## UNIT 9 EFFECTS OF URBANISATION

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### 9.1 INTRODUCTION

In the previous units you have studied the effects of over-exploitation of resources which has resulted in deforestation, desertification, pollution of water and air leading to climatic instability and other deleterious effects resulting from the use of protection chemicals, fertilisers, etc. In this unit you will study that the demographic explosion, industrialisation and modernisation have not only affected the environment, but also the social organisations, family structure, culture and even behaviour of human beings.

### **Objectives**

After reading this unit you will be able to:

- explain how large settlements affect the environment
- explain the rise of new social set-ups in cities, interaction between cultural past and urban demands, and the cultural change from rural to urban communities
- describe the social organisations of a city and the changes in family structure due to urbanisation
- explain how urbanisation leads to new entertainment avenues and art forums
- describe the stress-generating factors in urban environment, and
- describe the effects of urbanisation on animal life.

### 9.2 URBANISATION

Urbanisation is the process by which large number of people become permanently concentrated in small areas forming cities. The definition of a city or an urban area changes from time to time and place to place. The United Nations Organisation has recommended that member countries regard all places with more than 20,000 inhabitants living close together as urban; but, in fact nations compile their statistics on the basis of many different

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standards. United States, for instance, uses "urban place" to mean any locality where more than 2,500 people live. The 1961 and 1971 Census of India has defined urban areas to include:

- All such places which have a minimum population of 5,000.
- All such places where atleast 75% of the male working population is employed in occupations other than agriculture.
- All places which have a population density of more than 1,000 persons per sq. km.
- All municipalities, corporations, cantonments and notified town areas.

The early human beings led a nomadic life. They were dependent on hunting and food gathering, which was essentially a group activity. During this period people used to explore large areas for their food. There were no permanent settlements. About 10,000 years ago, in the Neolithic period, human beings started living in relatively fixed settlements. But for perhaps 5,000 years such living was confined to the semi-permanent peasant village – semi-permanent because, when the nearby soil had been exhausted of nutrients due to relatively primitive methods of cultivation, the entire village was usually compelled to pick up and move elsewhere. Even when the village prospered in one place and the population grew relatively large, it usually had to split into two, so that all cultivators would have ready access to the cultivable land.

The history of urbanisation in India is quite old. You have read in the Foundation Course in Science and Technology that cities of Mohanjodaro and Harappa which belong to Indus Valley Civilisation flourished between 4000-1500 BC. So you can see that urbanisation is quite a recent development in the overall evolution of human civilisation. Neolithic man's domestication of plants and animals eventually led to improved method of cultivation and stock breeding and proliferation of the crafts. This in turn eventually produced a surplus and freed some of the population to work as artisans, craftsmen, and servants.

As a result of technological advances in irrigation and agriculture, the productivity of land increased. Then came the use of draft animals with a sledge equipped with runners for carrying heavier loads. The major technological achievement in the early history of transportation, however, was obviously the invention of wheel. Wheels to be used efficiently, required roads, and thus came road building. Parallel improvements were also made in water transport.

The increase in population size converting the village into town and then to the city was accompanied by a great increase in the built-up area. Cities were usually walled to provide protection against enemies. The cities were also provided with adequate water facilities.

The combination of technological and demographic developments led to a momentous increase in the process of urbanisation. Immigrants from rural areas flooded into cities attracted by the availability of employment in the new factories.

Today, only a few cities support population equal to what the total earth supported few hundred years back. For example, at the time of Christ, the world's population was about 250 million. Today only a few cities can account for this population. By 1650 A.D. this population doubled to 500 million. By 1850, the earth population had become 1 billion. Populations of two billion, and 4 billion were recorded in 1930 and 1975 respectively. By 2010 AD the population on this earth is expected to double again and reach 8 billion. Urban centres have attracted a major portion of this increased population, especially during the last 200 years or so. In 1800 AD, only 2.4% of the world's population resided in places of 20,000 or more and only 1.7% in places of 1,00,000 or more. By 1960, 27.1% of world's population were living in places of 20,000 or more and 19.9% of people in places of 1 lakh or more. By 2000 AD about 42% of the earth's population will be living in urban centres having population 20,000 or more and about 25% in urban centres with population of 1 lakh or more. So, the population living in urban areas by 2000 AD will be more than 42+25 = 67%. Table 9.1 shows population of world's ten largest urban areas.

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ii)	How is an "urban place" defined in United States? Answer in the space given below:	Effects of Urbanisation
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### 9.3 EFFECTS OF URBANISATION ON **ENVIRONMENT**

In the previous section, you have studied that human settlements are growing tremendously throughout the world. This has resulted in environmental degradation in a number of ways, such as,

- encroachment of agricultural and fertile land for housing, industries, construction of roads and dams, etc.
- depletion in water resources due to increase in the water requirement
- pollution from the industrial and other urban activity, and
- emergence of slums, which deteriorate the surrounding areas.

In this section we will discuss the effects of urbanisation on environment in detail.

- I) Changes in Land Use: Towns and cities grow with economic growth of human societies. These, therefore, emerge at locations where land provides a base for some viable economic activity both of agricultural and non-agricultural types. These, therefore, subsist on land. As towns grow they invade the productive crop lands and rich forests. Both intracity and regionally open lands are converted into built-up area. Thus, the land with all its biological resources is irreversibly lost. An estimated area of 1.5 Mha of good agricultural land has been gobbled up by towns and cities since 1950 and another 8 Mha of such land may similarly be diverted for this purpose by 2000 AD. The first Master Plan of Delhi envisaged an area of 44,000 ha and called for acquiring 32,000 ha of agricultural land. Within 20 years, the city has expanded by about 35%. Indian cities which are 30 years or older, have lost practically all wild life from their suburbs due to encroachment on agriculture land in their surroundings.
- II) Depletion of Water Resources: Water requirement of the urban population also increases many times and almost all of it has to be met through the water supply system. With the rapidly increasing urban population, and limited resources it is becoming increasingly difficult to meet the requirements of the municipal water supply. In Bombay as against the estimated 305 liters per capita per day, only 227.5 liters are being supplied. Delhi is no better with average water supply of 267 liters per capita per day. It may be mentioned that these are 'A' class cities, in smaller towns the position of water supply is much worse. Due to extensive built-up areas, the local ground water recharges decline and the cities have to draw water from outside. With further growth, the demands increase and the cities draw from distant sources. Presently Delhi is drawing water from Ramganga, 180 km away, Indore from Narmada, 75 km away and Bangalore from Cauvery at a distance of 100 km. Madras is seeking water from Krishna in Andhra Pradesh and Cauvery in Karnataka with 600 m lift. In each of these cases, water for the cities has to be drawn at the cost of cultivation and rural demands. Since the water is drawn from long disfances, it follows paths different than the natural hydrologic routes and therefore, will affect the ecosystems.
- III) Building Materials: Construction of houses and other structures need large quantities of building materials. Delhi's estimated need is 80,000 new houses every year. These would require 1,100 million bricks annually while kilns in Delhi can make only 140 million bricks a year. The rest come from the adjoining areas comprising fertile land thus causing further damage to good agricultural land.
- IV) Industries: Industrial development goes almost hand in hand with urbanisation. Metropolitan towns like Calcutta, Bombay and Madras are alarming examples. Nearly 60% of the industries in Maharashtra are located in Bombay alone. Industries draw upon water resources heavily. Water requirement per tonne of produce in a crude oil refinery is between 1-3 m<sup>3</sup>, it is 5-8 m<sup>3</sup> for dairy, 20-40 m<sup>3</sup> for textiles, 100-250 m<sup>3</sup> for steel, 250-400 m<sup>3</sup> for pulp and paper and 400-600 m<sup>3</sup> for viscose rayon.

# 9.4 URBANISATION AND SOCIAL ORGANISATIONS

You have studied in section 9.1 that urbanisation is the result of socio-economic process. In turn, urbanisation leads to a special kind of social system which has some positive aspects and also some negative aspects. Urban areas may have generally better facilities such as transport, power, health care, etc. But in the same urban areas poor people live under unhealthy conditions. In "rban areas there are high rise buildings one side with all modern facilities, while on the other side, there are slums and ghettos. Further, people belonging to different castes and groups tend to live together in specific localities. We shall discuss such organisations in the following sub-sections.

### 9.4.1 Rich and Poor Residential Areas

Urbanisation is the result of a large number of people residing in a limited area. When a large number of people get concentrated in an urban area, the demands on resources increase. More houses have to be built. More electricity, more water and more sewage disposal facilities have to be developed. Health, education, recreation and entertainment of the population has to be looked after. In some urban areas it may be possible to increase facilities to satisfy the demands completely. But in most urban areas this is not the case. Not only do demand outstrip the existing facilities, the facilities grow much more slowly than the population. The result is that everyone in the urban centre does not get all the facilities and a large number do not get even the minimum. This becomes obvious from the existence of rich and poor residential areas in most of the urban centres all over the world. In developing countries this problem is even more acute on account of the fact that the financial conditions of the governments are not very satisfactory and the demands are much more than can be met easily.

Most of the Third World cities are really two cities within one. There is one part which may be considered the city of the rich inhabitants, the other part is the portion meant for the poor. These two areas can be differentiated very easily because they differ in so many ways. The areas occupied by rich people have low population density, better planning for houses, roads, parks, etc. These have assured water supply and sewage collection facilities. Power supply is more regular and communication facilities are amply available. Whereas the areas occupied by poor people in any urban centre have high population density and illegal shocks built of low grade building materials or even with scrap materials. Drinking water, sewage, garbage collection and disposal facilities are nominal. Health and educational facilities are almost non-existent. Even where efforts are made to provide these facilities, they generally remain inadequate. Even in terms of site selection, the poor residential areas are generally unfit for human settlement. The better areas always have high price tag attached to them. So, the poor people have no option but to live in degraded areas. These may be the banks of rivers, land left by the side of railway tracks, near factories, drains, highways, etc. Most of these areas have problems of flooding, poor drainage, pollution, accidents, etc. But there is no choice. One third or even more of the inhabitants of most of the Third World cities live in these localities. Even if we take the example of Delhi, Calcutta, Bombay and Madras, all these cities have a very large number of people living in residential areas which are slums and are commonly called 'Jhuggis' or 'Chawls'.

It is estimated that by the year 2000 AD the urban population in India will become 350 million, which means that every third citizen of India will be living in urban settlements. It will become increasingly difficult to provide healthy living conditions to all these people, as a result more and more people will be forced to live in unhealthy areas lacking essential facilities.

This trend is very old. Even during the British period, the areas where rich people lived were different from those where common Indians lived. Cantonment areas, Civil lines, and Railway colonies were well planned with all the facilities, while people living in other areas only heard of those facilities. The same trend continues even today in most of the urban centres. This is the reason why the poor areas lack essential facilities and people living in these areas suffer in so many ways. These people are forced to remain outside their dwelling units most of the time because their dwelling units are too small and overcrowded. In western countries the towns spill over the countryside, in the sense that the facilities of towns are being taken to rural areas, so that more people should move to those areas for

living, while in poor countries, rural characteristics are penetrating the urban areas. Rural building forms are common in the cities, animals move around on the streets and roads. Even the life style in the poor areas of cities is exactly the same as in rural areas.

According to the findings of the Planning Commission, Government of India, as many as 40 million people lived in slums in cities and towns in 1981. By 2001, the slum population is expected to grow to about 78 million.

### 9.4.2 Ghettos and Suburban Living

As the urban centres become more and more crowded and the facilities in urban areas become expensive, most people of average income find it difficult to live in urban areas. Urban centres accommodate very large number of people. Only a very small percentage of these can afford comfortable and healthy living and the rest have only two options: 1) to live in the substandard houses and shacks, 2) to live away from the urban centres, travelling long distances to reach their places of work. Both of these trends are seen in the cities today, especially in the poor countries.

In India and its neighbouring countries, cities have a large number of dwelling units which are not fit for healthy living. Some of these units, which were fit for human living few decades earlier, have now become dilapidated. Therefore, people who could afford better living have left these units and those who cannot afford a better place, have moved into such places. Further, these occupants consider that these houses have become more or less their property.

**Urban poor live in slums:** In these areas dwelling units are erected with the cheapest available materials. Most often the material used is scrap. In very small areas, very large number of dwelling units are set up. In the Indian subcontinent about 20% of the urban population lives in these slums.

The second category of the urban working population lives outside the urban areas in what are known as suburban areas. Though cheap, these areas lack basic amenities and the people living here, have to travel every day to their working places. Every morning we see thousands of such people travelling towards urban centres by trains, trams, buses, twowheelers, bicycles, etc. In the evening the stream flows in the opposite direction. Satisfying the requirements of these commuters is a perpetual problem. The trains, buses, trams, etc. are always overcrowded during the peak periods. People travel standing and even hanging on the doors and footboards. Every year a large number of people die of accidents resulting from these risky travelling conditions. In metropolitan cities like Bombay, Calcutta, Delhi and Madras, the areas which are considered suburbs for these cities are growing every year. So, more and more trains, buses, and other means of transport are being pressed into service for the daily commuters. This kind of suburban living may be favoured for the reason that it reduces pressure on urban centres. But, at the same time it puts more pressure on transport facilities which are not fully utilised. For example, the trains, buses, etc. travelling from the cities to the suburbs in the morning hours and those towards the city centres in the evening are also underutilised. It is because of the one way flow of working people, during both periods.

There is another set of people who resort to suburban living to avoid of pollution, crowding, etc. in the cities. These suburbs have all the facilities of the urban life. In most of the affluent countries city centres are not favoured by rich people. They prefer to live outside the cities. Majority of such people can afford their own transport. They do not have to struggle everyday in over-crowded trains, buses, trams, etc. This is the reason why in these countries the dwelling units in the city centres are being handed over to poorer people, or these are being converted into commercial buildings. The rich people who were earlier staying in these units now live outside cities. In Delhi, Bangalore, etc. this trend is coming up fast. There are posh suburban areas developing to accommodate affluent people who come to stay there by choice and not by compulsion.

### 9.4.3 Caste System in Urban Living

Caste is an important factor in India. Large number of activities in India are controlled or at least influenced by caste system. Distribution of population in an area is influenced by caste factors. In rural areas, either there are separate villages for upper castes and lower castes or if they live in the same village, the areas are demarcated. Till very recently, the low caste people were treated as untouchables and they were not permitted to use facilities such as

wells, temples, etc. meant for the high castes. After Independence, Government of India has taken various steps to wipe out this malady, but still demarcation between the upper or higher castes persists, both in urban as well as in rural areas.

Studies related to caste distribution in urban areas have revealed that a particular area is predominantly inhabited by one of the castes. For example, in Pune, Brahmins dominate certain areas and in these areas there are no non-Brahmins. The centre of the city is dominated by the traders, Muslims and the non-local groups. The eastern and north-eastern regions of the city have scheduled castes and other castes which were considered untouchables till recently. Similarly, in Sholapur, the areas of the city which have high population of Marathas also have a high ratio of Brahmins. Non-Marathas and Lingayats dominate the other areas.

In Ahmedabad, too, such demarcation exists. The castes are segregated at ward and even block levels. Muslims are concentrated in the walled city and are virtually absent in other areas. Brahmins, on the other hand, are distributed in the whole city, although their concentration is more in certain areas. In most of the Indian urban centres more or less similar situation exists. This kind of demarcation is apparently based on caste factors, but, its roots may be found in the economic factor. It has been observed that right from the beginning, the upper caste people have been dominating the economy in the Indian system. Hence they occupied the privileged areas where best of the facilities existed. Only in recent years, the trading community has become important. Earlier they were looked down upon. Their main concern was trading, so they were concentrated in the market areas. The lower castes were employed in menial jobs and their economic condition was generally bad. So, they had to be content with living in areas rejected by others. In all the cities, areas for people of high status are located towards the centre, and as the high status and high castes used to be same, the demarcation meant for high status also divided populations on caste lines. This division still continues in a large number of cities and urban centres.

SA	Q 3
i)	Discuss briefly in the space given below the reasons for people living in suburban areas.

## 9.5 URBANISATION AND FAMILY STRUCTURE

Urbanisation has its impact on all aspects of day-to-day life. Family structure has also been influenced by urbanisation. In the rural society the concept of family living is different from that in the urban society. In the urban society usually the families are nuclear, a very small percentage of households have joint families, whereas in rural society most of the households have joint families. This change in family structure is a direct result of urbanisation. Now we will study the factors responsible for the break up of the large joint families into small nuclear families.

## 9.5.1 Living Space and Family Break-up

Living space is the main area of concern in the urban society. As urbanisation increases and population in the urban centres grows, the per capita space available decreases. Therefore, traditional joint families breakup and each sub-family lives independently. However, availability of living space is not the only factor responsible for breaking up of the families in the urban centres. If a joint family breaks into four smaller families, each one of them will need more space than if all the four families lived together. The immediate factor governing the family break up is the changed pattern of living and disparity in income. In the cities, life is fast and self-centred. Every one is concerned about himself or his immediate dependants, and as the dependants become independent, concern for them decreases. In this environment everyone struggles for himself. In the process, if one component of the larger family is able to afford better life, they would not like to suffer on account of the failures of

others. So they prefer to separate from the family and live independently. This is how most of the families are broken up. If there are three brothers in a family and all of them are not equal in terms of income, etc., then the one who is better placed will always like to separate and live a better life than to suffer for the failures of his other brothers. This kind of break up is often seen in the families living in urban areas. There is another category of urban population, the migrants. A joint family from a non-urban area when it migrates to an urban area, finds it difficult to live together because of the non-availability of large living space at reasonable price. In this situation, only a few members of the family move to urban areas while the rest are left back at their original place. So, there is a split in the family. It is not unusual to find only the men living in urban areas while the women and children are left behind in the rural areas. This is to economise on urban living. One person alone, especially a male member, can live in the urban centre by spending very little. Thus, the male members are able to support themselves as well as those who are left behind and whom they periodically visit. So, in the metropolitan cities one can find two types of break-up in families; one in which a portion of the family lives in the high income area while the others in the substandard areas where life is not so good, and the second in which one or more members of the family are left behind in the rural areas.

### 9.5.2 Occupational Mobility and Family Movements

Urbanisation has resulted in varied types of occupations and there are a large number of occupations where working people have to keep on moving at intervals. For example, the urban centres have a large number of people who are transferred from one place to another. Some times they are transferred from one end of the country to another. There are other people such as travelling salesmen whose nature of job is such that they have to keep moving constantly. Such a kind of occupational mobility involves the family too. When people are transferred from one city or one urban centre to another, the family has to bear lots of stress; not only it has to move its household but also it has to adapt to new living conditions, new neighbours, new house, etc. The children have to adjust with their new schools, new teachers, new schoolmates, new playmates and so many other new things. Some times the change is quite severe and puts lots of pressure on the family in various ways. As far as the working member is concerned, he adapts to the new place much more easily than other members of the family as he is mentally prepared for the change. But the other members of the family have to struggle hard to adapt to new place, environment and neighbours. This is an indirect outcome of the urban life, which demands occupational mobility.

SAQ 4 Give some of the main drawbacks of occupational mobility. Limit your answ words.	

### 9.6 CULTURE AND URBANISATION

Urbanisation has its impact not only on the work pattern, living conditions, family relations, etc. but also on the culture of the people. This impact of urbanisation on culture is in two ways. On the one hand, urbanisation brings people of different cultures together so that they have exchange of cultural heritage and on the other, urbanisation makes life faster and competitive, so, there is not much time left for cultural activities. But fast increase in urban population is also damaging some of the entertainment avenues, for example, parks, gardens, green belts, pavements, etc.

#### 9.6.1 Entertainment Avenues

Urbanisation provides new entertainment avenues. For example, urban centres and cinema houses, video parlours, theatres, exhibition galleries, etc. whereas in rural areas these

facilities are either not available or are located in certain centres only and people living in other areas do not get any benefit out of them. This is one of the reasons why people from the rural areas are attracted towards cities. Even simple entertainment like parks, playgrounds, etc. are not adequate in rural areas.

Clubs, golf courses, gymkhanas, restaurants, etc. are the means of entertainment for the higher income people. Cinemas, video parlours, theatres, exhibition galleries, etc. provide reasonably cheap entertainment affordable even by the poor. Late night shows of cinemas are always crowded by people who during the day time pull rickshaws, drive autos, taxis, or work as labourers. In the cinema they forget the realities of life for three hours at least. They feel as if they are part of the dream life so commonly shown in the cinema.

Urbanisation provides entertainment to everyone. This helps a lot in reducing the psychological pressure and tensions which every urban resident has to suffer.

### 9.6.2 Cultural Hybridisation

In urban areas, especially in the metropolitan cities, people of extremely divergent cultures live together. This has a positive impact. People come to know about each other's culture and they exchange their ideas, breaking the barriers which earlier used to exist between them. This results in cultural hybridisation. For example, in any large city, we find that people take interest in festivals like Holi, Diwali, Id, Guru Parb, Christmas, Kali Puja, Ganesh Puja and similar other festivals, whereas in rural areas, many of these occasions remain unknown to a large number of people as those are not considered to be their festivals. Every region of the country has specific cultural programmes, like music, dance, folk songs, etc. performed specially in the rural areas. In urban areas, specially the metropolis, where people from different parts of the country live, one can find such cultural programmes organised very often. Government of India is also organising such cultural programmes (Apna Ustav, Melas, etc.) both at national and international levels. These are certainly positive trends of urbanisation as these bring people closer.

However, some people are of the opinion that mixing of various cultures may dilute the cultural heritage in its pure form. But one must take into consideration the fact that for maintaining the purity of cultures, distances between people need not be maintained. In urban areas, inter-caste and inter-religion marriages do take place some time and people do not consider it an offence any mere. This is also a form of cultural hybridisation.

SAQ 5 What are the entertains	ment avenues u	ırbanisation p	rovides for the	e people?		
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# 9.7 PSYCHOLOGICAL ASPECTS OF URBANISATION

This is the most fascinating aspect of urbanisation. If the psychology of an urban resident is analysed, it would be found to be very different from that of a person from the rural background. In urban centres, relationship among the residents is impersonal, superficial and based on utilitarian considerations. Often people do not know who their next door neighbour is. Also, there is an exaggerated importance attached to time in the urban set up because of large commuting distances and other pressures on time resulting from the busy urban life. In contrast, in rural areas importance is given to relationships. The relationships are very personal, intimate, and less business like. These are the most lasting relationships which are carried from generation to generation. The problems faced by urban people result in various kinds of stress. We will study about such problems in the following section.

### 9.7.1 Stress due to Over-interaction

Man is primarily adapted to living in small groups which are coherent as in villages. Right from the beginning of the neolithic period man has lived in small communites and most people still like to live like that. However, urban life is very different. The first characteristic of urban life is over-interaction. For example, a city dweller comes in contact with as many individuals in one day as a villager meets during a whole week. For instance, an urban person has to come in contact with a store clerk, cashier, bus conductor, taxi driver, students, colleagues, fellow commuters, and those going to cinemea theatre, restaurant bearers, lift operators, beggars, vegetable venders, and so on. It is next to impossible to react to each of them. So, an urban person keeps his interest confined to only those persons who are of interest to him. For example, when a person gets into a bus, his interest in the conductor is only that he will accept the money and issue the ticket. There is no concern about what is the name of the conductor, which area he belongs to and what is his family life, etc. So, well adapted citizens of large cities and metropolis have learnt to protect themselves from stimuli which do not interest them. However, it is not always possible to shield oneself against the large number of stimuli and interactions. Whatsoever, may be our attitude, we cannot remain immune to crowds, over-interaction, etc. For example, when a hundred people are forced to live in a house or an apartment which is sufficient for only 20 people or eighty persons have to squeeze themselves in a bus which is meant for fifty, there bound to be problems. There is over-interaction both physical as well as mental and also otherwise. For example, in a crowded bus we encounter both physical as well as mental problems. Even in a crowded bus everyone wants some mental privacy which one cannot get. In an overcrowded apartment people face problems by way of scarcity of water, toilet facilities, noise etc. Their privacy is also threatened. However, it is interesting to know that in a society of higher density, people generally do not care for privacy of others. In fact people start to interfere more and more in others' affairs. This leads to lots of problems. For example, in a well planned residential area, people are not concerned about their neighbours. They are not interested in knowing who visits them, how many live in the house, what are their food habits, etc., whereas in a crowded locality, everyone knows everything about their neighbours. They at least make efforts to know everything about others. This leads to lots of stress, confusion and lots of psychological problems. For example, it has been observed that mothers living in crowded conditions are unable to maintain proper emotional bonds with their children. This affects the normal development of the children.

Crowding may also bring out violent instincts. It has been observed that if normal children are kept in crowded conditions, they develop violent habits like fighting, snatching, breaking the toys, etc. Reports indicate that even adults become more violent under crowded living conditions.

### 9.7.2 Stress Due to Changed Environment

In urban centres, majority of the population is of those who are not of urban origin, but have migrated from non-urban areas for one reason or the other, like for employment, business, education, etc. For these people, the sudden change in environment from rural to urban is a very drastic one and they find it very difficult to adapt to the new environment. They have to suffer from lots of stress and strain.

It has been reported that the frequency of mental illness among city dwellers is found to be higher in migrant populations than in the native urban dwellers. Such a trend is observed in a large number of cities, all over the world. However, it was not possible to say that migrants carried the symptoms with them. It has to be something related to the changed living. In rural environment, people are intimately related to each other. If some one is sick, the others feel that it is their responsibility to take care of him. This way the whole community looks after the sick. In the urban environment such traditions do not exist. Therefore, the migrants feel isolated and this is a big shock to them, which they find difficult to bear. Today comparatively more people live alone than ever before. Although, the population of an urban centre is much more than in rural areas, every household or even an individual becomes an entity and each one is alone in himself or herself. As we have said earlier, this is not the case in rural set-up. So, the population which adopts urban living at the cost of rural life has to bear the stress and generally they never identify themselves as true urbanites. Only their second or third generation becomes true urbanite.

You might have seen in cities that new migrants continue their rural pattern of life. They live in the same rural manner, they eat the same rural type of food. When they do not get these opportunities, they are, depressed and get shocked. They do not wish to adapt immediately to urban pattern of living. This might be the probable reason for a higher rate of mental illness in them. It has been noticed that if the slum dwellers are moved to housing estates, where better facilities are available they suffer emotionally. There are instances where people have become permanently unhappy and ill due to disintegration of their closely knit community life.

If we take into consideration the pollution of the environment, especially air, the urban centres are much more polluted than rural areas. This affects the migrants most. They feel suffocated and suffer from various diseases much more easily than the original urbanites.

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	mental illness found in the migrant city dwellers we urban dwellers? Discuss briefly in the space given
below.	

### 9.8 ANIMALS AND URBANISATION

Urbanisation results in construction of a large number of buildings, more roads, factories, parking places, etc. For all these, land is secured either by diverting agricultural land or by cutting forests. There may not be even one example where a large urban centre has been developed on barren land. It is always the agricultural land or forest land which is utilised. At some places beaches, lakes and rivers are filled to create land to accommodate the growing population. In these cases too, natural habitat is disturbed or destroyed.

Urbanisation also introduces new types of plants and animals. When human beings occupy any area they prefer to keep those animals and plants which are of immediate value. For example, dogs, horses, cows and other domestic animals, are maintained. Parks and gardens are created where plants of ornamental and economic value are cultivated. There is also another class of animals, which automatically start living in areas which are occupied by humans. There are rats, crows, mosquitos, houseflies, etc.

### 9.8.1 Depletion of Wildlife

It is natural to locate cities and urban centres in agricultural regions. These regions supply food and other items of daily use. Seaport cities are usually at the mouth of a river where delta deposits are present. The deltas have rich soils. Similarly, highways follow the easy terrain of river basins. The river basins have the best agricultural soils. Later urbanisation tends to follow the highways. So, urbanisation and agricultural land have serious conflicts. Still, every year thousands of hectares of land which could support agriculture is occupied by urbanisation. You have already studied in the previous sections that to compensate the loss, new areas of land are converted into agricultural land. It is very difficult to convert barren and unvegetated land into agricultural land. So, this process always tends to encroach upon areas occupied by natural fertile ecosystems. Therefore, natural vegetation has to be cleared. With the clearance of natural flora, the animals (fauna) also disappear. Later, when agricultural ecosystem flourishes, entirely new types of plants and animals occupy the area. Certain urban centres have developed wholly at the cost of forests. At the construction of highways and railway tracts a large number of natural fauna and flora are eradicated. The effect of construction of highways and railway tracts is more adverse than the effect due to establishment of urban centres, because highways travel hundreds of kilometers across the forests to connect two urban centres. When urbanisation spreads in coastal areas or on the banks of rivers and lakes, there too the natural plants and animals are disturbed. First, the area adjacent to the water body is occupied, followed by dumping the garbage and soil into

the water body. In this way the natural plants and animals present inside and outside the water bodies get eliminated. When the natural species are eliminated, other species endemic to urban environment such as rats, cockroaches, sparrows, and similar other species take over their place. There is another dimension to this problem too. These species are found only where human beings live. They have the potential to adapt easily to the urban environment. Among these rats are the most successful. They immediately occupy the area and proliferate. Insect pests and weed plants are also in this category. Mosquitoes, house flies and many other insects can be classified in this category. All these then start competing with human population and create various diseases like malaria, plague, etc. Urbanisation, on one hand, eliminates many useful species and on other hand, it gives room to harmful species.

#### 9.8.2 Domestic and Pet Animals

The association of man with animals has been in existence since a very long time. The interaction was first limited to wild animals, later, human beings started domesticating some of these animals for various purposes, like:

- i) for food,
- ii) journey,
- iii) carrying loads, as draught animals for tilling the land and for transport,
- iv) for pleasure.

Animals selected for domestication were generally hardy, docile, faithful or good looking, depending on their use. For example, strong animals like elephants, camels, horses, oxen are domesticated for their strength while dogs are kept for security since they are alert and faithful. Cows, buffaloes, pigs, chickens, etc. are domesticated for obtaining food in the form of meat, milk, eggs, etc. Lambs are kept for obtaining wool, meat, and milk. Cats are domesticated for pleasure as well as for killing rats. Rabbits and different types of birds are domesticated mostly for their ornamental values.

It is evident from the observations mentioned above that with urbanisation large number of species are introduced in areas which were earlier occupied by natural plants and animals.

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### 9.9 SUMMARY

In this unit you have learnt that:

- Urbanisation is the result of industrialisation and increasing population.
- To accommodate increasing population at urban centres, agricultural lands and forests are converted into built up areas. This results in disturbance in natural habitat, eliminating the fauna and flora of the region.
- Extensive built up areas reduce local ground water. To meet the water requirement of the
  urban population, water is drawn from long distances at the cost of cultivation and rural
  demands.
- Expensive residential places at urban centres compel the migrants to reside either in slums or suburban areas. In the slums these people have to put up with poor residential facilities, and in suburban areas they suffer on account of occupational mobility. These also result in family breakup.
- Urbanites suffer from stress and mental illness due to large commuting distances and other pressures resulting from the fast tempo of urban life, and over-interaction.
   Therefore, they have developed indifferent attitudes. Their relationships with other

- people are impersonal, superficial and based only on utilitarian considerations. Among good points about urbanisation is that it promotes cultural hybridisation.
- Cutting of forests and conversion of agricultural lands into built-up areas results in
  elimination of natural species. When natural species are eliminated other species
  endemic to urban environment take over their place. Urbanisation also introduces new
  species of plants and animals of economic and ornamental value.

JII I I I I Q C E D I I O I I D	9.	10	<b>TERMINAL</b>	<b>QUESTIONS</b>
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1)	How does Census of India 1961 and 1971 define an urban area?
2)	Give three reasons for the rapid growth in urban population.
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3)	'Most of the Third World cities are really two cities'. Comment briefly.
4)	In urban centres, relationship among the residents is impersonal, superficial and based on utilitarian considerations. Give reasons.
5)	How does the caste factor influence distribution of population in urban areas ?
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### 9.11 ANSWERS

### **SAQs**

- 1) i) As per the recommendations of the United Nations Organisation, all places with more than 20,000 inhabitants living close together are urban areas.
  - ii) In United States "Urban Place" means a locality where more than 2,500 live close together.
- 2) a) productive crop land, rich forests, built-up, biological.
  - b) worst, degradation, urbanisation
- 3) The urban centres are becoming more and more crowded and the residential accommodation is very expensive. Most people of average income find it difficult to live in urban areas. Therefore, they live outside the urban area known as suburban area and travel to their working place.

There is another set of people who resort to suburban living to get away from pollution, crowding, etc. in the cities.

- 4) Urbanisation has resulted in varied types of occupations where working people have to keep on moving at intervals. Such a kind of occupational mobility involves the family too. When people are transferred from one city to another, the family has to bear lots of stress, not only it has to move its household, but it also has to struggle to adapt to the new place and the new environment, which is a stress-inducing aspect.
- 5) Urbanisation provides entertainment avenues for both rich as well as the poor people. Clubs, golf courses, gymkhanas, restaurants, etc. are the means of entertainment for the people with better income, whereas cinemas, video parlours, theatres, exhibition galleries, etc. provide reasonably cheap entertainment affordable by the poor. Late night shows of cinemas are always crowded by people who during the day time work as labourers, pull rickshaws, drive autos, taxies, etc. In the cinema they forget their miserable life for three hours.
- 6) In urban centres life is very busy and fast due to long commuting distances. In a day they have to come in contact with large number of people. It is impossible to react to each of them. So an urban person keeps his interest confined to only those persons who are of interest to him. Whereas in rural areas the relationships are personal, intimate, long lasting and without a motive of personal benefit. Even the living style, food habits, etc., at urban places are very much different from those found in the rural areas. This sudden change in the environment affects the migrant population of the urban centres, and might be the reason for the higher rate of mental illness found in the migrant urban dwellers compared to the native urban dwellers. Apart from the psychological stress they are susceptible to various diseases resulting from the polluted environment at urban places.
- 7) Rats, Mice, Sparrows, Cockroaches, Mosquitoes, Housefly, etc.

### Terminal Questions

- 1) The 1961 and 1971 Census of India has defined urban areas to include:
  - i) All such places which have a minimum population of 5,000.
  - ii) All such places where atleast 75% of the male working population is employed in occupations other than agriculture.
  - iii) All places which have a population density of more than 1,000 persons per sq km.
  - iv) All municipalities, corporations, cantonments and notified town areas.
- 2) Growth in urban population is generally due to:
  - i) natural increase in urban population,
  - ii) migration of population to urban area,
  - iii) administrative enlargement of the urban municipal territory.
- 3) In most of the Third World cities it has been seen that there is one part which is inhabited by rich people and the other part inhabited by poor people. These two areas differ in so many ways. The areas inhabited by rich people have low density, better

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planning for houses, roads, parks, etc. They have better water, electricity, sewerage and communication facilities, whereas the areas inhabited by poor people have high density, illegal shacks built with low grade building materials with least facilities of drinking water, sewerage, electricity and communication facilities. These two regions of the same city look like two different cities.

- 4) In urban centres people have lots of pressure on time resulting from fast and busy urban life. They have to commute from long distances to reach to their place of work. It is not possible for them to interact with each and every person they come in contact with in their day-to-day life. Therefore, nobody bothers to keep contact with someone who is not of any benefit to them. This causes an urban dweller to develop impersonal and superficial type of relationship with people who are not of use to them.
- 5) Caste is an important factor in India. Studies have revealed that in urban areas too population distribution is based on caste system as found in the rural area. A particular area is predominantly inhabited by one of the castes. For example, in Pune, Brahmins dominate certain areas and in these areas there are no Non-Brahmins. The centre of the city is dominated by the traders, Muslims and the non-local groups. The eastern and north-eastern regions of the city have scheduled castes and other castes which were considered untouchables.

### **GLOSSARY**

Agroecosystem: An ecosystem in which agriculture is practiced as main occupation.

**Agro Pastoral System:** A system of people that lived in villages and, later, towns relying on domestic animals and crops grown in nearby fields. A system characterised by specialisation of work roles.

**Alloy:** A composition of two or more metals.

Aphrodisiac: Substance or drug arousing sexual desire.

**Aquifer:** Underground layer of porous material (sandstone) containing water (ground water), which may be withdrawn from wells for human use.

Aromatic: Having a pleasant, distinctive smell.

**Biogas**: A mixture of gaseous hydrocarbons coming from degeneration of organic matter by methnogenic bacteria. Biogas is also known us gobar gas.

**Bio-Geo-Chemical Cycle:** A cyclic transformation of certain essential chemical elements as they pass from soil and atmosphere through the living components of the ecosystem and are eventually returned back to soil and atmosphere.

**Biosphere:** That part of earth and its atmosphere which is inhabited by living things.

Biotechnology: Devising means of exploiting organisms for the benefit of mankind.

**Buffering Capacity of Soil:** The ability of a soil sample to withstand changes in pH (acidic or alkaline).

Carp: Type of large edible freshwater fish that lives in lakes and ponds (e.g., Rohu, Catla).

Carrying Capacity: Maximum population size that a given environment can support for an indefinite period or on a sustainable basis.

Catchment Area: An area from which water drains to a particular location such as a main river system or a lake.

Clear Cutting: Removal of all trees from a forested area.

Climax Community: A stable biological community that perpetuates itself in a habitat.

Coal-based Thermal Generation: Generation of heat/electricity by burning coal.

**Cold Desert :** Deserts as found at higher altitudes where the climate is arid and temperature is very low. Such a type of desert is found in Ladakh region in India.

Combined Family: The family consisting of close relations.

Compaction of Soil: Conversion of fertile soil into a closely packed mass leaving no air space, reducing it to a barren piece of land.

Competitor: An individual who competes with others for food, space or mate.

Congestion of Roots: Like other plant parts roots also need oxygen for respiration. If soil is excessively watered, the roots die of lack of air. This is called congestion of roots.

**Consumer:** An organism which meets its energy requirements by feeding on other organisms.

Contamination: Rendering impure or unsuitable by adding something bad or impure,

CO<sub>2</sub>-Lock Up: A two-step process involving (a) the capture of sunlight and its conversion into cellular energy, and (b) the production of organic molecules (such as glucose) from CO<sub>2</sub>, water and solar energy, a process known as photosynthesis.

Cultivation: Preparation and use of land for growing crops.

**Deforestation:** Destruction or removal of forests by denudation or clear cutting.

**Demography:** Study of the various aspects of population (generally of human population).

Denudation: Falling of the leaves from the trees; destruction of green cover from an area.

**Desert:** Terrestrial regions located throughout the world. Often found on the downside of mountain ranges, characterised by low humidity, poor soil fertility and extremes of temperatures, and low precipitation.

**Desertification:** The formation of desert in arid and semi-arid regions from overgrazing, deforestation, poor use of land, excessive withdrawal of ground water, overgrazing and climate change.

**Developed Country:** A term for a country generally characterised by high standard of living, low population growth rate, low infant mortality, excessive material consumption, high per capita income, urban population and low illiteracy.

Economic Zone along Coastline: The area along the sea coast where fishing is practiced.

Environment: Anything that affects an organism during its life time.

Epidemic: Large scale temporary increase in prevalence of a disease due to a parasite.

Ethnic Diversity: The diversity of a national, racial or tribal group, that has a common cultural tradition.

**Eutrophication:** Increase in the nutrient content of a water body.

**Exponential Population Growth:** Growth of a population in geometrical progression, in a density-independent fashion.

**Extinction:** Disappearance of a species to a great extent from a part or all of its distribution range.

Fauna: Animal population of a particular area.

Feedlot: Fenced area where cattle are raised in close confinement to minimise energy loss and maximise weight gain.

Fisheries: Business or industry of fishing.

Flora: Plant population of a particular area.

Flow Lines: Streams of water culminating in a water body.

Forestry: Science and practice of planting, caring for and managing forests.

Fossil: Remains of a prehistoric animal or plant preserved by being buried in earth and now hardened like rock.

Genetic Diversity: Variety of genotypes of an area.

Genetic Erosion: Gradual wearing of genetic diversity.

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Geological Time Scale: Geological periods. A scale of time which serves as a reference for correlating various events in the history of the earth; it has been built up by studying the various strata of rocks which comprise the Earth's crust with special reference to the fossils found in them. The time scale is divided into three main 'eras' based upon the general character of the life they contain; the eras are named as coenozoic, mesozoic and palaeozoic. Each era has been subdivided into periods.

Grazers: Animals which feed on plants.

Grazing Base: An area of land left uncultivated for use by grazers.

Green Manure: A manure raised by growing the plants and burying their green parts under soil in order to increase fertility.

Groundwater: Water below the earth's surface in the saturated zone. (see aquifer).

Horticulture: Art of growing flowers, fruits and vegetables.

**Hydrocarbons:** A class of organic chemical compounds containing hydrogen and carbon (often referring to petrol, coal and natural gas).

Hydrological Deterioration: Reduction in quality or quantity of water.

Immunity: The capacity to protect oneself against a killing agent (pathogen).

Induced Agroecosystems: Present land converted into agricultural ecosystems.

Innocuous Varieties: Varieties of organisms which do not harm crop plants.

**Innovation**: Instance of a new idea in science or technology.

**Installed Capacity:** The total production/generation capacity of a machinery at the time of fixing.

Land Budget: Estimate or plan of how land will be put to use in relation to the available area, topography and nature of requisitions that a particular land resource is expected to meet.

Landscape: Scenery of an area of land.

Landslides: A fall of land or rock from a hill side or cliff (also known as subsidence).

Land Utilization Classes: Classification of land for specific uses.

Lean Gas-Based Thermal Generation: Generation of heat, and electricity, by burning natural gases poor in butane (hydrocarbons) and heavier liquids.

Lignite: Soft brownish coal, that burns without smoke and has greater fuel value.

Livestock: Animals kept on a farm for use or profit.

**Logarithmic Scale:** A scale of measurement in which an increase of one unit represents a ten fold increase in the corresponding quantity measured.

**Intensive Agriculture:** Uneconomic land use and exploitation of resource for the purpose of agriculture.

Intensive Irrigation: Overdraft of ground and surface water resources to irrigate crops.

Mammals: Animals which do not lay eggs and feed their young on milk from their mammary glands.

Man-Eater: A wild animal (usually tiger or leopard) that starts feeding on human beings instead of its natural prey.

Marshy Swamps: An area of soft wetland often inundated and sometimes salty.

Microclimate: The local climate in the immediate vicinity of individual plant or animal species.

Monoculture: Cultivation of a single variety of a crop over large tracts of agricultural area.

Native Plants: Local inhabitants distinguished from introduced plants (i.e., a plant originally belonging to a certain geographic region).

Niche: The unique position of a species in a habitat defined by its physico-chemical requirements and by its interaction with other species.

**Nuclear Family:** The family consisting of mother, father and children only, and not including any less close relations.

Nutrients: Elements used by plants for their survival and growth.

Obnoxious: Unpleasant, rejectable.

Offsite Demand: The demands made by consumers situated away from the site where agricultural goods are produced.

**Onsite Needs:** The needs of consumers immediately involved in the process of production of goods.

**Open-Casting:** A type of surface mining that creates huge open pits. Over-burden is removed so that desirable minerals such as copper, granite and coal can be removed. Difficult to reclaim (see overbunden).

Operative Soil Depth: Useful depth of soil in which plants can take roots because of the presence of available water.

**Organic Recycling:** Reutilisation of wastes within the bounds of system where they are produced.

**Over-burden:** Mass of soil above a mine (usually very fertile land) which has to be removed to expose an ore, also known as mine spoils, or debris, soil dumps.

Overexploitation: Maximum use of any resource without replenishing it.

**Pasture:** Piece of land covered with grass and similar plants with fodder value, a land suitable for grazing animals.

Pest Control: Control of insects or other pests that destroy plants and food material.

Plant biomass: Mass of living plants of an area.

Plant Protection Chemicals: Poisonous chemicals, also known as biocides, used to protect plants against the attack of pests, weeds, fungi and rodents, e.g. DDT, BHC, Malathion, Aldrin, etc.

Poaching: Hunting and capturing of game animals often illegally.

**Pollution :** Rendering something (e.g. environment) impure by adding dirty or harmful substances.

**Predation:** An act in which one organism (predator) hunts and kills another (prey).

**Predator**: An animal that captures and feeds on another animal.

Prehistoric: Concerning the time before recorded history.

Prey: An animal hunted and captured by the predator.

**Protected Forest:** Forest area not permitted for cutting and totally free from human disturbance.

Purchasable Inputs: Items which can be added to ecosystems only through purchase.

**Regeneration:** The natural process of restoration of original numbers by a population through the processes of reproduction, growth and development.

Reptiles: A class of vertebrates, includes snakes, lizards, crocodiles and turtles.

Resilience: Ability of an ecosystem to return to normal after disturbance.

Reserved Forest: Forest area released by the Government for cutting and industrial use.

Salt Affectation or Salinisation: Deposition of salts in irrigated soils making soil unfit for most crops. Caused by raising water table due to inadequate drainage of irrigated soils. Leads to depletion of organic matter in soils.

Semi-arid Region: A region where the conditions of partially dry climate prevail.

Settlements: Place where people spend their time after work.

Sewage: Liquid and solid wastes from homes and industry.

**Simulated Water Stress:** When salt content of the soil exceeds 2000-3000 ppm, the roots are not able to absorb water, despite the presence of plenty of water, (also known as artificial water stress or physiological unavailability of water).

Shrinkage: Reduction in area.

**Shifting Sand Dunes:** Masses of sand deposited by strong surface winds, and which keep moving from one place to another.

Sociology: Study of the nature and development of society and social behaviour.

Soil Nutrient Stress: Deficiency of a particular nutrient in soil, causing reduced growth of plants.

Solar Energy: Energy obtained from sun.

**Species:** A group of plants or animals that have high degree of similarity and generally can inbreed only among themselves.

**Subsidence:** Sinking of land caused by collapse of underground mines or depletion of ore, also known as landslide.

Subsistence Hunting: Hunting for food to sustain life.

Surface Runoff: Water flowing in streams and over the grounds' surface during rainstorm.

Symbiosis: Intimate association between two species which is often, but not invariably beneficial to both.

**Target Groups:** Group of people a farmer intends to fulfil the demands of with a purpose to supply agricultural goods to them.

**Target Organisms:** Pest, weeds, rodents and fungi which either eat away the crop plants and their harvested parts (fruits, vegetables, grains or leaves) or hinder the growth of plants through competition, and against which a biocide is directed with an intention to kill it.

Thar Desert: The desert areas of Indian subcontinent under western India and some part of Pakistan. In India, the desert spread is in the states of Rajasthan, Gujarat, Haryana and Punjab.

**Threatened Species:** A species abundant in certain parts of its range but severely depleted in others.

Tilling: Preparation of soil for planting crops.

Topography: Graphic description of the surface configurations of an area.

Topsoil: Layer of soil near the surface.

Vascular Plants: Plants possessing vascular system i.e. containing vessels which conduct fluids.

Vegetation: Plant life of an area in general.

Water Budget: An inventory of input and expenditure of water resources of an area.

Water logging: Excessive saturation of soil with water making it difficult for plant roots to take hold.

Watershed: Land area drained by a given stream or river.

Water Table: The depth below which the ground is saturated with water.

Weed: Wild plant growing where it is not wanted especially among crops or garden plants.

Wild Species: The plants or animal types which are growing in natural state or habitat, which are not domesticated or cross-bred.

### List of Abbreviations

Cusec : Cubic feet of water per second – a unit for measurement of the

amount of flowing water.

hp : horse power.

M ha m : Million hectare metres.

M ha : Million hectares.

Mt : Million tonnes.

Mm<sup>3</sup> : Million metre cube.

MW : Mega Watt.

ppm : Parts per million.

Sq Km : Square kilometres.

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