Chapter 8

Observation and Conclusion
OBSERVATIONS AND CONCLUSION

Since ancient time location of human habitat is result of sum of natural element. The nature and distribution of settlement driven by natural factors such as relief, slope, drainage network, soil and rainfall. Their distributional pattern is solely distinguishable in the surrounding elements. Now a days demographic or population characteristics are also important factors which can change the size and shape of human habitat. It means that social, cultural and economic factors are also important for understanding any settlement.

In last few years substantial work has been done in the field of settlement geography especially in north India. But rest of India lacks behind study of settlement characteristics. Why there is great need to understand spatial characteristics of settlement according to space? The reason of it is natural, socio-economic and cultural conditions vary with region. Such type of study play vital role in planning of rural settlement as well as it built up new settlement which is alternate option for urban sprawl.

The aim of this research work is to assess the spatial characteristics of Ahmadnagar district of Maharashtra state.

The entire study region is broadly divided into three Physiographic divisions namely, the Plains or Basins, The Plateau and Sahyadri Hilly range. Tahsils like Kopargaon, Shrirampur, Rahta, Rahuri, Nevasa Shevgaon, Pathardi, Shrigonda and Karjat are merging in plain area. In plateau Sangamner, Parner, Nagar and Jamkhed are located. Only Akola Tahsil is located on hilly ranges of Sahydri. Generally slope of the district is from west to east. Most of Akola tahsil, Southern part of Sangamner tahsil, middle part of Parner tahsil, some southern part of Pathardi tahsil, northeast part of Nagar tahsil, middle and eastern part of Jamkhed tahsil show more than 6° slope angle while remaining part show less than 3° slope angle.

There are two main rivers these are Godavari in north side and Bhima in south side which contain number of tributaries like Pravara, Adula, Mahalungi, Mula, Dhora, Ghod and Sina. Also there are many local small rivers and nala.

The whole district is a part of Deccan trap with the alternative beds of basalt and amygdaloid preserve a striking parallel to each other.
The climate of the district is characterized by a hot summer and general dryness except during the south west monsoon seasons. Average rainfall is 578.8 mm with uneven distribution. And also variation in rainfall from year to year is large. Seasonal variation in temperature is quite large from March onward. The study region’s mean daily maximum temperature is 38.9°C and mean daily minimum temperature is 11.7°C.

The study region is divided into three soil group viz. Black soil, Red soil and Gray soil. The Black soil is again divided into two types it is Deep Black soil and Medium Black soil. The Kopargaon, Rahta, Shrirampur, Nevasa, Shevgaon and Rahuri tahsils are dominated by Black soil. While in the tahsils like Akola, Sangamner and Parner medium Black, Gray and Red soil is observed. The tahsils namely Nagar, Pathardi, Shrigonda, Karjat and Jamkhed are settled on stripe of Gray and Black soil.

The total population of Ahmadnagar district according 2001 census is 40,40,642 out of which 51.55 % is male population and 48.45 % population belong to female. It is also observed that in all tahsils male population is more than 50 % and female population is ranging in 47 % to 49 %.

The scheduled cast population for whole district is 12 % out of total population. In the tahsils like Kopargaon, Rahta, Shrirampur, Nevasa, Shevgaon, Nagar, Rahuri, Shrigonda, Karjat and Jamkhed more than 12 % population out of total population belongs to scheduled cast. (2001 census)

The share of scheduled tribe population is only 7.5 %. It is also observed that in Akola tahsil 45.6 % out of total tahsil population is belong to scheduled tribe (2001 census). It means most of scheduled tribe population is settled in only Akola tahsil. Small number of population is observed in Shevgaon, Pathardi, Nagar, Shrigonda, Karjat and Jamkhed tahsils.

The rural population of whole district is 80.11 % and urban population 19.89 % while in Akola, Nevasa, Shevgaon, Parner and Karjat tahsils there is no urban population i.e. all population in this tahsils is rural in nature (2001 census).

According to 2001 census average sex ratio of Ahmadnagar district was 940 females per 1000 males. Akola, Sangamner, Shrirampur, Pathardi, Parner and Jamkhed Tahsils show sex ratio above district average.
Except Jamkhed (67.8 %) total literacy of all the tahsils in study region is 70% and more while male literacy among all tahsils was more than 80% and female literacy was more than 55% except Jamkhed 54.3 % according to 2001 census.

The average density of study region was 232 persons per Km$^2$. More than district average density of study region was found in tahsils like Sangamner, Kopargaon, Rahta, Shrirampur, Nevasa, Nagar, Rahuri (2001 census).

It is found that 7,76,787 houses are built up in study region out of which more than 10 % houses was observed in Sangamner and Nagar tahsils (2001 census).

Total geographical area at present in study region is 17,410.91 Km$^2$. Out of which Sangamner; Nagar, Parner and Shrigonda tahsils contain more than 9 % area.

The net sown area in the district is 69.31 % in which 75.47 % crops are related to cereals.

It is also observed that education facility is not much good. In case of primary school there is less number of institutes. Also student drop out ratio is higher with higher education.

Medical facility is quite good at primary level in study region. The hospital facility mainly established at the tahsil head quarter or in big town is not good indicator of social well-being.

The traditional way of communication is affected by telephone. There is also found that post office facility is not available in all villages in study region. Averagely 1 post office is available for 3 villages i.e. 1:3 ratio.

Roadways are well established in study region. Only 197 Km. rail track is found in this region which passes from few tahsils namely Shrigonda, Parner, Nagar, Rahuri, Shrirampur, Rahta and Kopargaon.

If we sum up above explanation then it is clear that education, medical, transportation and communication facility is not good in all over the study region.

The vegetation like the Wad and Pimpal is frequently observed in the place names. It is due to these trees are related to Hindu worship. They are treated as God. Also growths of this type of trees are more in study region.
The tahsils like Akola Sangamner, Nagar and Parner show the more bounding with the place names related to natural or physical features. These types of place names are due to the influence of domination of natural factors such as relief (plateau & Hilly), uneven distribution of rain fall, poor quality of soil. That is why variation found with Land, hydrology, vegetation and animals which reflected in place names in various tahsils of study region.

Most of the place names are related to human features in the entire study region. More domination is found in Kopargaon, Shrirampur, Nevasa, Shevgaon, Karjat, Rahuri and Pathardi tahsils. In this region most of the land is flat which have less than $3^0$ slope angle, with black soil and dense drainage network. It leads to agricultural activity and agriculture is the base of civilization, so we can conclude that early civilization started in this study area.

Most of place names are related to Aryan literature e.g. it includes Prefix and suffix, such as ‘Pur, Gaon, Nagar and Wadi’ etc. from this Sentence we can conclude that in this region settlement are emerged from mid Aryan period.

Also some sort of impact of Islam culture reflected in the place names which are due to Kingdom of Islamic King in Ahmadnagar and surrounding region.

Miscellaneous settlement place names may arise due to corrupted (Slang) word from generation to generation which changes the pronunciation of the place name.

It is firmly says that most of settlements are distributed or arises due to nearness of drainage (River or Tributary) which is main factor. Also less than $3^0$ slope and high fertility of soil are the subordinate factors in the whole study region. It leads to agricultural activity in the region.

Settlement type is affected by growth of population, area of the tahsil (extent of a region), physical factor as well as socio-economic factors e.g. compact settlements found in Rahta tahsil which contains high population size of settlement, slope angle below $3^0$, highly irrigated area, high fertile soil, small areal extent. Semi-compact settlement observed in Kopargaon, Shrirampur, Rahuri and Nagar tahsils because industrialization, urbanization, good soil productivity, well developed transportation network. All these factors influence the population size which is moderate in nature.
While semi-sprinkled settlement observed in Sangamner, Nevasa, Shevgaon, Pathardi, Parner, Shrigonda, Karjat and Jamkhed. It is due to most of tahsils suffer by water scarcity in late winter and summer seasons, less irrigation facility, an undulating land and less industrial activity. That is why population size of settlement varies from low to moderate.

Dispersed type of settlement is found in Akola tahsil which contain low to very low population size of settlement because region contains hilly area, heavy rain fall zone, less productive soil, less employment opportunity.

In the study region settlement pattern is mostly influenced by the human factors such as road, Agriculture, rail track and cast system. Because most of settlement pattern is related to square, rectangular, L shape, Linear, Triangular, Double Nuclei, Chess Board, Multi Nuclei, Star Shape and Y Shape.

In some extent in study region, the pattern is affected by physical features such as river e.g. semi-circular, circular, Double Nuclei etc.

In this study region ‘Y’ shape pattern is observed newly. This Y shape pattern gets create because when two main roads (highway) meet each other at a single point and after-words it becomes a single road and around such road there is building of houses in large quantities.

The spacing of settlements in study region is ranging between moderate to low. It is also observed that with the increasing decade, there is increasing settlements in the study region and it gives the result that decreases the spacing between settlements.

Decrease in spacing Phenomenon observed in southern part of Ahmadnagar district. It is due to some wadi and wasti or group Grampanchyat villages acquire the status of Grampanchyat. It is the result of increase in population. Also in this region improvement in irrigation system, change in cropping system, and establishment of sugar industries etc. is observed.
North part of study region shows low spacing between settlements, because area of each tahsil is small as compare to southern tahsils. Also high soil fertility, sugar industries, flat surface, more irrigated area lead to more settlement in small region.

The tahsils like Akola, Shevgaon, Nevasa, Pathardi, are suffer from undulating topography, dry zone due to this its population size is small but more number of settlements are located in this part so it lead to low spacing between settlement.

Size of settlements in terms of population is ranging in very high to very low. High to very high size of settlement in terms of population is the result of high soil fertility, irrigation facility, industrialization less slope gradient (below 30) in tahsil area. e.g. Shrirampur and Nagar.

Very low to low size of settlement in terms of population emerges due to area is located in undulating land, water scarcity in late winter and summer seasons, less productivity of soil, seasonal river flow.

But it is also observed that there is increase in size of settlement with increasing decade. This change is due to positive impact of social and economic factors such as improvement in medical facility, irrigation and transportation facility, centrifugal force for distribution of sugar and other industries from north part to south part of study region, changing cropping pattern, increasing employment opportunities in agriculture sector.

75% central places are located in north part of Ahmadnagar district which hold 64% of population. It can be concluded that when population increases then numbers of central places also get increase.

Though Ahmadnagar city lies in south part of study region, it holds first rank because this city is a district head quarter and also it has urban status and industrial development. In this city all administrative and non-administrative functions and services are important for development of rural service centres.

It is also found that in study region higher rank central places are less in number than the lower rank central places. So it is clear that most of central places and villages suffer by inadequate and poor quality of amenities.
Most of the villages among the study area are attracted towards the lower distance for enjoying the functions and services that is why it gives linkages between lower order to higher order central places.

There is observation of rhythmic up and downs in total and rural decadal growth rate. Causes behind it there are factors like famine, scarcity of water and human determinants like industry urbanization, irrigation facility, family planning program and family welfare program, literacy and increasing educational facility in upper decades.

There is also negative growth rate observed in Kopargaon and Shrirampur tahsils because there is emergence of Rahta tahsils on 26 June 1999. Also Jamkhed tahsil observed the negative growth rate due to Jamkhed tahsil head quarter merges in urban status.

Akola, Shevgaon, Pathardi and Shrigonda tahsils contain low population density because of less water availability (late winter and summer). Unpredictable rainfall affects agricultural production, poor soil quality, undulating land, less irrigation facility.

Tahsils like Kopargaon, Rahta, Shrirampur and Nagar acquire high population density due urbanization, high irrigation facility, high productivity of soil, nearness of rivers and railways.

Akola and Parner tahsils contain above 1000 females in 3 and 4 decade successively which is higher sex ratio because in Akola tahsil nearly about 50% of population belong to scheduled cast. It is also observed that in scheduled cast people there is higher sex ratio in all over India. Also this area is backward so facility like pre-birth sex determination is not yet found there. Parner tahsil is located in dry zone so, irrigation and agriculture are not yet more developed also there are limited resources so male population of Parner tahsil is migrated in search of employment.

In all tahsils of study region it is observed that with increase in decade (1961 to 2001) there is decrease in sex ratio, cause there is less male mortality rate, pre birth sex determination test, male dominancy and increase in urbanization.

Most of scheduled cast population concentrated in tahsil like Kopargaon, Rahta, Shrirampur, Nevasa, Shevgaon, Nagar, Rahuri, Shrigonda, Karjat and Jamkhed.
distribution proves that most of scheduled cast population is found in areas where availability of employment opportunity in agricultural and industrial sectors, and in the areas where the more requirement of unskilled and semi-skilled workers is there.

Most of scheduled tribe population is concentrated in remote area, where hilly area and vegetation cover is dominant.

It is observed that the literacy rate among the various tahsils of Ahmadnagar district increases continuously within five decades due to increase in number of educational institutions.

Sangamner, Kopargaon, Rahta, Shrirampur, Nagar and Rahuri tahsils shows higher literacy rate due to higher urbanization, development of industries, commercial agriculture, high irrigation and transportation facility. It also increases per capita income so it affect literacy positively.

In Akola, Pathardi, Parner, Karjat and Jamkhed tahsils show low literacy rate because dry zone area, hilly region, less productivity of soil, less irrigation facility so per capita income is less and it indirectly affects on literacy rate.

It is also observed that, like whole study region, population of male is greater than the female in case study area.

The sex ratio of case study region shows the declining trend which is serious problem regarding the society.

In case study village Kohakadi has higher dependency ratio cause average children of each couple is at list 2 to 3 and also it is south part of study region which is less developed or dry area. In villages namely Khedle Parmanand and Mhaisgaon there is low dependency ratio but it is not good indicator of development because people belong to low income in this village and perform activities related to wages. So most of young and old population engaged in wages activity.

Most of the people in case study area are educated upto secondary school but above it they are indifferent to get education. It means that most of people in this area are literate but
they don’t have skill for acquiring higher quality jobs. It also affects the intellectual ability of peoples and changes the social values.

Wages is main activity in Khedle Parmanand and Mhaisgaon because in these villages scheduled cast, scheduled tribe and Islam population is more but this population is not well educated so they engaged in wages activity. Most of Maratha and Mali cast population is engaged in agricultural activity in case study area.

In most of case study area people are bounded with low income group which belongs to wages activity and higher income group people are connected with agricultural activity while very high income group people are engaged in service activity.

In case study area it is found that self tap drinking water facility is available to very few people. But most of the people used the water from common tap, well and tube well which is not good picture for well-being of society. It means that each and every person not get average water to fulfill their daily needs.

Now a days building material is depend on the income of people than the physical factors which is observed in case study area that means low income group used the building material like grass and mud while more income group people used building materials like brick and tiles.

Most of the families related to case study area acquire 2 to 4 rooms which affect the shape of the house. Shapes of the house in case study areas are mostly square and some have rectangular. Most of scheduled cast and scheduled tribe communities acquire 1 room which shows less per head income.