# CHAPTER-I

## INTRODUCTION

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1.1: Significance of Marketing Geography.

Geography is a science which studies man's activities in relation to natural environment. Now-a-days, the subject of geography deals with the relationship among the spatial variables and is called a spatial science or an areal science. Therefore, various branches of geography are developing into the specialised subjects. One of the most important branches of geography is the economic geography which has specialised branches like geography of market, geography of agriculture, industry and transportation etc.,

The marketing geography is one of the youngest and well established branches of economic geography. It is related to the study of areal variations on the earth's surface with the economic activities of man. The need of marketing geography was first pointed out by William Applebaum, an American Geographer. He has pointed out that a need in the economic geography for marketing geography was evident; not only to strengthen other aspects of economic geography, but also to help the geographer in the marketing field, significantly to the solution of problems in the actual business of marketing. (Applebaum, 1954)

The study of marketing geography in India falls broadly into three categories. The first category consists of those studies which deal with the local and regional markets. In such markets agricultural products or customer goods are exchanged or the markets which bring out the significance of weekly or biweekly rural markets to the rural economy and the society. The second category includes those studies which deal with market villages and describe their functions; whereas the third category consists of those studies in which the characteristic features of the internal and external trade of a market centre or a port have been described.
1.2 : Nature of Marketing Geography.

A Marketing Geography is the newly developed branch of economic geography. A survey of literature on marketing geography reveals that a number of definitions are made on this subject. But the striking feature of all the definitions is the repetition of the contents. Hence, few selected definitions have been discussed here for the present purpose.

William Applebaum states that, marketing geography is concerned with the channels of distribution through which goods move from producer to consumer, whereas W.J. Anderson (1960) defined market as "the areas of economic activity which is known as marketing, produces mainly form, place; and time utilities, in addition it provides the institutions through which demand and supply establish prices." According to Duddy and Revzan (1953), "Marketing is the economic process by means of which goods and services are exchanged and their values are determined in terms of money prices." In the opinion of Agnew Conner and Doremus (1950), "The marketing is made up of those business activities that are involved in the movement of goods and services from the point of view of production to the point of view of consumption." Tom Cannon (1980) has quoted Kotler's definition of marketing in his book. According to Kotler, "Marketing is a human activity directed at satisfying needs and wants through exchange processes."

The above definitions of marketing geography and marketing explain the process of marketing at a place or an area and also the effects of marketing. Thus, marketing geography deals with a specialised study of market places and marketing. It deals with the application of geographical principles and techniques to the practical problems related to the marketing phenomena.
It is mainly associated with the location and distribution of markets, their infrastructural pattern, measure and extent of marketing activity, movement of commodities, consumer behaviour, perception and the determination of hierarchy in order to make a systematic plan for regional development.

1.2.1: Difference between Market and Marketing.

The root of Marketing Geography is a market place. The word ‘market’ is derived from the Latin word ‘Mercatus’ which refers to a place where buyers and sellers meet. Markets are spatial units. Their location, site, situation, physical extent, morphology, areal combination etc., are of a special significance to geographers. “Markets are sites with social, economic, cultural and other referent marks, where there are a number of buyers and sellers, where the price offered and paid by each is affected by the decisions of the others.” (Belshaw-1969).

The "Market" is one of the most loosely used words in marketing literature. The Concise Oxford Dictionary (1969) explains the term “Market” as a gathering of people for purchase and sale of provisions, livestocks etc., on the open space or covered building in which cattle etc., are exposed for sale. Market means “Bazar” in Persian language, in Germany it is called “Markt”, in China “Hebu”, and in Malaysia, it is known as “Pekan”. (Alexander Knox - 1987). Vernacular terms used for market in India are: Bazar, Hat, Mandai, Bazarhat, Painth, Mandi, Vipani, Kothi, Gudadi, Golganj, Gola, Shandis, etc., In Maharashtra and particularly in the study area of Aurangabad district, markets are called Bazarhat. Broadly speaking, Bazar is a place of sale and purchase of commodities or goods. It is held at a particular place everyday, once in a day or more than one day whereas Hat means a market which holds on a particular day in a particular time. Ganj is also a market place mainly for foodgrains’. (Marathi Vishwakosh-1980).
Market centres are the active organisms. Their activity may be observed in the form of commerce or marketing. Thus marketing is a process or phenomena of interaction among producers, distributors, buyers, and users. In other words marketing includes all processes and services, a commodity goes through as it travels from producer to the consumer.

1.2.2: Fundamental Basis of Marketing.

There are three fundamental basis of marketing. They are called three ‘D’ :- Difference, Desire and Distance. The function of marketing starts with the difference or inequality in areas; Secondly, the desire to sell the produced material and to purchase the same is necessary. Thirdly, the distance is a governing factor between the two. In the opinion of Granier and Delobe (1979) “maximum intensity of commercial exchanges or marketing will take place if the difference is pronounced, the desire is strong and the distance short.

1.3: Role of Cattle Marketing System.

In marketing geography, the cattle markets play a distinct role in the regional, socio-economic differentiations and the differential regional development of any country. As a result, the geographers, regional planners, economists etc., have been attracted towards the study of this marketing system. However, it is found that a very few research scholars have done research work on the cattle marketing system.

1.3.1: Significance of Cattle Marketing in Developing Countries

The most of the developing countries of the world are agricultural countries. Their main economic activity is farming. In such developing countries, the system of cattle marketing is of a great significance for strengthening their national economy.
These countries are now realising that the marketing functions, if properly designed and effectively organised, can enable important sectors such as agriculture, industry to contribute more significantly to their national income. The countries like India, Pakistan, China, Myanmar, Malaysia, Thailand, Bangla Desh are mainly dependent on cattle for agricultural operations and for the supply of manure. In these countries cattle is a source of their national income. These countries must have efficient cattle to raise their national income. The importance of an efficient cattle for the stability and prosperity of a country is very essential. Therefore, care must be taken in respect of their breeding, feeding, management, prevention of losses from diseases to strengthen national economy.

1.3.2: Cattle Wealth and Cattle Markets in India.

India, our country is mainly an agricultural country. The system of cattle marketing is very important for developing her national economy. Our country ranks first in cattle population of the world. It accounts for 55% of the world’s buffalo population and 16% of the cattle population. According to livestock census, 1992, the country had about 20.5 crore cattle and 8.4 crore buffaloes respectively as compared to 15.5 crore and 4.3 crore buffaloes in the census of 1951. But as compared to the cattle of USA, Netherland, Argentina and other few countries, Indian cattle are of lower quality in many ways. However, they are of a great economic value to our country.

Regarding domestic animals; Anthony Harvey (1972) says “The neolithic period or new stone age has begun in the Middle East some 7500 B. C. This period marks the beginning of agriculture. Animals which were domesticated during these times include sheep, goats, cattle, pigs.”
It is a fact that the cow, buffalo the elephant etc., were domesticated in India long before 3000 B.C. (Satishchandra Das Gupta-1945). From this it is clear that cattle were domesticated before thousand of years and since that period, these animals were useful to the people. Cattle have been valued by man since pre-historic times as a source of meat, milk and as beast of burden. “In the ancient past, when both the settled community and broken men did eat beef, the former ate fresh beef and the latter, of the dead cow and that this system represented a universal state of affairs throughout India. (Dr.B.R. Ambedkar 1948). Thus not only living cattle, but also the dead cattle were used by the people from ancient times, after domesticating cattle in India. According to Dr.B.R. Ambedkar, the architect of Indian Constitution, there is no community in India which is really an untouchable community which has not something to do with the dead cow. Some eat her flesh, some remove the skin, some manufacture articles out of her skin and bones.

Not only cows, but bullocks were used by the Kings and Sultans in the battle. It would be proper to quote an example of Tipu Sultan who had developed a fast running breed of bullocks which served him in the army. Lord Wellesley, who had used these bullocks in his army, was so impressed by them. During the battle of Waterloo, Lord Wellesley is said to have exclaimed at one time when his tired horses failed to reach the goal. “Alas, Had I those Mysore bullocks, they would not have failed me.” (J.C. Kumarappa 1958)

Today the cattle has a great importance in our national economy. They are useful to the Indian people in several ways. Not only cattle, but even each and every part of them has economic value.
The cows and the working bullocks have, on their patient back, the whole structure of Indian agriculture. They are the faithful assistants of farmers. Without them, they can neither till their fields nor carry their crop products to the market place. The cattle serve as a draught animal used for agricultural operations like ploughing, sowing, weeding, winnowing, water lifting, threshing etc. The cows provide us milk and milk products. “The people who have achieved, who have become strong and vigorous, who have reduced their infant mortality, who have the best trades in the world, who have an appreciation for art, literature and music, who have progressed in science, are the people who have used liberal amount of milk and its products.” (E.V.S. Manian 1938). The milk is the best nutrient for human consumption. It contains butter fat, albuminoids, milk sugar, proteins and mineral matter. A variety of milk products like ghee, butter, cheese, cream, casein, khawa, colostrum, butter milk, curd, skimmed milk etc., is obtained from cattle. Out of the total national milk production 53% comes from buffaloes; 43% from cows and remaining 4% from sheep, goats and other animals. From this percentage it indicates that cows provide little less than half of the total milk production of India.

The milk production has been steadily increased due to Dairy Development programme in India. It has the dairy production of 710 lakh tonnes during 1997-98 as compared to 685 lakh tonnes in 1996-97. India is today, the second largest milk producing country in the world after United States of America. She earns crores of rupees from the export of milk products. Besides, the cattle are used for meat. In India, there are about 1300 slaughter houses where 400 lakh animals are approximately slaughtered daily. The total production of all types of meat in India is estimated at about 0.50 million tons of which 9% is from the Cattle.
In India, the export of buffalo meat sheep, goat meat, processed meat and poultry products during 1996-97 was to the tune of Rs. 693.52 crores while the export of animal by products was worth Rs. 157.31 crore during 1996-97. The cattle even today are useful for the purpose of transportation. Agricultural products are carried by cart with the help of cattle to the market place or a place of destination of a farmer. In the study area of Aurangabad district, it is observed that, the cart has normally two iron wheels or improved tyre wheels. It is carried away with the help of a pair of bullocks. In the interior areas or in the hilly areas, where there is no railway line or a road, the people are bound to use their bullock-cart as a means of transport. Not only that, but from the waste of cattle such as cow dung, urine, the best quality manure is obtained from agricultural farm lands to get more agricultural production. “The cattle dung annually available in India is approximately 1200 million tons of which 400 million tons are used as a fuel and 215 million tons for manure.” (C.B. Memoria-1980). Again from the waste of cattle, Gobar gas plant or biogas plant is set up. This can be utilized as a fuel for cooking and power for light in the household and water-lifting too. From alive cattle, their tail hairs are used in the brush manufacturing centres and for the preparation of a long beautiful hairs for ladies.

After the death of cattle, may be by natural death or by slaughtering of animals, the people get beef, veal, hides and skins, bones, blood, tallow, horn, intestines etc. They are used as a raw material for a number of industries in India. The hide and skin is used in leather industry for the manufacture of boots, chappals, shoes, machinery belts, musical instruments like Dholak, Tabla, Pakhway, Khanjeri, etc.,. Fats and tallow are used for preparing soap and candles, and for making glycerine, gelatin, glue, rennin, pensin, etc.,
Their bones, horns and hoofs are also used as fertilizers, insulators, etc. The hide and skin trade and leather industry in India is one of the most important phases of India’s economic life. Its’ annual value of production was 2885 crores of Rupees during 1987-88, which has reached of Rs. 5859 crores of Rupees in 1994-95. This industry gives an employment to nearly 5 lakhs of people in India; and has helped in the economic well being of lakhs of people. Due to availability of raw material, from cattle, there is a large scope for the development of leather industry in India.

Next to hides and skins, the most important raw material of cattle is bone and blood. There are a number of bone crushing mills in India and the total business is done in the crores of rupees per year. The bones of cattle are also used for the manufacture of buttons, handles, penkines, spoons, combs, scientific accessories, shoe horns, etc. From cattle blood, animal char coal is made which is used in bleaching and deodoring. Blood is also used for the preparation of liquid - fuel, bone - oil, black varnish etc., A good portion of these things are exported to foreign countries, but are imported back in a finishing form. India gets about 6 million rupees per year from the export of tallow, animal castings, cattle tail hairs, horns, hoofs and meal. Thus, cattle are of a great economic value whether they are dead or alive. Knowing the importance of cattle, as a wealth in India, Mahatma Gandhi, the Father of India (1940) has rightly said, “Mother cow is as useful even dead as when she is alive.”

As per National Commission on Agriculture (1976), there were 22,000 shandies or haats in India; serving on an average area of 8 to 16 km.; radius.

There are about 4145 larger markets situated at the Tahsil headquarters or in the larger villages or towns.
They serve an average area of 775 square km. and a population of 1.32 lakh. (Bhattacharya November, 1997). Out of 4145 larger markets in the country 2936 or nearly 70% of them are regulated markets. Uttar Pradesh has the largest number of regulated markets. (437), followed by Maharashtra (409), Andhra Pradesh (341), Punjab (314), and Madhya Pradesh (279). The distribution of regulated markets is uneven in India. Regulation of market is a state subject. Maharashtra State has enacted Legislation for regulating the markets. A number of Union Territories and few States have yet to enact necessary legislation for regulation of markets.

As far as cattle markets in India are concerned, they are mostly periodical markets and held once or twice in a week. The same pattern of periodical cattle markets is found in Maharashtra. The cattle markets in Maharashtra held once in a week on a particular day or twice in a week on particular days. They are called “Bail-Bazar”. Cattle fairs also play an important role for a sale or purchase of cattle in Maharashtra and particularly in the study area of Aurangabad district.

India, being rich in cattle, there is an urgent need for the study of cattle markets and their system to enrich our agricultural based economy. Such study shall be helpful in finding out the inefficiency or the drawbacks of marketing system and suggesting effective measures for the cattle market development in India in general and the study area of Aurangabad district of Maharashtra in particular. The cattle wealth and cattle markets in India will surely assist in increasing our agricultural production and in strengthening our national economy.
1.4 The Significance of Study

The choice of the district and the topic under investigation are influenced by many considerations. Aurangabad district is centrally located in Maharashtra State; is the most important district of the eight districts of Marathwada region in Maharashtra; having divisional or regional headquarter at Aurangabad. The Marathwada region is the most backward region in the state of Maharashtra. However, this region or particularly Aurangabad district is rich in the cattle wealth. It has covered a vast area of hills and plateus; with suitable tropical climate for cattle. Therefore, there is a wide scope in the activity of cattle rearing and cattle marketing.

Till today, in the field of cattle marketing system of this district, none of the geographers has yet worked. Hence, the study of cattle marketing system and its network has been selected from the view point of socio-economic development of this region. It is one of the pioneer attempts in this field of study for which Aurangabad district has been selected from the Marathwada region of Maharashtra. The study may prove useful to regional planning and serve as an evidence of the applicability of spatial analysis in a regional farmer economy. The study may also be useful in understanding cattle marketing system and its network in different talukas in the district and the impact on the socio-economic development of the study area. Considering these facts, the topic on cattle marketing system and its network in Aurangabad district of Maharashtra has been selected and an attempt has been made to throw light on cattle marketing centres and their network in the district.
1.4.1 The Aims and Objectives of Present Study

The main objective of the study is to find a detailed spatial analysis of cattle marketing system and the impact of it’s marketing system on the economy of Aurangabad district of Maharashtra. An attempt has been made for the investigation of the relationship of the cattle marketing system to the economic activities of the people. The cattle markets and cattle marketing system in Aurangabad district has been selected to find out its impact on the adjoining region. The following are the specific objectives of the research work :-

i] To study the origin, existence and stability of cattle markets in the Aurangabad district.

ii] To examine spatio-temporal spacing of cattle market places and to interpret space and time relationship.

iii] To study resource potential for the development of cattle marketing places in the district.

iv] To study the system of participants mainly sellers, buyers, middlemen and their role in the cattle marketing system.

v] To study source areas and service areas related to cattle market places. To find out co-relationship between services and market centres.

vi] To find out hierarchy of cattle markets in the district.

vii] To study transport network related to the cattle market centres in the district.

viii] To find out co-relationship between the services available at various market places in the district.
1.4.2. Hypothesis

Some of the emergent hypothesis are proposed to be tested to fulfil the above mentioned objectives.

i] The location of cattle market places are tend to be sited close to the sources of perennial water for the assembly of men and cattle.

ii] Weekly cattle market places provide shorter duration and limited range for the selection of cattle. There are all weekly cattle market places in the district.

iii] Proximity in space implies a separation in time, or the spatio-temporal relationship is inversely related.

iv] Transport facilities provide easy approach to market places in the district.

1.5. Study Area

In all 35 districts of Maharashtra State, Aurangabad district is mostly located at the central part of it. Aurangabad district of Maharashtra was under the control of Nizam State. It was transferred from Hyderabad State to Bombay State in the year 1956, when the re-organisation of states has taken place. Again in the year 1960, Bombay State was bifurcated into Maharashtra and Gujarat. Since that, Aurangabad district is included in the State of Maharashtra. However, on 1st May, 1981, Aurangabad district was bifurcated and another new district Jalna has been formed. This newly formed Jalna district includes four talukas of Aurangabad district and one taluka of Parbhani district. According to Census of India 1991, Series 14, Aurangabad district consists of eight talukas namely Aurangabad, Gangapur, Kannad, Khuldabad, Paithan, Sillod, Soygaon, Vaijapur. During 1981, when the separation of district was made, four talukas namely Jalna, Ambad, Bhokardan and Jafferabad of old Aurangabad district are merged in Jalna district.
Only sixteen villages of Bhokardan taluka are joined to the Soygaon taluka of Aurangabad district, whereas only four villages from Vaijapur taluka of Aurangabad district have been merged to Srirampur taluka of Ahmednagar district. New Taluka Fulambri of the district was formed in 1999. But it is not considered as a taluka for this research work, because the work was on the way of completion.

1.6 Planning of Study

The study of cattle market is restricted to Aurangabad district of Maharashtra. All the 42 cattle market places in the district were surveyed during the years 1994, 1995 and 1996 for relevant data collection. Ten cattle fair centres of the district were also visited by the researcher in this period for this study. The visit to the cattle markets and fairs proved useful in getting exact number of cattle markets and fairs in the district including their origin, growth, capture of market place, their discontinuity or disappearance.

The methodology involved in the study of this research depends on the response to the relative questionnaires for sellers, purchasers, dealers of cattle and the management of cattle market places in the district. (Please see Appendix-VII) The primary data is found fruitful for making analysis of the research work. Besides, the secondary data and source material embodied in the Aurangabad district Gazetteer, District Census Hand books, Majmuli maps of the revenue Departments found very useful in doing this research work. Again, the Indian topographical Maps of the Survey of India are found fruitful in the study of spatial locations of market places or their locational spacing. Other official publications like District Social and Economic hand books, the historical books were used for getting relevant data and information.
The cattle routes followed by the professional cattle drovers from the market places in the source region to the service areas have been examined critically to determine spatial and temporal locational patterns.

The nearest neighbour (Rn) test is used for the determination of locational pattern.

1.7 Problem of Terminology

While doing research work, some of the problems of terminology of cattle stood before the researcher. The terminology of ‘Cattle’ has been given in different ways in the books and in dictionaries. The Concise Oxford Dictionary of Current English (1964) gives the meaning of cattle as livestock; oxen. Whereas in the Macmillan Student’s Dictionary (1985), ‘Cattle’ means the bulls and cows kept by farmers for meat and milk. According to Advance Twentieth Century Dictionary (1977), Cattle are the domesticated beasts of pastures. In few standard books, buffaloes are included in the term of cattle. However, for the study of research work, cattle has been defined as bulls, cows, younger and older.

While visiting cattle market places, the number of buffaloes has been considered for survey to make comparative study with cattle in specific cases. Secondly, it is found difficult to identify the number of sellers, buyers, both sellers and buyers of cattle in the markets in the district; Because the same person sells cattle and buys another in the same cattle market on the same day. Therefore it was difficult to make accurate data collection due to “Sellers”, “Buyers”, terminology. However, the way was found out to make differentiation in sellers, the buyers, the sellers and buyers in the market for doing data collection.
1.8 The Review of Literature on Cattle Wealth and Cattle Markets

As early as 1912, the Government of Madras carried out a survey of cattle in the Province; and it is probably, because of this survey, the majority of studies of cattle attempted in the earlier period related to the regions of South India. Mr. Iyer (1927) has given a systematic account of regional distribution of cattle in South India in relation to the factors of environment. Three years later he published another informative paper on cattle breeds of Kongunad. Mr. Dayal (1950) made a study of the distribution of cattle and the problem of fodder supply in Bihar. Besides, giving a systematic account of the distribution of cattle in Chhota Nagpur plateau and in Bihar plain, he has attempted an analysis of the situation of fodder supply and put forth the suggestion that reclamation of wastelands and introduction of suitable and better varieties of Leguminous crops may be an effective measures for developing cattle wealth of the area.

Mr. Sinha (1960) wrote on Livestock and their problems in Orissa. He emphasised the inadequacy of fodder supply and stressed the need for better breeds, control of diseases and improved transport facilities for future development of the livestock resources of the state. A more detailed account of the distribution of cattle in Andhra Pradesh was given by Mr. Chaturvedi (1961) in his study of economic geography of cattle raising in Andhra Pradesh. He particularly noted the suitability of the state for raising good quality work bullocks on a large scale. Mr. Kayasth and Singh (1981) presented the role of market centres towards integrating spatial development, particularly highlighted a case of Siwan district and suggested for introducing necessary changes in the existing market structure with a view of promoting peripheral spatial development. Mr. Gupta R.N.P. (1981) presented periodic markets and market cycles in the Highland of Bhagalpur district in Bihar and opined that marketing has oriented diverse frontiers of study pertaining to recent Socio-economic development of the diversified world.
He concluded that "because of undulating terrain and forest, the Western sector is responsible for limited number of market centres, while the rolling fertile surface in the eastern part is productive, leading to the growth of a network of market centres. Mr. Gedam D.A. (1981) has stated the origin of periodic market places in the Wardha valley of Maharashtra and opined that in respect of the origin of periodic market places in the Wardha valley, trading contacts seem to have been necessary with two other conditions, a sufficiently high density of population and a political structure powerful enough to secure and maintain peace in the area.

Mr. Dixit R. S. (1981) considered "periodicity" as a basis for the classification of market centres and presented a case study of the Umland of Kanpur metropolis; whereas Mr. Vijayraj (1982) has presented a spatio-temporal analysis of periodic markets in Dharwad district of Karnataka, analysed the market centres and market days and compared the different periodic market systems in different parts of the world. Mr. Vishwanath (1983) presented the distributional pattern and classified market centres in the Awadh plain by using the Nearest Neighbour analysis; and on the periodicity, the market centres have been classified. The author has identified seven marketing centres by this analysis. Mr. Kumbhar and Mr. Deshmukh (1982) have presented the role of periodic markets and regional links in Sangli district. They have considered that the periodic market is an important economic institution in the agrarian economy of the country. Mr. Saxena (1983) has presented the role of regulated markets in Rajasthan. He discussed the need of regulated markets and the spatial distribution of pattern, the role of regulated marketing in the development of a region.
Shrivastav K.R. (1983) highlighted the locational aspect of rural market centres in Bundelkhand region. He attributed that physiographic diversities abounds in natural wealth; the market location is dominated; further he identified that, market locations have been marked on the peripheral areas of high density of population and on the contact zone of tribal and non-tribal groups of population. The role of the means of transportation on market locations have also been examined by him. The facts confirm Skinner’s model to some extent. Besides these, the impact of newly developed industries and thermal power stations on market location have also been examined in detail. Mr.G.T.Maidamwar (1992) highlighted the Livestock markets in Yevatmal district of Maharashtra. He surveyed the Livestock marketing Centres in the district and emphasized the necessity of controlling and uniforming the management of Livestock markets by Agriculture Productive Marketing Committee and also pointed out the problems of Livestock markets, suggesting remedies for their improvement.

Some studies of the system centred or market centres in India are conducted by Mr.Tamaskar (1956), Mr.Mukherjee (1957), and Mr.S.K.Srivastava (1986).

In addition to the above works, on market system, the names of Mr. V.Krishnan, Mr. V.S.Mathur, Mr. S.N.Reddy, Mr. Kumawat B. L., Mr. Sharma K. D., Mr. N. B. Talikoti; Mr.Nizamuddin Khan are noteworthy. Their contribution is an asset to the newcoming researchers in the field of marketing geography.

In the present study, the spatial and temporal distribution of cattle markets are analysed; the hierarchy of cattle markets, the management and the problems of markets are searched out and the suggestions are made for the improvement of marketing system. Perhaps, this may be the first attempt on which research work has been done at the centrally located Aurangabad district of Maharashtra on the cattle marketing system and its network.
AURANGABAD DISTRICT
WITH TALUKAS AND DISTRICT BOUNDARIES

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FIGURE 1.2
1.9 Location of the Study Area

Aurangabad district is located almost at the centre of Maharashtra in India.

Fig. 1.1 shows the location of Aurangabad district of Maharashtra in India. The study area is almost located in the Western India. The map of Aurangabad district with talukas and district boundaries is also shown in figure No.1.2. The district lies between 19°-30’ to 20°-45’ North Latitudes and 74°-40’ to 76° East Longitudes. It is mainly bounded on the North by Jalgaon district. The Godavari river flows along the Southern boundary, separating Aurangabad district from Ahmednagar district and Beed district. To the East of Aurangabad district, the newly formed Jalna district is located, whereas to the West of it, there is demarcating boundary of Nasik district.

Aurangabad district covers the total area of 10,107 square kms. according to 1991 population census, which is 3.28% of the total area of Maharashtra State. It has the population of 22,13,779 according to 1991 census. It ranks 14th in area and 8th in population among the districts of Maharashtra. According to 1991 census, there are 8 talukas in the district, of which the largest population is confined to Aurangabad taluka and the lowest population is found in Soygaon taluka. Out of the total population of the district 67% people live in the rural areas and 33% in urban areas.

1.10 Physical Set-up

The physical set-up of any region includes relief, drainage, climate, soil etc. It plays an important role in the distribution of cattle markets. The peculiar differences in these physical factors are helpful in understanding the pattern of markets and the problems lies in their development. They determine the growth of cattle, supply of water and fodder to them; their milk yielding capacity, their health etc. With the study of physical set-up or the physical factors like relief, drainage, climate, soil, it shall be rather easy to understand the cattle marketing system and its network in the study area.
1.10.1 Relief

In Aurangabad district, there are hills, plateaus and plain areas. To the Northern part, there are hilly ranges of Ajanta and Satmala. They run from East to West. In Kannad taluka, Satmala and Surapnath hills are located above 900 metres height. The hills near Aurangabad, Daulatabad and Khuldabad are the branches of Ajanta, Satmala ranges. They are known as Chowka hills, Daulatabad hills, and Ellora hills respectively. All these hills have a terrace like appearance in the district with flattened summits. The height of these hills is from 600 metres to 900 metres from the sea level. The places Antur, Abbasgad, Ajanta and Sutonda are situated in the hilly areas and their height is 826 metres, 671 metres, 578 metres respectively. Numerous small hillocks are also scattered in other areas of the district. Major parts of Soygaon, Kannad and Sillod talukas have covered Ajanta and Satmala ranges. The vast area of Aurangabad district is flat, but located at the greater height. This region is called the plateau region or the table land. The average height of this table land is 550 metres and covers mostly Kannad, Khuldabad, Soygaon, South-West and North Sillod and the North Aurangabad talukas of the district. The low lying plains are located to the South of Ajanta ranges and to the plateau region of the district. This is the third physical division which has covered vast areas. It reaches upto the Godavari river. It has a slope towards the South and the area gradually becomes more fertile. The talukas of Vaijapur, Gangapur, Paithan, some part of Khuldabad and Aurangabad talukas cover the low lying plains. The height of the Southern low lying areas of the district varies from 400 metres to 450 metres. The relief and the drainage pattern of the district is shown in Fig. 1.3. The upland have been considerably broken by the Purna, Girija and their tributaries. In the same way, the low lands are also furrowed by the tributaries of the Godavari river.
1.10.2. Drainage

Rivers are the main source of water in the district; and water is the prime need of cattle and the people. Hence, the cattle markets are developed along the side of rivers, although they become dry in Summer. Godavari is the main river of the district which originates at Tryambakeshwar hills near Nasik. After crossing Nasik and Ahmednagar districts, its course in Vaijapur taluka of Aurangabad district, forms its Southern boundary. The length of Godavari in the district is approximately 203 kms. Due to its flow, Vaijapur, Gangapur and Paithan Talukas of Aurangabad district have become fertile. Godavari is called as ‘Dakshin Ganga’ or the Ganga of the South. Purna, Shivna, Yelganga, Gulali, Shivbhadra are the tributaries of Godavari. Purna mainly flows on the plateaus. It originates in Kannad taluka and runs through Sillod taluka. Anjan, Kelna, Girja, Dudhna are the tributaries of Purna river. Purna mainly flows eastwards and joins Godavari outside at Aurangabad district. The Shivna rises in the hills of Kannad and meets Godavari in Gangapur Taluka; while Yelganga and Kham rises in Aurangabad Taluka and Khuldabad Taluka respectively and join the main river Godavari. The Shivna, Yelganga, and Kham mostly move Southwards; Therefore the slope of this area is towards the South. Thus, the most of tributaries, flowing in the district accumulate their water into the Godavari. Therefore, it is said that, Aurangabad district has the major part of the Godavari basin. All these rivers in the district are fed with water, till the month of March. After that, mainly in summer months, they become dry.

The Northern part of Aurangabad district covers the Tapi basin. Waghur is the only river of the district in the Tapi basin which can be mentioned specifically. Other small streams or nallas in the district are Yella, Sabhanga, Virbhadra, Kasner, Valni Dhour, Wagora, Somyi, Narangi, Aunavati etc., All these small streams, tributaries are dry in summer months.
1.10.3 Climate

Climate is the major aspect of the physical environment which affects cattle and cattle marketing. The climatic conditions determine the distribution of cattle markets in the district.

The climate of Aurangabad district is normally dry. The rainfall occurs from the South West monsoon winds during June, July, August and September. The year is divided into four seasons. These seasons are :-

[i] The hot dry weather of Summer :- This season starts from the month of March to the month of May. There is hot and dry climate in these months. The temperature increases from the second week of April. May is the hottest month of this season.

[ii] The hot wet weather of rainy season :- This season occurs from the month of June to the month of September. The temperature of this season varies from 32\(^\circ\)C to 35\(^\circ\)C. Atmosphere is comparatively cool due to monsoon rain.

[iii] The season of retreating monsoon :- It is from the month of October to February. In this season, the climate is warm and dry. The temperature exceeds in the month of October.

[iv] The cool dry weather of winter :- The season starts from the month of December and it has its end in February. In this season, the climate is cool and dry. The temperature is very low as compared to other seasons of the district.
There are seasonal variations in temperature. January is the coldest month. (10.4⁰C temperature). Sometimes, the district is affected by cold waves, associated with the Eastward passage of the Western disturbances across the Northern India. The month of May is the hottest (temperature approximately 40⁰C). With the onset of Monsoon, by the second week of June, the temperature goes down and the weather is pleasant throughout the South-West Monsoon season. The landforms affect temperature variations and uneven distribution of rainfall in the talukas of the district. The relative humidity is high (65 %) during the South-West Monsoon season. The summer is the driest period of the year when the relative humidity is less than 30 %.

During the South West Monsoon Season, the winds blow from the West or from South-West. Thunderstorms occur rarely in summer and monsoon months. Cyclones from Bay of Bengal or the Arabian Sea seldom affect the district.

Distribution of rainfall -

Rainfall distribution is uneven in all parts of the district. It gets maximum amongst of rainfall from South-West Monsoon winds. The rainfall is more in the hilly areas rather than plain areas of the district. July is the rainiest month. Average annual rainfall is 700 mm of the district. The Talukawise monthly rainfall is shown in Table No.1.1 during the year 1993-94.
# TABLE NO.1.1
## TALUKAWISE RAINFALL IN AURANGABAD DISTRICT DURING 1993-94.

<table>
<thead>
<tr>
<th>Sr. No.</th>
<th>Name of Taluka</th>
<th>January</th>
<th>February</th>
<th>March</th>
<th>April</th>
<th>May</th>
<th>June</th>
<th>July</th>
<th>August</th>
<th>September</th>
<th>October</th>
<th>November</th>
<th>December</th>
<th>Total Rainfall in milimetres</th>
</tr>
</thead>
<tbody>
<tr>
<td>01.</td>
<td>Aurangabad</td>
<td>06</td>
<td>04</td>
<td>05</td>
<td>-</td>
<td>18</td>
<td>500</td>
<td>221</td>
<td>39</td>
<td>80</td>
<td>-</td>
<td>32</td>
<td>-</td>
<td>895</td>
</tr>
<tr>
<td>02.</td>
<td>Gangapur</td>
<td>-</td>
<td>-</td>
<td>02</td>
<td>06</td>
<td>21</td>
<td>434</td>
<td>196</td>
<td>25</td>
<td>15</td>
<td>-</td>
<td>06</td>
<td>-</td>
<td>705</td>
</tr>
<tr>
<td>03.</td>
<td>Kannad</td>
<td>04</td>
<td>02</td>
<td>02</td>
<td>-</td>
<td>23</td>
<td>229</td>
<td>177</td>
<td>21</td>
<td>08</td>
<td>-</td>
<td>31</td>
<td>-</td>
<td>567</td>
</tr>
<tr>
<td>04.</td>
<td>Khuldabad</td>
<td>07</td>
<td>02</td>
<td>-</td>
<td>-</td>
<td>21</td>
<td>618</td>
<td>309</td>
<td>86</td>
<td>55</td>
<td>-</td>
<td>09</td>
<td>-</td>
<td>1107</td>
</tr>
<tr>
<td>05.</td>
<td>Paithan</td>
<td>-</td>
<td>02</td>
<td>02</td>
<td>-</td>
<td>15</td>
<td>351</td>
<td>160</td>
<td>11</td>
<td>55</td>
<td>-</td>
<td>02</td>
<td>-</td>
<td>598</td>
</tr>
<tr>
<td>06.</td>
<td>Sillod</td>
<td>-</td>
<td>-</td>
<td>04</td>
<td>-</td>
<td>15</td>
<td>371</td>
<td>200</td>
<td>33</td>
<td>04</td>
<td>04</td>
<td>-</td>
<td>-</td>
<td>631</td>
</tr>
<tr>
<td>07.</td>
<td>Soygaon</td>
<td>01</td>
<td>02</td>
<td>04</td>
<td>-</td>
<td>-</td>
<td>220</td>
<td>190</td>
<td>88</td>
<td>22</td>
<td>-</td>
<td>17</td>
<td>-</td>
<td>543</td>
</tr>
<tr>
<td>08.</td>
<td>Vaijapur</td>
<td>02</td>
<td>01</td>
<td>01</td>
<td>02</td>
<td>11</td>
<td>223</td>
<td>121</td>
<td>16</td>
<td>23</td>
<td>06</td>
<td>05</td>
<td>-</td>
<td>421</td>
</tr>
</tbody>
</table>

During 1993-94, the highest amount of rainfall was recorded in Khuldabad Taluka followed by Aurangabad, Gangapur and Sillod Talukas; whereas the lowest rainfall was recorded in Vaijapur Taluka due to lack of hills. The bulk of rainfall is received by the South-West Monsoon winds from June to September. There is a very small amount of rainfall during the month of January to May from the Cyclones. The average rainfall of the Aurangabad district during 1993-94 was 511 mm.

The rainfall distribution is uneven in all parts of the district. The western areas receive less amount of rainfall. According to variations in rainfall, the sufficient rainfall areas include Khuldabad and Aurangabad Talukas. They receive above 750 mm rainfall. The Talukas mainly Gangapur, Sillod, Paithan, Kannad, Soygaon have the rainfall between 500 mm to 750 mm whereas Vaijapur Taluka has very poor rainfall which is less than 500 mm. Uncertainty of rainfall is the main climatic characteristic of the district. Fig.1.4 shows the annual distribution of rainfall in the district.

There is also variability in rainfall according to years. Table 1.2 shows the average annual rainfall of a few past years of Aurangabad district.
### TABLE NO. 1.2.

**AVERAGE RAINFALL AND RAINFALL VARIATIONS IN AURAGABAD DISTRICT**

<table>
<thead>
<tr>
<th>Year</th>
<th>Rainfall in mm.</th>
<th>Variations</th>
</tr>
</thead>
<tbody>
<tr>
<td>1985-86</td>
<td>407</td>
<td>-</td>
</tr>
<tr>
<td>1986-87</td>
<td>676</td>
<td>+ 269</td>
</tr>
<tr>
<td>1987-88</td>
<td>814</td>
<td>+ 138</td>
</tr>
<tr>
<td>1988-89</td>
<td>445</td>
<td>- 369</td>
</tr>
<tr>
<td>1989-90</td>
<td>678</td>
<td>+ 233</td>
</tr>
<tr>
<td>1990-91</td>
<td>712</td>
<td>+ 34</td>
</tr>
<tr>
<td>1991-92</td>
<td>718</td>
<td>+ 6</td>
</tr>
<tr>
<td>1992-93</td>
<td>690</td>
<td>- 28</td>
</tr>
<tr>
<td>1993-94</td>
<td>511</td>
<td>- 79</td>
</tr>
<tr>
<td>1994-95</td>
<td>650</td>
<td>+ 139</td>
</tr>
<tr>
<td>1995-96</td>
<td>728</td>
<td>+ 78</td>
</tr>
</tbody>
</table>

**Source:** Census Reports and the District Statistical Abstracts from 1985 to 1996.
Annual rainfall variations is the common feature of Aurangabad district. The amount of rainfall varies according to the years. Many times, there is uncertainty of rainfall. Therefore, the district is permanently in requirement of more amount of rainfall. The Rainfall variations are the highest in the year 1986-87 whereas rainfall variations are the lowest in the year 1988-89. Due to uncertainty of rainfall, the district is always in the shadow of drought conditions.

Next to rainfall, the temperature is the major factor of climate. It affects the physical conditions of cattle as well as whole cattle marketing system. In table No. 1.3, the temperature conditions of Aurangabad district are given during the year 1996-97.
### TABLE NO. 1.3

TEMPERATURE OF AURANGABAD DISTRICT DURING THE YEAR 1996-97

(Temperature in Celsius)

<table>
<thead>
<tr>
<th>Sr. No.</th>
<th>Months</th>
<th>Maximum Temperature</th>
<th>Minimum Temperature</th>
</tr>
</thead>
<tbody>
<tr>
<td>01.</td>
<td>January</td>
<td>30.6</td>
<td>13.8</td>
</tr>
<tr>
<td>02.</td>
<td>February</td>
<td>32.7</td>
<td>15.5</td>
</tr>
<tr>
<td>03.</td>
<td>March</td>
<td>37.1</td>
<td>20.2</td>
</tr>
<tr>
<td>04.</td>
<td>April</td>
<td>38.6</td>
<td>21.7</td>
</tr>
<tr>
<td>05.</td>
<td>May</td>
<td>39.8</td>
<td>24.3</td>
</tr>
<tr>
<td>06.</td>
<td>June</td>
<td>36.8</td>
<td>23.9</td>
</tr>
<tr>
<td>07.</td>
<td>July</td>
<td>30.7</td>
<td>22.5</td>
</tr>
<tr>
<td>08.</td>
<td>August</td>
<td>28.6</td>
<td>21.6</td>
</tr>
<tr>
<td>09.</td>
<td>September</td>
<td>29.7</td>
<td>21.0</td>
</tr>
<tr>
<td>10.</td>
<td>October</td>
<td>30.3</td>
<td>18.0</td>
</tr>
<tr>
<td>11.</td>
<td>November</td>
<td>29.8</td>
<td>14.3</td>
</tr>
<tr>
<td>12.</td>
<td>December</td>
<td>28.8</td>
<td>10.4</td>
</tr>
</tbody>
</table>

Source: District Statistical Abstract in 1996-97 (Aurangabad District)
From the table, it shows that May is the hottest month and the maximum temperature is 39.9\(^{\circ}\)c of the district. The temperature goes on decreasing from the month of June to September due to getting rainfall to the district from Monsoon winds, and other reasons. December, January are the coolest months and the minimum temperature varies from 10.4\(^{\circ}\)c to 13.8\(^{\circ}\)c. Again from the month of February to May, maximum and minimum temperature gradually increases. There is an impact of temperature on the physique of cattle and the cattle marketing system in the district.

1.10.4 Soil

Soil is an important factor in the growth of vegetation. Good soil and market are co-related with one another. Even for the growth of cattle there is an requirement of fodder and particular types of crops like Jowar, Bajara, Cotton, Sugarcane, Kardai as their diet or food. In this way soil is the base for the production of particular crop or vegetation.

As far as the soils in Aurangabad district are concerned, the black soil is found in a narrow strip of land, on the Bank of Godavari and its tributaries. It covers Vaijapur, Gangapur and Paithan Talukas. The black soil is rich in lime, magnesium, iron and alkaline on which cotton and other crops flourish well. The Northern part of district covers the barren and pebble mixed soil. In the hilly tracts of the North, the soil is shallow and relatively poor. The soil conditions in Aurangabad district are ideally suitable for the growth of trees like Subabhol, Nim, grass and the crops like Jowar, Bajara, Sugarcane, Cotton, oilseads and pulses.
1.10.5 Natural Vegetation

The natural vegetation like *Nim, Babhul, Subabhul*, different types of grass is useful for cattle. In Aurangabad district, the forest covered area is 79378 hectares approximately. It covers 7.8% of the total geographical area of the district. As a matter of fact, there must be 33% coverage of forest to maintain environmental balance. Social Forestry Department is trying to increase the forested area. But so far, the forest growth is still lagging behind in the district. In Kannad Taluka, there is the largest coverage of the forested area nearly 19.48% followed by Soygaon (19.38%), and Aurangabad Taluka (16.63%). The lowest forested area is occupied by Gangapur Taluka (0.15%). The attempt must be made to increase the area of useful trees for cattle and grasslands in Vaijapur, Sillod, Paithan and Gangapur Talukas. The major trees of the forest are Teak, *Tendu, Mahua, Anjan, Nim, Babul*, Grass, etc., The major varieties of indigenous grasses that afford excellent fodder in the district are known by different Local names such as the *Shairaa, Punia, Marwair, Gudali, Jotishmati, Kunda, Dub, or Hariali, Trinpali, Pinginache*. There is a scope for the growth of grass on the plateau area of Aurangabad district.

The Reserved Forests mainly deciduous forests are found in the Northern part of Kannad. Fairly dense mixed forest is grown near Ajanta. The open mixed forest is grown between Mhaismal and Khuldabad. Scrubs are also remarkable in the district. Today, there is an availability of high and low grass to the Northern area of the district; along the side of Godavari, and near Gade Pimpalgaon village in the district. Nearly 85 lakhs to 90 lakhs of rupees are collected every year from the forest resources of the district; out of this amount 6 lakh rupees are from grass.
1.11 Agricultural System in the District

Farming is the main economic activity of the people living in the district. The production of crops is mainly dependant on the soil types, climatic conditions; the economic condition of a farmer and the system of farming etc., The district leads in the dairy production of the Marathwada region. It has the best feeding of cattle in the region which is known as Deoni breed. It is recognised as its home breed. The cattle are reared by cultivators or by the Gavalis or by the herders who go to the fodder areas or the forest areas in the district with cattle. The good quality of grass or fodder is available mainly in rainy season and in winter months. There is a shortage of fodder in summer. Its’ prices go high in this season and the number of people sell their cattle in the market due to shortage of fodder or due to high rates of fodder or / and lack of water supply.

1.11.1 Land use Pattern

The use of land for a particular purpose is taken into consideration in the land use pattern. Thus land may be classified as forest land, barren, cultivable waste, pasture land, marshy land etc., The Census of India has classified the land use into nine categories. But for the present research study, they are classified into five major land use categories such as forest land, area not available for cultivation, other uncultivated land, excluding fallow land, fallow land and net sown area. The land use pattern of the district is given in the following table.
TABLE 1.4

LAND USE PATTERN IN AURANGABAD DISTRICT (1991-92)
TOTAL HECTORE LAND 10 LAKH HECTORE

<table>
<thead>
<tr>
<th>Sr.No.</th>
<th>Land use category</th>
<th>Area in hectore</th>
<th>Percentage to total hectore</th>
</tr>
</thead>
<tbody>
<tr>
<td>01.</td>
<td>Forest land</td>
<td>0.79 lakh hectore</td>
<td>7.9 %</td>
</tr>
<tr>
<td>02.</td>
<td>Fallow land</td>
<td>0.70 lakh hectore</td>
<td>7.0 %</td>
</tr>
<tr>
<td>03.</td>
<td>Other uncultivated land, excluding fallow land</td>
<td>0.59 lakh hectore</td>
<td>5.9 %</td>
</tr>
<tr>
<td>04.</td>
<td>Land not available for cultivation</td>
<td>0.53 lakh hectore</td>
<td>5.3 %</td>
</tr>
<tr>
<td>05.</td>
<td>Net sown area</td>
<td>7.39 lakh hectore</td>
<td>73.9 %</td>
</tr>
</tbody>
</table>


Forest includes all areas under forests whether state owned or private and classed or administered as forests, under any legal enactment dealing with forests. Out of the total hectore 10 lakhs land nearly 7.9% area is under forests of the district whereas fallow land has covered 7.0% of the area. Other uncultivated land, excluding fallow land has 5.9% coverage of the land which is lesser than forest land, fallow land and the net sown area of the district. But it is larger than the land not available for cultivation. The land not available for cultivation is mainly barren and non-agricultural land which occupies only 5.3% of the total hectore land of the district. The fifth category of net sown area of land use pattern occupies the largest area of the district. It has occupied 73.9% of the total hectore land of the district. The major reason for having the highest percentage of net sown area is due to black soil, rich in calcium, magnesium and carbonates which lies in the Talukas of Godavari basin in the Southern part of Aurangabad district.
Out of the total hectare land in the district only 0.39 lakh hectare land is used for permanent cattle grazing. This land is very limited as compared to the cattle population of the district. The ratio of cattle and that of grazing land is one cattle to 0.07 grazing hectare land in the district.

1.11.2 Agricultural crops

Agricultural crops are influenced by various factors such as ecological, technological and institutional (Shafi-1966). The ecological factors determine the broad pattern of agricultural land use. But these technological and institutional factors determine the actual use of land. The technological and institutional factors have brought drastic shifts in the cropping practices. There are a number of crops which are useful as the food of cattle in the district. In Kharif period hybrid Jowar, Bajara, Tur, Mung, Udid, Til, Cotton, Groundnut are produced whereas in the Rabi period, Jowar, Wheat, Pulses, Tobacco, Kardai, Vatana, Chilly are cultivated. Sugarcane and bananas are the crops which are cultivated throughout the year. In the irrigated areas, groundnuts and sunflower are grown. Vegetables and fruits are grown in the irrigated areas or in the areas of a plenty of required water of the district. In the Northern part of district, mostly kharif crops are grown, whereas in the Southern part both kharif and rabi crops are produced. Thus, there is the cultivated area of food crops like Jowar, Wheat, Bajara and that of non-food crops like cotton, sugarcane etc., Jowar especially shalu jowar is cultivated in Paithan, Khuldabad, Sillod, Gangapur talukas. Recently hybrid jowar, a new variety of jowar has been developed in the district. Bajara is produced mainly in Kannad, Aurangabad, Sillod Talukas; and wheat in Vaijapur, Khuldabad, Paithan talukas; Kardai oil seeds from Kannad and Aurangabad talukas. The cotton is mainly produced in the talukas of Paithan, Kannad and Sillod talukas of the district.
Out of the total cultivated area in the district, *Jowar* occupies 37.38%, *Bajra* 18.28%, Sugarcane 2.4%, Cotton 5.97% and other crops 35.96%. The per hectore production of wheat during 1991-92 was 866 kilogram and that of *Jowar* was 485 kilogram; *Bajara* 356kilogram; *Chana* or *Harbhara* 442 kilogram; *Tur* 221 kilogram; *Mung* 375 kilogram; Groundnut 343 kilogram; sugarcane 57941 kilogram and cotton lint 73 kilogram Many of the agricultural crops in the district are useful for cattle as their food or diet. For instance dry *jowar* plants (kadba), cake (dhep), from the seeds of cotton, *kardai*, wasted plants of sugarcane etc., are used as the food of cattle. In Aurangabad district, the farmers pay attention to agriculture using hybrid seeds, manure and chemical fertilizers. They also follow government’s policy towards the development of agriculture.

### 1.12 The Salient Features of Cattle Markets and Cattle Fairs

While surveying the cattle markets in Aurangabad district, the researcher has pointed out the following characteristics.

[1] **Attendance of the majority of illiterate people**:

The most of the people engaged in the farming activity visit the cattle markets. They are illiterate and they have no concrete organisation to solve their marketing problems. Their participation in the development of markets is essential. Attendance of the majority of illiterate people is the common feature in all the marketing centres of the district.
[2] Period of holding cattle markets :-

The cattle markets are held seasonally as well as throughout the year. Generally the cattle markets start on the first day after Dasera festival and continue up to the beginning of June. They are over at the commencement of monsoon winds. During rainy season, the markets are rarely held in few places. But some of them are held throughout the year.

In December and January, the relative transactions are very high. It is observed in the survey that the cattle marketing activities are closely related to the farming activities. In the rainy season, the farmers are wholly engaged in agricultural operations, and therefore they rarely attend few markets from the month of June to September. In this period the most of the farmers do not find time for the attendance of cattle markets in the district.

[3] A large number of unregistered middlemen :-

The attendance of a large number of middlemen is found in the market. They work between the sellers and purchasers; and perform dominant role in the marketing system. The most of the middlemen work in the market without registration as they have problems in getting registration card. In the marketing structure, they try to take more commission in the market.

[4] The market practices and market fee :-

The market practices, fee, and other charges are uneven and unregulated in many of cattle markets. The sellers, purchasers rarely know for what purpose, the deductions of money are made by the management of the cattle markets.
5] **Types of cattle :-**

The types of cattle which are mainly brought to the markets are *Deoni, Khillari, Gaolao, Marathwadi, Kathiawadi, Krishna Valley breed, Kankrej, Tharapkar, Dangi, Red-Kandhari, Red-Sindhi*. Their source areas are adjoining Marathwada region, Gujarat, Andhra Pradesh, Madhya Pradesh, Karnataka etc.

6] **Limited infrastructure for markets :-**

There is limited infrastructure for marketing centres. Infrastructure is referred to the social overheads such as transportation and communication facilities, provision of cheap source of power, water supply, provision of storage, etc., The people mainly use bullock-carts, trucks, metadors, buses to reach market places. Few of them bring their cattle to the market place by walk. As compared to transportation facilities, communication is more developed. There is a limited provision of power, water supply to the marketing places. Particularly during summer, shortage of water is the main problem in most of the marketing places of the district.

7] **Cattle fairs during winter and summer :-**

The cattle fairs are held during winter and summer. Their duration is more than one day. The people from other states also participate in the cattle fairs.

In view of these main characteristics of cattle markets of the district, it is difficult to say that the existing marketing centres have working efficiency in the interest of both sellers and purchasers of cattle. There is a need for the study of markets, especially cattle marketing places which have a great impact on the economy of the district.
1.13 Population and Livestock of the District

The population plays dominant role in the development of cattle market system. According to 1991 population census, the population of the district was 22,09,476. The talukawise population is given in the following table.

**TABLE 1.5**

**TALUKAWISE POPULATION IN AURANGABAD DISTRICT**

(1991 CENSUS)

<table>
<thead>
<tr>
<th>Sr.No.</th>
<th>Taluka</th>
<th>3 Rural</th>
<th>4 Urban</th>
<th>5 Total Population</th>
</tr>
</thead>
<tbody>
<tr>
<td>01.</td>
<td>Aurangabad</td>
<td>232</td>
<td>592</td>
<td>829</td>
</tr>
<tr>
<td>02.</td>
<td>Gangapur</td>
<td>192</td>
<td>017</td>
<td>209</td>
</tr>
<tr>
<td>03.</td>
<td>Kannad</td>
<td>232</td>
<td>020</td>
<td>252</td>
</tr>
<tr>
<td>04.</td>
<td>Khuldabad</td>
<td>079</td>
<td>009</td>
<td>088</td>
</tr>
<tr>
<td>05.</td>
<td>Paithan</td>
<td>213</td>
<td>027</td>
<td>240</td>
</tr>
<tr>
<td>06.</td>
<td>Sillool</td>
<td>267</td>
<td>029</td>
<td>296</td>
</tr>
<tr>
<td>07.</td>
<td>Soygaon</td>
<td>077</td>
<td>-</td>
<td>077</td>
</tr>
<tr>
<td>08.</td>
<td>Vaijapur</td>
<td>188</td>
<td>030</td>
<td>218</td>
</tr>
</tbody>
</table>

As per talukawise population, Aurangabad taluka has 37.49% population, whereas Soygaon taluka has the lowest percentage i.e. 3.49% of population. Next to Aurangabad taluka, Sillod taluka has 13.41%, Kannad taluka 11.41%, Paithan taluka 10.88%, Vaijapur taluka 9.87%, Gangapur taluka 9.46% and Khuldabad taluka 3.98%.

According to 1991 population census, out of the total population of the district 67.22% (14.85 lakh people) live in rural areas and the remaining 32.78% population lives in the urban areas. In Aurangabad taluka, mostly in Aurangabad city corporation area and in the cantonment area there is maximum percentage of urban population. On the contrary in Soygaon taluka the urban population is nil. In Soygaon taluka 77thousand people live in the rural areas only.

The density of population of the district per square km.is 219, and the State of Maharashtra it is 256 per square km. The highest density of population of the district is approximately 6268 per square km. in the urban area of Aurangabad city and the lowest density is found in Soygaon taluka, which is 95 people per square km. The population of the district is the base in setting up of the market and its further development.

According to 1987 Livestock census, there were 1,35,000 cows. Out of them 59,000 cows were providing milk; and the number of hybrid cows or improved cows was 21,000. Dairy is the secondary economic activity of the people in the rural areas. Since 1982, the cows are distributed to the field labourers and the farmers under the scheme of rural development of the government. Therefore, the Aurangabad district is not only self dependant in milk production, but also it supplies milk to other areas of the State.
According to the same (1987) Livestock census, there were 2,33,000 bullocks in the district. The area 6.96 hectare of the district is cultivated by one pair of bullocks; and for the productive purpose of calves from cow they are very helpful to increase the number of cattle. The buffaloe’s (He-buffaloes and She-buffaloes) population was 76,000. Out of them the number of She-buffaloes was 47,000.

Out of these She-buffaloes the milk was obtained from 3000 buffaloes. He-buffaloes in the district are rarely used for agricultural operations. Even for the transport purpose, they are occasionally used. Hence, there is less number of He-buffaloes as compared to She-buffaloes in the district.

As compared to 1982 Livestock census, there was increased number of 10.18 % in the 1987 Livestock census.

The goat population is also in a large number. As per 1987 Livestock census, there was 3,56,000 goat population and 93,000 sheep population. The sheep rearing is limited. But the farmers keep goat and sheep for getting milk and mutton. Generally he-goats are brought to the market for sell after becoming them mature. Sheep are of medium quality and wool obtained from them is also of the medium quality.

As compared to 1987 Livestock Census, the number of cattle is largely increased in the Livestock Census of the year 1992. As compared to 1987 Livestock Census there was increase of 19.73 % in the cattle, buffaloe number.
Talukawise Cattle number during the year 1992 as per Livestock Census is given in the following table :-

**TABLE NO. 1.6**

**TALUKAWISE CATTLE IN AURANGABAD DISTRICT**

(As per 1992 livestock census)

<table>
<thead>
<tr>
<th>Sr. No.</th>
<th>Name of Taluka</th>
<th>Number of bullocks</th>
<th>Number of cows</th>
<th>Calves below 3years</th>
<th>No. of foreign/hybrid bullocks, cows,calves</th>
<th>Total No. of Cattle</th>
<th>Percentage to total number</th>
</tr>
</thead>
<tbody>
<tr>
<td>01.</td>
<td>Aurangabad</td>
<td>40307</td>
<td>28574</td>
<td>12276</td>
<td>30249</td>
<td>111406</td>
<td>18.97</td>
</tr>
<tr>
<td>02.</td>
<td>Gangapur</td>
<td>30547</td>
<td>18172</td>
<td>16326</td>
<td>4889</td>
<td>68934</td>
<td>11.74</td>
</tr>
<tr>
<td>03.</td>
<td>Kannad</td>
<td>38781</td>
<td>17120</td>
<td>25507</td>
<td>16253</td>
<td>97761</td>
<td>16.63</td>
</tr>
<tr>
<td>04.</td>
<td>Khuldabad</td>
<td>13535</td>
<td>9224</td>
<td>7804</td>
<td>4012</td>
<td>34575</td>
<td>05.89</td>
</tr>
<tr>
<td>05.</td>
<td>Paithan</td>
<td>34427</td>
<td>18785</td>
<td>15917</td>
<td>16643</td>
<td>85772</td>
<td>14.60</td>
</tr>
<tr>
<td>06.</td>
<td>Sillod</td>
<td>40768</td>
<td>16477</td>
<td>12425</td>
<td>12430</td>
<td>82100</td>
<td>14.00</td>
</tr>
<tr>
<td>07.</td>
<td>Soygaon</td>
<td>15531</td>
<td>13304</td>
<td>9925</td>
<td>1378</td>
<td>40138</td>
<td>06.83</td>
</tr>
<tr>
<td>08.</td>
<td>Vaijapur</td>
<td>34796</td>
<td>20802</td>
<td>12960</td>
<td>9590</td>
<td>74148</td>
<td>12.34</td>
</tr>
<tr>
<td></td>
<td>District Total</td>
<td>248692</td>
<td>142458</td>
<td>113140</td>
<td>65454</td>
<td>587000</td>
<td>100.00</td>
</tr>
</tbody>
</table>

AURANGABAD DISTRICT
TALUKAWISE CATTLE CENSUS.
(1992)

INDEX
- District Boundary
- Taluka Boundary
- District Headquarters
- Taluka place
- Bullocks
- Cows
- Calves below three years
- Hybrid bullocks, cows and calves.

FIGURE 1.5
According to the Livestock census during the year 1992 there were 5,87,000 cattle in the Aurangabad district. The largest number of cattle was found in Aurangabad taluka, followed by Kannad, Sillod and Vaijapur talukas. Whereas lowest number of cattle is recorded in Khuldabad taluka followed by Soygaon and Gangapur talukas. As far as talukas concerned the largest number of bullocks, cows and calves are found in the Sillod taluka, Aurangabad taluka and Kannad taluka respectively. The number of hybrid cattle, i.e. bullocks, cows and calves is the highest in Paithan taluka. The cows are in the largest number in Aurangabad taluka due to the supply of milk and milk products to the people of Aurangabad city. As far as calves below 3 years are concerned, the largest number is recorded in Kannad taluka due to hilly and plateau areas where the availability of fodder is easier as compared to the other talukas of the district. Out of the total percentage of cattle, Aurangabad taluka has 18.9 % followed by Kannad taluka (16.63 %). Sillod taluka (14.00 %) and Vaijapur taluka (13.55 %). The lowest cattle number is confined to Khuldabad taluka (5.89 %) followed by Soygaon taluka (6.83 %) according to the 1992 Livestock census of Aurangabad district.

In this way, from the Livestock census of 1982, 1987 and 1992 it indicates that the number of cattle is increasing and there is a wide scope for the development of cattle markets in the district. As per 1992 Livestock census, the talukawise cattle in Aurangabad district is shown in fig. 1.5 for comparative study.

The population and the cattle number plays the dominant role in the economy of Aurangabad district in general and in the development of cattle markets in Aurangabad district in particular.
In the following table, the position of population and livestock, cattle, buffaloes, goats, sheeps are shown comparing Aurangabad district with Marathwada region, Maharashtra and India. From this table it is clear that as compared to population growth, we lagged behind in increasing livestock.

**TABLE NO. 1.7**

**POPULATION AND LIVESTOCK RATIO DURING 1991-92**

<table>
<thead>
<tr>
<th>Sr. No.</th>
<th>Particulars</th>
<th>Aurangabad District</th>
<th>Marathwada Region</th>
<th>Maharashtra</th>
<th>India</th>
</tr>
</thead>
<tbody>
<tr>
<td>01.</td>
<td>Population : Livestock</td>
<td>1 : 0.54</td>
<td>1 : 0.64</td>
<td>1 : 0.48</td>
<td>1 : 0.56</td>
</tr>
<tr>
<td>02.</td>
<td>Population : Cattle</td>
<td>1 : 0.31</td>
<td>1 : 0.34</td>
<td>1 : 0.26</td>
<td>1 : 0.27</td>
</tr>
<tr>
<td>03.</td>
<td>Population : Buffaloes</td>
<td>1 : 0.16</td>
<td>1 : 0.07</td>
<td>1 : 0.07</td>
<td>1 : 0.09</td>
</tr>
<tr>
<td>04.</td>
<td>Population : Goats</td>
<td>1 : 0.19</td>
<td>1 : 0.19</td>
<td>1 : 0.12</td>
<td>1 : 0.14</td>
</tr>
<tr>
<td>05.</td>
<td>Population : Sheeps</td>
<td>1 : 0.02</td>
<td>1 : 0.04</td>
<td>1 : 0.04</td>
<td>1 : 0.01</td>
</tr>
</tbody>
</table>


In this table, population ratio is compared with livestock number of the Aurangabad district, Marathwada region, Maharashtra and our country, India. The population and livestock ratio of Aurangabad district is bigger than the ratio of Maharashtra, but is lesser than the livestock ratio of Marathwada and India. The population and cattle ratio is 1 : 0.31 which is higher than cattle ratio of Maharashtra and India. But it is slightly lesser than the cattle ratio of Marathwada region. Population and goat number ratio of Aurangabad district and that of Marathwada region is the same.
But it is higher than the ratio of Maharashtra and India. Population and buffaloe number is comparatively lesser than cattle, goat and even sheep's ratio in Aurangabad district. But the population-buffaloe ratio is the highest in the table, surpassing the Marathwada region, Maharashtra and India. From this table it is clear that as compared to population ratio, the livestock wealth is decreasing. Unless livestock wealth is raised in future at the same ratio of population at least, there would be shortage of livestock. Hence, there is need to take proper care of animals instead of slaughtering them in a large number.

**Density of Cattle Population :-**

The density of cattle population is mainly dependant on the physical and socio-economic factors. The average density of cattle population is 58 cattle per square km. according to 1992 Livestock census. Among the talukas of the district, Aurangabad taluka has 69 cattle population density, which is the highest, followed by Khuldabad (66), Vaijapur (63) and Kannad (62) talukas. Gangapur taluka has lowest density of cattle population with 47 cattle per square km. The cattle density of Paithan, Soygaon and Sillod talukas varies from 50 to 60 cattle per square km. There is an impact of distribution of cattle density on the economic activity of cattle markets in the district.

**1.14 Network of transportation and communication.**

Aurangabad district has good network of roads. But in the plateau and hilly area of North Aurangabad district, the road transport is rarely seen. During rainy season, due to kaccha roads, the interior area does not get service by roads. Regarding railways, there is a single broad guage railway line linking Aurangabad to Mumbai via Manmad and Hyderabad.
Still the district requires adequate transport facilities mainly linkage of railways for the development of cattle markets. The inadequate transport facilities limit the market development of the region or the district. There is an urgent need for constructing all weather roads with bridges for connecting marketing centres.

The length of broad gauge line in the district is only 102 k.ms. On this railway, there are only 7 railway stations of the district. They are namely Rotegaon, Lāsūr, Daulatabad, Aurangabad and Chikalthana. As compared to railway, there is a good network of roads. The length of the road is approximately 6102 km. of which there are state highways of 1088 k.ms. Major district roads have the length of 1198 k.ms; whereas other district roads have 1089 k.ms length. The pakka roads are of 2352km. length and the remaining roads are called kachha roads. These kachha roads are not used in rainy season. The bus service is stopped in rainy months on the kachha roads of the district. Out of the total geographical area of the district, the roads cover 49 km. for 100 square km. area. The same figure in Maharashtra State is 56 km. for 100 sq.km. area. For one lakh population of the district, the length of the road is 276 km. Trucks, private buses, and S.T. buses also provide service to the people of the district.

There are 331 post offices and 20 telegraph offices in Aurangabad district. The movable post office service is provided to some of the places whereas few of the villages get part time post office service. There are 45 telephone offices, however, the main telephone and telegraph office is located at Aurangabad city. All the talukas are linked by telephone services. But the telephone service is limited in Soygaon taluka of the district.
Thus, the means of transport and communication of the district are good. However, there is a need to convert some of the district roads into state highways and the state highways to national highways.

In brief, the economy of Aurangabad district is mainly agrarian and least urbanised. There is a scope for grazing on the plateaus and on the hilly areas of the district. From these areas fodder can be obtained for cattle in a large quantity. As far as the climate conditions for the physique of cattle are concerned, they are favourable to some extent.

The soil is ideally suited for the cultivation of crops. Some of the crops can be used as the diet or food for cattle. *Subabhu* and other trees of the district are also useful for cattle. In the district, the land resources are not properly utilized. There is a proportion of unutilized lands. Food crops are predominant, but cash crops are also cultivated in the district. Though there is linkage of roads, the railway lines are inadequate in the district. However means of communications are growing rapidly.

Taking all the above natural resources and the major cultural resources of the district into consideration, we can firmly say that there is an agricultural economy of the district which have influence on the network of market and the pattern of marketing in the district. There is a wide scope for the development of cattle market centres in Aurangabad district of Maharashtra.
REFERENCES


