following questions :

Different types of human settlements include hamlets, villages, small towns, large towns, isolated places, cities and conurbations. In some systems, types of human settlements are broken up into urban, suburban and rural; for example, the U.S. Census Bureau divides settlements into urban or rural categories based on precise definitions. Small settlements, such as hamlets and villages, have low populations and restricted access to services. Larger types of settlements, such as cities, have higher populations, higher densities and greater access to services. For example, a village may have only one or two general stores, while a large metropolis may have many specialized stores and chain stores. These differences are known as low-order service settlements and high-order service settlements. Larger settlements also have a sphere of influence affecting surrounding settlements. Settlements may also be divided by the site chosen, such as sites selected based on resources, trading points, defensive sites, shelter and relationship to water resources. The functions of human settlements also differ, as settlements may be established as ports, market towns and resorts. Types of rural settlements may also be classified by function, such as proximity to farming, fishing and mining. Settlements that focus on one economic activity are called single functional settlements. Human settlements may be permanent or temporary. For example, a refugee camp is a temporary settlement, while a city is a permanent settlement .

1) Which human settlements are mentioned in the passage above?
2) On what basis are urban and rural areas classified?
3) What are the functions carried out in rural settlements?
4) Explain the difference between low-order service and high-order service settlements.

***

How skyline of a city changes with time